
S

Sadistic Personality Disorder

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Sadistic personality disorder (SDP) is characterized by an individual's pattern of cruel, harsh, aggressive, intimidating, humiliating, and demeaning behavior. The disorder has been the subject of several studies and originally appeared in the DSM-III-R (American Psychiatric Association 1987). The disorder was included because of an effort to distinguish it from antisocial personality disorder (ASPD) or psychopathy since the constellation of traits descriptive of an individual with sadistic behavior patterns was not sufficiently explained by existing disorders (Chabrol et al. 2009). The belief that the different constellations would be useful in diagnosing individuals is what led the diagnosis to appear in the appendix of the DSM-III-R, under a section entitled, "Proposed Diagnostic Categories Requiring Further Study." There was considerable support for including the diagnosis. A survey of forensic psychiatrists had revealed, for example, that 50% of them had, at some time, evaluated in a forensic setting a subject who exhibited behavior that met the criteria for the disorder (Spitzer et al. 1991). It was hoped that the disorder's inclusion would stimulate further research. Eventually, however, concerns about the disorder's validity, usefulness, and lack of supportive research led to its exclusion

from other versions of more recent diagnostic manuals.

The DSM-II-R had described Sadistic Personality Disorder as beginning by early adulthood and as exhibiting a pervasive pattern of cruel, demeaning, and aggressive behavior. The manual also had noted that, to be diagnosed as a disorder, at least four repeated occurrences of a list of characteristics. Those characteristics included the use of cruelty or violence for the purpose of establishing dominance in a relationship; humiliating or demeaning people in the presence of others, unusually harsh treatment or discipline of someone under their control, being amused or taking pleasure in the psychological suffering of others, lying for the purpose of harming or inflicting pain on others, frightening others to get what they want out of them, restricting the autonomy of those with whom they have relationships, and fascination violence, weapons, martial arts, injury, or torture. Unlike antisocial or other disorders relating to violence or illegal behavior, sadistic personality disorder was distinguishable in that their actions were meant primarily to gain pleasure or achieve dominance and control, rather than primarily for profit or due to the need to cope with stressors. Sadists also were differentiated in that their violence occurred not under extreme emotional states or in the context of seeking financial gain but rather for the pursuit of pleasure, control, or satisfaction (see Myers et al. 2006). Although these differentiations may be feasible, they have yet to become

officially accepted by the relevant scientific community.

Despite lack of formal acceptance of the diagnosis, research continues to examine the nature and extent of sadistic personality disorders, and that research has included adolescent samples. Results reveal high rates of sadistic personality disorder or traits in adolescent psychiatric inpatients (with rates being as high as 14% for disorders) (Myers et al. 2006) and in juvenile sexual homicide offenders (with 4 out of 14 being diagnosed as having SDP) (Myers and Monaco 2000). In non-clinical, non-forensic youth populations, reported rates of endorsement of sadistic personality disorder traits are presented as quite high. One study, for example, based on a college student sample found rates sadistic personality disorder to be 5.7% (Coolidge et al. 2001). Importantly, although these latter types of studies do not report diagnoses and they are not representative samples, they to highlight how sadistic tendencies may be considerably prevalent.

Cross-References

- ▶ [Antisocial Personality Disorder](#)

References

- American Psychiatric Association. (1987). *Diagnostic and statistical manual of mental disorders-III-revised*. Washington, DC: Author.
- Chabrol, H., Leeuwena, N. V., Rodgersa, R., & Séjournéa, N. (2009). Contributions of psychopathic, narcissistic, Machiavellian, and sadistic personality traits to juvenile delinquency. *Personality and Individual Differences, 47*, 734–739.
- Coolidge, F. L., Moor, C. J., Yamazaki, T. G., Stewart, S. E., & Segal, D. L. (2001). On the relationship between Karen Horney's tripartite neurotic type theory and personality disorder features. *Personality and Individual Differences, 30*, 1387–1400.
- Myers, W. C., & Monaco, L. (2000). Anger experiences, styles of anger expression, sadistic personality disorder, and psychopathy in juvenile sexual homicide offenders. *Journal of Forensic Sciences, 45*, 698–701.
- Myers, W. C., Burket, R. C., & Husted, D. S. (2006). Sadistic personality disorder and comorbid mental illness in adolescent psychiatric inpatients. *The Journal of the American Academy of Psychiatry and the Law, 34*, 61–71.
- Spitzer, R. L., Fiester, S., Gay, M., & Pfohl, B. (1991). Results of a survey of forensic psychiatrists on the validity of the sadistic personality disorder diagnosis. *The American Journal of Psychiatry, 148*, 875–879.

Safe and Drug-Free Schools and Communities Act

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The *Safe and Drug-Free Schools and Communities Act* (2004) is a central part of the United States' federal government's effort to encourage the creation of safe, disciplined, and drug-free learning environments. The Act does so by supporting states in their efforts to create and sustain a wide variety of programs. Among those programs are those that aim to prevent violence in and around schools; prevent the illegal use of alcohol, tobacco, and drugs; coordinate with related federal, state, school, and community efforts; and involve communities and parents. The Act supports those programs by offering funding to educational agencies and community-based organizations. In addition to supporting those initiatives, the Act provides professional training and development for school personnel, parents, law enforcement officials, and other community members. The Act is particularly known for supporting the creation of "safe zones of passage" for students that involve an increased use of neighborhood and law enforcement patrols to protect students as they travel between their schools and their homes. The Act also has provisions for offering schools direct services to address severe drug and violence problems. The Act is a primary funding mechanism in efforts to address school violence and the numerous factors associated with it.

References

- Safe and Drug-Free Schools and Communities Act*. (2004). 20 U.S.C. § 7114(d) (6) (Supp. IV).

Safe Space

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Safe space refers to an area or forum designed to address marginalization and the harms that come from it. Safe spaces seek to provide individuals from marginalized groups an environment where they do not face mainstream stereotypes and ostracism. They also are spaces where a shared political or social viewpoint is required to participate in the space. Although these types of spaces have emerged to address concerns raised by many marginalized groups, when focusing on adolescents, safe space typically refers to educational environments. Despite increasing in popularity to address real needs, these efforts still remain controversial largely because of what they seek to do: create spaces that are separate from others, either physically (such as a safe zone that excludes some individuals with particular agenda and belief from entering) or safe environments (such as classrooms that exclude some expressions and viewpoints).

Advocates for Youth (2015, p. 1) offers an illustrative description of what constitutes a safe space.

A place where anyone can relax and be fully self-expressed, without fear of being made to feel uncomfortable, unwelcome, or unsafe on account of biological sex, race/ethnicity, sexual orientation, gender identity or expression, cultural background, age, or physical or mental ability; a place where the rules guard each person's self-respect and dignity and strongly encourage everyone to respect others.

Educators have sought to provide the type of environments in a variety of schools settings, including classrooms. When developed in classrooms, the goal is to provide spaces in which students can openly express their individuality, including when those expressions differ dramatically from norms set by students, teachers, or society. The ideal is to create nurturing environments that promote learning, exploration and growth by fostering comfort, expressions of

individuality, and risk taking to express individuality.

Although educators place significance of creating safe spaces in classrooms, they still raise concerns. For example, some argue that creating safe spaces reduces classrooms to embracing relativism without trying to make fuller sense of ideas and take uncomfortable positions. The argument is that students cannot really learn when unquestioned and their ideas unchallenged (see Holley and Steiner 2005) that classrooms embracing safe spaces unintentionally undermine critical thinking (Boostrom 1998). Others suggest that attaining safety is impossible for marginalized and oppressed populations; they argue that classrooms are not (and cannot) be constructed as communities of equals as students necessarily bring to them different degrees of power and privilege (Ludlow 2004). Another expressed concern relates to the challenges of assessing student learning in safe environments. If the purpose of safe classrooms is to have both instructors and peers refrain from criticism, judgment, or bias, then such classrooms are incompatible with the judgment needed to assess students (see Holley and Steiner 2005). And, yet another challenge that can arise is the inherent ambiguity of defining safety and knowing whether students actually are feeling safe. It is inherently difficult to determine whether students are feeling safe: Participating students may participate because they feel unsafe or safe; those who do not participate in discussions may feel safe or unsafe (see Barrett 2010). Although these concerns continue to be expressed, it is important to note that they continue to be countered by commentaries and research noting, for example, that they misconstrue what actually happens in safe spaces and that safe spaces vary tremendously particularly depending on the participating students and teachers.

Given the potential challenges of creating safe spaces in classrooms, some focus has been on creating other safe spaces for some groups in schools. A common example relates to efforts to better the experiences of sexual minority (LGBTQ) students. Sexual minority students disproportionately suffer from harassment and other behaviors that leave them feeling unsafe in schools

as well as in other social contexts (see Olsen et al. 2014). In addition, sexual minority youth are particularly vulnerable to the effects of bullying and are, for example, at an increased risk for anxiety, depression, and suicidal ideation (see Robinson and Espelage 2011). Yet, these increased risks are not solely a consequence of an LGBTQ identity. Bullying and similar types of behaviors account for suicidality above and beyond sexual orientation or gender-role nonconforming behavior (Friedman et al. 2006). These types of findings suggest that negative environments, rather than sexual orientation itself, play crucial roles in contributing to problematic outcomes. The typical inability of youth to remove themselves from hostile environments, such as schools and intolerant communities, makes it imperative to create supportive and affirming settings. The literature related to safe space programs suggests that they may be instrumental in helping alter anti-LGBTQ climates in schools (Ratts et al. 2013). These experiences have led to the development of safe spaces in a variety of settings in communities as well as schools, such as “Gay-Straight Alliances” or “Ally” (or Allies) programs at all educational levels (Poynter and Tubbs 2008; Russell et al. 2009).

Although safe spaces outside of classrooms have been shown to have positive effects, they too have not been immune from controversy even from those who support their cause. For example, some argue that creating a safe space only serves to perpetuate nonsafety because the problem is not being systemically addressed, as a result these youth must still navigate normative spaces in school that are rooted in majority culture (Hackford-Peer 2010). Others note that the political nature of school is not safe, students who need a safe space are often not able to ask, and the safe space might not solve the safety problem for the student (Stengel 2010). The general concern that emerges is that, even though safe spaces may be helpful, they run the risk of isolating minorities in a way that safe spaces preserve the dominant status quo and creates a sense of division. These are legitimate concerns, but those who support the creation of safe spaces also have support from research indicating a need for creating safe spaces.

The 1990s witnessed the emergence of a wide variety of safe space programs and efforts. They emerged as society recognized that it was failing to address a wide variety of students’ needs and the harms that come from that failure. Overall, research does reveal the need for creatively responding to these needs. These responses still raise important challenges, if for no other reason that they require directly addressing diversity. Yet, it is difficult to play down the significance of these developments and the role they can play in youth’s lives as well as broader society.

References

- Advocates for Youth. (2015). *Glossary*. Author. http://www.advocatesforyouth.org/index.php?option=com_content&task=view&id=607&Itemid=177. Retrieved November 1, 2015.
- Barrett, B. J. (2010). Is “safety” dangerous? A critical examination of the classroom as safe space. *The Canadian Journal for the Scholarship of Teaching and Learning*, 1(1), 9.
- Boostrom, B. (1998). “Safe spaces”: Reflections on an educational metaphor. *Journal of Curriculum Studies*, 30, 397–408.
- Friedman, M. S., Koeske, G. F., Silvestre, A. J., Korr, W. S., & Sites, E. W. (2006). The impact of gender-role nonconforming behavior, bullying, and social support on suicidality among gay male youth. *Journal of Adolescent Health*, 38, 621–623.
- Hackford-Peer, K. (2010). In the name of safety: Discursive positionings of queer youth. *Studies in Philosophy and Education*, 29, 541–556.
- Holley, L. C., & Steiner, S. (2005). Safe space: Student perspectives on classroom environment. *Journal of Social Work Education*, 41(1), 49–64.
- Ludlow, J. (2004). From safe space to contested space in the feminist classroom. *Transformations: The Journal of Inclusive Scholarship and Pedagogy*, 15(1), 40–56.
- Olsen, E. O. M., Kann, L., Vivolo-Kantor, A., Kinchen, S., & McManus, T. (2014). School violence and bullying among sexual minority high school students, 2009–2011. *Journal of Adolescent Health*, 55(3), 432–438.
- Poynter, K. J., & Tubbs, N. J. (2008). Safe zones: Creating LGBT safe space ally programs. *Journal of LGBT Youth*, 5(1), 121–132.
- Ratts, M. J., Kaloper, M., McReady, C., Tighe, L., Butler, S. K., Dempsey, K., & McCullough, J. (2013). Safe space programs in K-12 schools: Creating a visible presence of LGBTQ allies. *Journal of LGBT Issues in Counseling*, 7(4), 387–404.
- Robinson, J. P., & Espelage, D. L. (2011). Inequities in educational and psychological outcomes between

- LGBTQ and straight students in middle and high school. *Educational Researcher*, 40(7), 315–330.
- Russell, S. T., Muraco, A., Subramaniam, A., & Laub, C. (2009). Youth empowerment and high school gay-straight alliances. *Journal of Youth and Adolescence*, 38(7), 891–903.
- Stengel, B. S. (2010). The complex case of fear and safe space. *Studies in Philosophy and Education*, 29, 523–540.

Scapegoating

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Overview

Scapegoating refers to the process by which an individual is blamed for the benefit of others who most often are avoiding their own problems through their “sacrificial goat,” the biblical origin of the term. Negative outcomes for scapegoating such as depression and emotional distress have long been known, but the actual dynamics of scapegoating have not been well understood. However, recent advances in research on scapegoating in adolescence have explored its prevalence and mechanisms in families and peer groups and increased the understanding of both those who scapegoat and those who are scapegoats. Notably, mimetic theory has emerged as a leading framework for understanding how and why groups scapegoat others, and the theory explains much about scapegoating in adolescent peer groups, such as bullying or cyberbullying. Despite this impressive research that highlights mechanisms and the importance of scapegoating, research still remains limited as it has not, for example, examined preventative measures.

Scapegoating in Families and Society

Scapegoating is the process by which one suffers or is otherwise punished for the benefit of others who often have problems that should be addressed. Family therapy, for example, has long

recognized the process of scapegoating as a way that some families resolve conflict, largely unconsciously, by shifting the focus from the parents to the child. The scapegoat becomes the repository for the emotions that family members fail to see in themselves and the object onto which the family transfers aggression (Yahav and Sharlin 2002). The concept has been extended to peer relationships, especially to bullying in schools. Scapegoating also has been found to occur in a diverse range of social milieu (Leman and Waiting 2007), although not necessarily in all social groups (see Mahdavi and Smith 2007). Both long-standing research results and recent advances in research on scapegoating have shed light on the dynamics of family and social scapegoating, the influence of scapegoating on behavior, and advances in mimetic theory exploring how scapegoating functions on a behavioral and psychological level.

Early research on scapegoating has found that it can be a quite common and serious problem for some families and social groups. For example, scapegoating of an adolescent by a sibling has been found to be the most common, followed by parent–child scapegoating and marital conflict. Moreover, self-reporting of different objects of scapegoating are interrelated, likely indicative of a family culture where everyone blames someone else for negative outcomes (Arnold 1985). Although parental support and social desirability can curb scapegoating, parents own involvement in scapegoating makes it difficult to enlist them in addressing the issue. Also, the dynamics that produce scapegoating have historically not been well understood as researchers have sought to understand why some groups have a greater number of scapegoats than others.

Scapegoating and Adolescents

Scapegoating behavior in social groups can be damaging. Scapegoating of adolescents has been linked to their feeling emotionally upset or depressed, being tired all day, having no appetite and having difficulty doing schoolwork (Arnold 1985). For example, when one member of a friend

group is overtly vulnerable, the other members may all channel their anxieties toward that one member as a way to release their own anxieties and achieve a common purpose (Eilenberg and Wyman 1998). Scapegoating, then, can have some positive effects, such as achieving a sense of cohesiveness when adolescents work collectively, but pinning problems on other people makes for “anxious camaraderie” at best and avoiding working through one’s own problems at worst (Eilenberg and Wyman 1998). Importantly, some persuasively have argued that adolescents, as a group, are scapegoats for society’s problems (Males 1996). And researchers focusing on how society can scapegoat adolescents reveal many negative repercussions, such as ineffective and harmful policies relating to their health and behavior (Males 1996).

The effects of scapegoating on behavior are generally negative. For example, scapegoating can act as a barrier to ethical behavior when individuals become devalued and dehumanized scapegoats. As a result, avoiding taking ethical action does not appeal to their conscience because they are negatively impacting someone who is not like themselves (Hersh 2013). Similarly, blaming parents for their children’s misbehavior – which may or may not miss the “true causative agents” behind adolescents’ actions – can lead others to become unwilling to take personal responsibility for their potential roles in fostering such behaviors because the parents supposedly should have known better not only for themselves but for their children (Kang 2007).

As it turns out, it can be especially easy for emotionally immature adolescents to lose their sense of identity within a collective. Vulnerable adolescents can go along with a seemingly overwhelming majority of people in scapegoating a certain group and can avoid making difficult choices or taking personal initiative because of the decreased responsibility derived from group membership (Hersh 2013). Moreover, for adolescents who have been scapegoated, they may internalize others’ attitudes and erroneously believe that they really are to blame for the alleged problems. These are important dynamics that can have significant ramifications. It can, for example,

make psychotherapy especially difficult when adolescents are unwilling or unable to explore other causes of a “problem” outside of themselves when they are scapegoats as well as when they are scapegoating others (see Music and Hall 2008).

Mimetic theory, proposed by René Girard, has been used as a framework to explore scapegoating, and it has done so to great success in recent years. Mimetic theory – with its name derived from the Greek word for imitation – proposes that violence in human culture begins with imitation. Early in human evolution, humans learned to control internal conflict by projecting their violence onto scapegoats. The problem that this psychological mechanism creates is that, once an “enemy” is destroyed or expelled from a group, the resulting relief and calm is only temporary since it has not really addressed the cause or the cure for the actual problems.

The mechanisms proposed by mimetic theory are directly relevant to adolescents. For example, for adolescents in a group psychotherapy environment, the cyclic nature of scapegoating can make any real progress within the group nearly impossible (Finlay et al. 2016). Also, adolescent bullying and cyberbullying can be particularly illuminated by mimetic theory. The theory views individuals who might antagonize each other scapegoat an easy target and then remaining unsatisfied with mere scapegoating but also wanting to thrust a deviant or abnormal role upon their target to save themselves from scrutiny, including saving themselves from scrutiny of themselves (O’Higgins Norman and Connolly 2011). And in the juvenile justice system, mimetic theory helps to explain how individual biases alone are insufficient to explain disparities in sentencing and prosecution; rather, unspoken collective opinions see psychological collusion by many of the agents of the justice system in trying to achieve temporary calm through a scapegoat (Dingwall and Hillier 2015).

Conclusion

Scapegoating in adolescence can be a difficult problem to confront and perhaps even harder to prevent. Pressure from social groups, such as

adolescents' peers, can make especially difficult individual adolescents' resistance to a trend of scapegoating. Similarly, a toxic family environment can teach adolescents that scapegoating is an acceptable way to deal with problems. The failure to address issues more appropriately makes quite common negative outcomes for both those who scapegoat others as well as those who are the objects of scapegoating. Unlike any other theory, Girard's mimetic theory offers a behavioral and evolutionary framework through which to understand the process of scapegoating. While important advances in understanding scapegoating have been made, important gaps remain, such as how to prevent scapegoating and how some groups create scapegoats and others do not. Given how scapegoating appears to be involved in many important contexts in which adolescents find themselves, it is difficult to underestimate the need for more research on this topic and its emerging theories.

References

- Arnold, J. D. (1985). Adolescent perceptions of family scapegoating: A comparison of parental and sibling involvement. *Journal of Adolescence*, *8*(2), 159–165.
- Dingwall, G., & Hillier, T. (2015). *Blamestorming, blamemongers and scapegoats: Allocating blame in the criminal justice process*. Bristol: Policy Press.
- Eilenberg, M. E., & Wyman, S. (1998). Scapegoating in an early adolescent girls group. *Journal of Child and Adolescent Group Therapy*, *8*(1), 3–11.
- Finlay, L. D., Abernethy, A. D., & Garrels, S. R. (2016). Scapegoating in group therapy: Insights from Girard's Mimetic theory. *International Journal of Group Psychotherapy*, *66*(2), 188–204.
- Hersh, M. (2013). Barriers to ethical behaviour and stability: Stereotyping and scapegoating as pretexts for avoiding responsibility. *Annual Reviews in Control*, *37*(2), 365–381.
- Kang, M. (2007). Parents as scapegoats. *The Journal of Contemporary Legal Issues*, *16*(1), 15–22.
- Leman, P. J., & Waiting, D. (2007). Scapegoating and classroom dynamics: Perspectives on the theoretical significance of social groups -commentary on Atria et al. and Mahdavi and Smith. *The European Journal of Developmental Psychology*, *4*, 400–404.
- Mahdavi, D., & Smith, P. K. (2007). Individual risk factors or group dynamics? An investigation of the scapegoat hypothesis of victimization in school classes. *The European Journal of Developmental Psychology*, *4*, 353–371.
- Males, M. (1996). *The scapegoat generation: American's war on adolescents*. Monroe: Common Courage Press.
- Music, G., & Hall, B. (2008). From scapegoating to thinking and finding a home: Delivering therapeutic work in schools. *Journal of Child Psychotherapy*, *34*(1), 43–61.
- O'Higgins Norman, J., & Connolly, J. (2011). Mimetic theory and scapegoating in the age of cyberbullying: The case of Phoebe Prince. *Pastoral Care in Education*, *29*(4), 287–300.
- Yahav, R., & Sharlin, S. (2002). Blame and family conflict: Symptomatic children as scapegoats. *Child and Family Social Work*, *7*, 91–98.

Schema

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A schema is a mental concept or framework that permits individuals to organize representations of interactions, such as past experiences or reactions. Schema determine expectations and help individuals take mental shortcuts when they seek to understand and integrate large amounts of information. This triage of information may be helpful but it also can lead to ignoring important information, such as when stereotypes of oneself or others are used. For example, early maladaptive schemas (dysfunctional patterns of emotions, thoughts, and bodily sensations about oneself and relationships with others developed during youth) have been linked to several psychological disorders and problem behaviors (see Messman-Moore and Coates 2007). Those disorders include depression, anxiety, personality disorders, eating disorders, as well as those leading to aggressive behavior (see Muris 2006; Lumley and Harkness 2007; Tremblay and Dozois 2009).

References

- Lumley, M. N., & Harkness, K. L. (2007). Specificity in the relations among childhood adversity, early maladaptive schemas, and symptom profiles in adolescent depression. *Cognitive Therapy and Research*, *31*, 639–657.
- Messman-Moore, T. L., & Coates, A. A. (2007). The impact of childhood psychological abuse on adult

interpersonal conflict: the role of early maladaptive schemas and patterns of interpersonal behavior. *Journal of Emotional Abuse*, 7, 75–92.

- Muris, P. (2006). Maladaptive schemas in non-clinical adolescents: relations to perceived parental rearing behaviors, big five personality factors, and psychopathological symptoms. *Clinical Psychology & Psychotherapy*, 13, 405–413.
- Tremblay, P. F., & Dozois, D. J. A. (2009). Another perspective on trait aggressiveness: overlap with early maladaptive schemas. *Personality and Individual Differences*, 46, 569–574.

Schizophrenia

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Schizophrenia traditionally has been considered to be a disorder of late adolescence and early adulthood. Research, however, increasingly makes evident that schizophrenia's roots lie in early development (Fatemi and Folsom 2009). The past decade has witnessed an important surge in research focusing on early-onset schizophrenia (EOS), which considers the appearance of psychotic symptoms before the age of 18, and also childhood-onset schizophrenia (COS), which considers the appearance of psychotic symptoms before the age of 13 (see Kumra et al. 2010). These are impressive developments, especially in light of the hesitancy to diagnose disorders during childhood given the general belief that personalities only emerge fully past adolescence. These developments reflect the emergence of new technologies and new understandings of brain as well as social development during, and before, the adolescent period.

Research in this area suggests that individuals with early-, adult-, and late-onset schizophrenia manifest similar clinical deficits, with the exception that early-onset schizophrenia appears to represent a more severe form of the illness (Douaud et al. 2009). For example, the extent of cerebral abnormalities in adolescent-onset schizophrenia patients has been shown to be substantially greater

than in adult-onset schizophrenic patients. Rather than those differences being due to typical differences between adult and adolescent brain development, the differences appear due to the different developmental trajectories taken by adolescents with schizophrenia (Douaud et al. 2009). Brain development of adolescents with schizophrenia appears both delayed and marked by widespread abnormal structural abnormalities.

The clinical deficits associated with schizophrenia are now well known. Schizophrenia involves a profound disruption in cognition and emotion that affects language, thought, perception, affect, and sense of self. *The Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association 2000) highlights that no single symptom is necessary or definitive for a diagnosis of schizophrenia. Instead, diagnosis encompasses a pattern of signs (what someone observes) and symptoms (what a person senses or describes), in conjunction with impaired occupational or social functioning, with certain time restrictions (as in during a month period or less if treated). Symptoms can range widely but often include psychotic manifestations, such as delusions (holding fixed false personal beliefs), hallucinations (e.g., hearing internal voices or experiencing other sensations not connected to an obvious source), disorganized speech (e.g., frequent derailment or incoherence), and grossly disorganized or catatonic behavior. These symptoms typically are described as either positive or negative due to their influence on diagnosis and treatment. Positive symptoms reflect an excess or distortion of normal functions, such as delusions and hallucinations; negative symptoms reflect a diminution or loss of normal functions, such as affective flattening (a reduction in the range and intensity of emotional expression), alogia (poverty of speech), or avolition (reduction, difficulty, or inability to initiate and persist in goal-directed behavior).

Several subtypes of schizophrenia have been identified. Diagnoses of the paranoid type centers on a preoccupation with one or more delusions or frequent auditory hallucinations. Catatonic types involve, for example, motoric immobility (such as stupor), mutism, peculiar and inappropriate

postures, stereotyped movements, prominent mannerism, and prominent grimacing. The disorganized type is diagnosed when there is disorganized speech and behavior, flat or inappropriate affect, and the catatonic type criteria are not met. There are also undifferentiated and residual types.

Considerable progress has been made in the study of schizophrenia's causes. One of the most robust findings in the study of schizophrenia is that it aggregates in families. Having an affected family member substantially increases the risk of developing schizophrenia, although most cases occur sporadically (Tandon et al. 2008). The risk of experiencing schizophrenia increases as the degree of genetic affinity with the affected family member increases, but despite this genetic link and well-established genetic basis for schizophrenia, the mechanism of inheritance remains obscure and family dynamic and interactional explanations are commonly invoked to explain this familiarity. Reviews of genetic studies of schizophrenia conclude that heritability is high in that genetic factors contribute approximately 80% of the liability for the illness and no genes appear to be necessary or sufficient for the development of schizophrenia (Tandon et al. 2008). Although the contributions of environmental factors are unclear, the likelihood of developing schizophrenia increases with the presence of several risk factors. Prenatal risk factors include prenatal infection or malnutrition, perinatal complications, and a history of winter birth. During the adolescent period, cannabis use has been linked to an increased risk of developing schizophrenia, as has delays in attaining developmental milestones related to language and social adjustment (Id.). Research relating to environmental findings, however, is marked by important limitations and controversies. The state of the art in the understanding of schizophrenia's causes, then, reveals that important progress has been made, that both environmental and genetic factors are important, and that how their exposure to them exactly causes schizophrenia remains unknown.

Treatments for early-onset schizophrenia pose important challenges. The condition is chronic, it lasts throughout life and treatment essentially is

the same for all forms of schizophrenia. The use of medications ranks highly, as does psychotherapy, social skills training, as well as hospitalization. Treatment in early onset of schizophrenia, however, mainly has been based on pharmacologic treatment strategies in adults, which, until quite recently, made use of medications that were off-label (not specifically approved for the population or illness but legitimate to use if the doctor believes it will help the child) (see Kumra et al. 2010). Studies that have reported on clinical trials of medications used to treat early-onset schizophrenia reveal that tested antipsychotic treatments typically have resulted in statistically significant reductions in psychotic symptoms. They also reveal, however, the rarity of true remission and that the course of early-onset schizophrenia likely will be chronic and debilitating. Importantly, the studies also reveal that adolescents experience frequent, but not unique, adverse effects of medications, and that some drugs have been found to have greater adverse effects while others have been associated with greater benefits for youth with treatment resistance (see Kumra et al. 2010). Although research relating to psychosocial interventions for early-onset schizophrenia remains limited, these interventions likely remain of significance even despite the focus on antipsychotic medical treatments due to, for example, the need to ensure medication compliance and need for comprehensive intervention strategies that will assist families and reintegration of youth into their communities and families.

As a severe brain disorder, schizophrenia has long been studied. Although early-onset types of schizophrenia have not been studied as much as adult forms, research now clearly reveals that early-onset and childhood schizophrenia represents a severe variant of the disorder. Compared to adult-onset schizophrenia, early-onset variations are associated with a higher frequency of premorbid impairments, higher genetic loading, higher familial risk, and more severe and unremitting outcomes. Studies identifying differences in the life course of schizophrenia highlight the importance of its study during the adolescent period.

References

- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders (DSM-IV-TR)*. Washington, DC: American Psychiatric Association.
- Douaud, G., Mackay, C., Andersson, J., James, S., Quedsted, D., Ray, M. K., et al. (2009). Schizophrenia delays and alters maturation of the brain in adolescence. *Brain: A Journal of Neurology*, *132*, 2437–2448.
- Fatemi, S. H., & Folsom, T. D. (2009). The neurodevelopmental hypothesis of schizophrenia, revisited. *Schizophrenia Bulletin*, *35*, 528–548.
- Kumra, S., Asarnow, R., Grace, A., Keshavan, M., McClellan, J., Sikich, L., et al. (2010). From bench to bedside: Translating new research from genetics and neuroimaging into treatment development for early-onset schizophrenia. *Early Intervention in Psychiatry*, *3*, 243–258.
- Tandon, R., Macheri, K., & Masrallah, H. A. (2008). Schizophrenia, “just the facts” what we know in 2008. 2. Epidemiology and etiology. *Schizophrenia Research*, *102*, 1–18.

Schizotypal Traits

► Schizotypy

Schizotypy

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Synonyms

Psychosis proneness; Psychotic-like experiences; Schizotypal traits

Overview

Schizotypy is a complex construct intimately related to psychotic-spectrum disorders. It is defined as a latent personality organization reflecting a putative liability for psychosis. The leitmotif of the schizotypy construct is based on the idea of early identification of those individuals at risk for psychotic-spectrum disorders, prior to clinical presentation or in the early stages of the disorder, with the aim of implementing prophylactic interventions to delay, ameliorate, or even prevent the onset of frank psychotic symptoms. Furthermore, understanding trait schizotypy may help elucidate relevant etiological mechanisms and protective factors for psychosis. This chapter offers a general overview of schizotypy during adolescence. We begin with a brief definition of psychosis syndrome as well as schizotypy, emphasizing the core links between both. We introduce the study schizotypy from a developmental perspective and its relationship with the psychosis proneness-persistence-impairment model. We provide an overall review of the tools available for schizotypy assessment from the psychometric high-risk paradigm. We then discuss the main factorial studies of schizotypy conducted in adolescents analyzing their structure and content. In addition, the links between schizotypy and other variables gathered from several levels of analyses are discussed, to establish a nomological network. We conclude by considering remaining questions and future directions for the understanding of schizotypy. The study of schizotypy during adolescence is, therefore, a relatively recent field that still has an interesting road to travel.

Introduction: Psychosis and Schizotypy

Psychotic-spectrum disorders include a series of disabling mental disorders such as schizophrenia, schizoaffective disorder, affective psychosis, and psychotic disorder induced by substances as well as schizoid, schizotypal, and paranoid personality disorders. The psychosis syndrome affects about 2–3% of the population. The onset of symptoms occurs usually in late adolescence and begins

gradually and progresses over time, between 2 and 5 years before clinical diagnosis (Fusar-Poli et al. 2014). Although its etiology is still unknown, it is hypothesized to be the result of a complex interplay between genetic and environmental factors. Specific clinical symptoms or etiopathogenic markers for its precise diagnosis have not yet been found (Kahn et al. 2015; van Os et al. 2010).

The psychosis syndrome is characterized by disruption of higher mental functions where any basic psychological process can be altered. For instance, deficits in attention, memory, thought, speech, executive functions, social cognition, and affective regulation can be found in these patients. This syndrome includes four intercorrelated dimensions: affective dysregulation (e.g., depression, mania), psychosis (e.g., hallucinatory experiences, delusional ideation), negative (e.g., anhedonia, avolition), and cognitive (e.g., information-processing deficits) (Kahn et al. 2015; van Os et al. 2010).

Psychotic-spectrum disorders have a clear impact at personal, educational, family, and occupational levels as well as on health-care costs and societal expenditure. For instance, schizophrenia and other psychoses are among the ten leading causes of disability-adjusted life years in the group aged 10–24 years (Gore et al. 2011), representing the third most expensive disorders in Europe (Olesen et al. 2012). In addition, individuals with psychosis have, on average, shorter life spans than the general population.

Due to these facts, over the past decades, several authors and clinicians have tried to predict the onset of clinical psychosis based on liability markers and/or preclinical states (e.g., prodromal symptoms, at-risk mental states, basic symptoms) that increase the risk for conversion to a psychotic state. One of the possible strategies to achieve this goal is the reliable and early identification of those individuals at risk or with greater predisposition for psychotic-spectrum disorders. Prophylactic interventions then (e.g., antipsychotics, psychotherapy, omega-3 fatty acid) may be implemented in order to delay, ameliorate, or even prevent the onset to frank psychotic features and need for care. Previous research studies have shown that

reducing the duration of untreated psychosis with an early effective intervention treatment has clear benefits at multiple levels (e.g., fewer severe symptoms, reduce the transition) and is associated with better outcomes (Fusar-Poli et al. 2014; Stafford et al. 2013). Hence, this focus of research at both clinical and scientific levels is imperative. Thus, the schizotypy construct falls within this psychosis research framework as well as in the search for the etiological mechanisms underlying psychosis.

Schizotypy is a complex construct that is intimately related at historical, conceptual, genetic, neuroanatomical, psychophysiological, neurocognitive, motor, emotional, and behavioral levels to psychotic-spectrum disorders (Ettinger et al. 2014; Lenzenweger 2010). Schizotypy is defined as a latent personality organization reflecting a putative liability for psychotic-spectrum disorders (Meehl 1962). It is hypothesized that this diathesis is expressed according to a vulnerability continuum that ranges from psychological well-being to schizophrenia-spectrum personality disorders and full-blown psychosis (Kwapil and Barrantes-Vidal 2015). This liability would theoretically be present in about 10% of the general population (Meehl 1962). The leitmotif of the schizotypy construct is based on the idea of early identification of those individuals at risk for psychotic-spectrum disorders prior to clinical presentation or in the early stages of the disorder in order to implement preventive prophylactic interventions. Furthermore, the understanding of schizotypy may help elucidate relevant etiological mechanisms and protective factors for psychotic-spectrum disorders (Barrantes-Vidal et al. 2015).

Recent conceptualizations of the schizotypy framework indicate that it provides a unifying construct that efficiently links a broad continuum of clinical and subclinical psychosis manifestations (e.g., psychotic-like experiences, attenuated psychotic symptoms, basic symptoms), as well as “normal” personality variation (Kwapil and Barrantes-Vidal 2015). Schizotypal traits, psychotic-like experiences, attenuated psychotic symptoms, schizotypal personality disorder features, and frank psychotic symptoms should be

described as indicators of schizotypy. Hence, the heterogeneity in the phenotypic indicators of psychosis liability shows that it is not necessarily isomorphic (Lenzenweger 2010). In particular, schizotypal traits are considered as one of the possible phenotypic indicators of this latent liability. These traits refer to anomalies across cognitive (e.g., hallucination, suspiciousness, ideas of reference), social/emotional (e.g., constrict affect, no close friends, anhedonia), and behavioral (e.g., odd behavior and speech) systems that do not meet the clinical threshold for psychotic disorders and may be found across this continuum in both the general and clinical populations (Linscott and van Os 2013).

Previous research has shown that schizotypal traits are a valid putative liability marker for psychosis. First, prospective studies carried out in adolescents from the general population and those at clinical or genetic high risk for psychosis who reported schizotypal traits are at greater probability of psychiatric outcome, particularly schizophrenia-spectrum disorders (Debbané et al. 2015). Second, schizotypal traits are genetically continuous with schizophrenia and are highly heritable (Linney et al. 2003). Third, healthy family members of patients with psychosis have higher rates of schizotypal traits and psychotic-like experiences (Kendler et al. 1993). Fourth, schizotypal traits are stable as shown by moderate test-retest reliability in nonclinical adolescents, in adolescents with 22q11 Deletion Syndrome (22q11DS), young adults, and patients with psychosis (Ericson et al. 2011; Fonseca-Pedrero et al. 2016a; Horan et al. 2008). Fifth, they share the same environmental and demographic risk factors as those found in patients with psychosis (e.g., childhood adversities, cannabis use, urbanicity, age, gender) (Linscott and van Os 2013). Finally, this set of traits can be reliably measured in both clinical and nonclinical populations (Fonseca-Pedrero et al. 2016b; Mason 2015). Thus, the phenotypic expression of schizotypy, such as schizotypal traits, may be considered to be the behavioral expression of increased vulnerability for psychosis. In fact, these data may also constitute this set of traits as an endophenotype.

Schizotypy in Adolescence: A Developmental Framework

Adolescence is an interesting period for the study of psychological experiences and traits in mental health in general and psychosis in particular. First, it is a critical developmental stage for the appearance of the first psychotic-like experiences and psychotic symptoms as well as increasing adjustment problems in the social, motor, and cognition domains prior to psychosis onset (Dickson et al. 2012; Linscott and van Os 2013). Second, psychotic-spectrum symptoms and disorders that emerge during late adolescence or early adulthood seem to develop and originate at earlier stages of development, suggesting the existence of a psychopathological continuity (Zammit et al. 2013). Third, it is well known that during adolescence and the onset of puberty, a wide diversity of maturational, hormonal, brain, cognitive, and social changes take place. These “normal” neuromaturational changes could become biopsychosocial stressors that can increase the risk for the development of psychotic-spectrum disorders (Walker and Bollini 2002). For example, stressful life events or environmental “hits” that occur during adolescence, such as traumatic experiences or sexual abuse, are associated to a greater vulnerability toward the future development of a serious mental disorder (van Os et al. 2009).

The study of schizotypy in adolescent populations and its relationship with the subsequent risk toward the development of psychotic-spectrum disorders has become a topic of great interest and relevance within current psychosis research as it allows us to:

- (a) Identify individuals at risk for psychotic disorders and related conditions prior to their clinical expression
- (b) Establish vulnerability markers and protective factors of psychosis syndrome with a view to implementing prevention, detection, and early intervention programs for adolescents at high risk
- (c) Study the underlying etiological mechanisms as well as psychological processes involved in

the cognitive-developmental pathway of psychotic disorders

- (d) Find clues regarding the different variables and factors, both of risk and protection, which are implicated in the transition from a nonclinical state of functioning to the development of a clinical profile, passing through an intermediate at-risk mental state
- (e) Understand the links between personality traits, personality disorders, and psychotic-spectrum disorders
- (f) Examine similar symptoms and experiences to those found in patients without the confounding effects frequently present in the study of patients, such as the medication, stigmatization, or deterioration caused by the disorder

Recently, Debbané and Barrantes-Vidal (2015) have proposed a new integrative view of schizotypy within a developmental framework. Previously, schizotypy models implicitly recognized its developmental nature; however, these authors offer an explicitly reconceptualized view of trait schizotypy from a developmental psychopathology perspective, where adolescence is a key stage to study. This developmental perspective has a clear relevance in understanding how this latent liability for psychosis is influenced by social learning opportunities, psychosocial stress factors, and polygenetic potentiators playing a crucial role, during maturation, in the clinical expression of psychotic disorders as well as other possible developmental trajectories (e.g., depression, bipolar disorder). This idea is clearly convergent with diathesis-stress models, although focusing on developmental dynamics. Debbané and Barrantes-Vidal (2015) situate trait schizotypy in the emerging domain of psychosis high-risk research and argue for the added value of a transactional, multidimensional examination of schizotypy during development. Hence, schizotypy would be a developmental vehicle toward emerging psychopathology (not only for psychotic-spectrum disorders). Moreover, schizotypy may serve as a distal risk marker for psychosis and could reflect, at the clinical

level, the underlying disease process that may be unfolding in the development of psychosis.

This developmental schizotypy perspective is clearly related to the psychosis proneness-persistence-impairment model formulated by van Os and colleagues (2009). This heuristic model focuses on the interface established between environmental and genetic factors to understand the etiopathogenesis of the psychosis syndrome. The presence of schizotypal traits or psychotic-like experiences during adolescence is not a necessary or sufficient condition for the later development of a psychotic disorder, although it is true that in a small group of adolescents such subclinical experiences and traits may interact synergistically or additively with genetic (e.g., family members with psychosis), environmental (e.g., trauma, migration, urbanicity, cannabis use), and/or psychological factors (e.g., depression, anxiety, avoidance coping), becoming abnormally persistent and clinically relevant, leading to the development of clinical psychosis and need for care. The gene-x-environment interaction combined with the presence of other factors, such as the occurrence, severity, persistence, and associated distress of these traits and experiences as well as associated social dysfunction and functional impairment, would explain the transition to the clinical outcome (Kaymaz et al. 2012).

Schizotypy Assessment

During the last two decades, with the rise of high risk for psychosis research, an increasing interest has steadily grown in the reliable and valid identification and screening of individuals potentially at risk for psychotic-spectrum disorders (Fonseca-Pedrero et al. 2016b; Mason 2015). Precise definition and reliable assessment of psychosis liability are essential for psychosis risk screening purposes as well as for early detection of those individuals at risk for psychosis.

The assessment of schizotypy in adolescents by means of interviews and self-reports falls within the psychometric high-risk approach. This paradigm aims to identify, through psychometric tests or based on score profiles, adolescents who

have a higher probability of developing a psychosis-spectrum disorders in the future. At present, schizotypy assessment using measurement instruments is considered to be a feasible and useful strategy which permits a series of advantages with respect to other assessment methods. It is a noninvasive method of rapid application and easier administration, scoring, and interpretation (Fonseca-Pedrero et al. 2016b; Mason 2015).

It is necessary to have measurement instruments specifically designed for schizotypy assessment in this age group as well as an exhaustive and well-founded study of their psychometric quality in reference to their reliability and different sources of validity evidence. For instance, it won't do much good to use a tool for schizotypy assessment in adolescents with the aim of identifying participants at high risk for psychosis if, for instance, the psychometric characteristics of the instrument were unknown. The inferences and the decisions drawn from the data would be completely ambiguous and unfounded and would lead to a significant impact on the participants (e.g., whether an adolescent is at risk or not or if a more exhaustive psychological assessment is required in order to conduct a preventive intervention).

The construction and validation of tools for schizotypy assessment and the analysis of their psychometric quality in adolescent populations have considerably increased in the last few years. At present, there are several measurement instruments available for clinicians and researchers to document the presence, frequency, and severity of schizotypal traits in this age group. Table 1 depicts the main measurement instruments developed to assess schizotypy and schizotypal traits in adolescent samples. In Table 2, some of the most characteristic items included in these self-reports can be seen.

Several self-reports specifically developed for schizotypy measurement in adolescents can be found in the literature. The Junior Schizotypy Scales (JSS) (Rawlings and MacFarlane, 1994), the Schizotypy Traits Questionnaire (STA) for children (Cyhlarova and Claridge, 2005), the Oviedo Schizotypy Assessment Questionnaire

(ESQUIZO-Q) (Fonseca-Pedrero et al. 2010c), the Schizotypal Personality Questionnaire-Child version (SPQ-C) (Raine et al. 2011), and the Melbourne Assessment of Schizotypy in Kids (MASK) (Jones et al. 2015) are good examples.

The JSS (Rawlings and MacFarlane 1994) was the first schizotypy self-report specifically constructed for its use in adolescent populations, although the low levels of consistency found as well as its unstable factorial solution led to the construction of a reduced version (JSS-Reduced/Multidimensional Schizotypal Traits Questionnaire-Reduced) (DiDuca and Joseph 1999). The JSS-R presented better psychometric properties than its previous long version showing adequate levels of internal consistency which ranged from 0.62 to 0.81, along with a more stable and interpretable factorial solution (DiDuca and Joseph 1999; Fonseca-Pedrero et al. 2010b).

The STA for children was validated in a study of 317 English adolescents, where its reliability and internal structure were examined. The levels of internal consistency found for the subscales and the total score ranged from 0.63 to 0.82, and the study of its internal structure revealed the presence of a three-factor solution (Cyhlarova and Claridge 2005).

The ESQUIZO-Q (Fonseca-Pedrero et al. 2010c) is a self-report of recent construction based on the new advances in psychological measurement (e.g., analysis of the differential item functioning, item response theory) that was validated in a sample of 1,683 randomly selected Spanish adolescents. It is comprised of 51 items with a Likert-type response format in five categories (from 1 "totally disagree" to 5 "totally agree"). Its ten subscales are derived empirically by means of factor analysis: the ideas of reference, magical thinking, unusual perceptual experiences, paranoid ideation, physical anhedonia, social anhedonia, odd thinking and speech, odd behavior, lack of close friends, and excessive social anxiety. Internal consistency levels for the subscales range from 0.62 to 0.90. The ESQUIZO-Q scores show good convergence with other psychopathology measures (e.g., depression, emotional problems, psychosis high-risk symptoms) (Fonseca-Pedrero et al. 2010c, 2016c).

Schizotypy, Table 1 Schizotypy measurement instruments used in adolescents

| Name | Acronym | Number of items | Format | Reference |
|--|------------------|-----------------|------------|--------------------------------|
| Not specifically developed for adolescents | | | | |
| Perceptual aberration scale | PAS | 35 | True/false | Chapman et al. (1978) |
| Revised physical anhedonia scale | PhA | 61 | True/false | Chapman et al. (1976) |
| Revised social anhedonia scale | RSAS | 40 | True/false | Eckblad et al. (1982) |
| Magical ideation scale | MIS | 30 | True/false | Eckblad and Chapman (1983) |
| Schizotypal Personality Questionnaire | SPQ | 74 | Yes/no | Raine (1991) |
| Schizotypal Personality Questionnaire-Brief | SPQ-B | 22 | Yes/no | Raine and Benishay (1995) |
| Oxford-Liverpool Inventory of Feelings and Experiences | O-LIFE | 159 | Yes/no | Mason et al. (1995) |
| Oxford-Liverpool Inventory of Feelings and Experiences-Short | sO-LIFE | 43 | Yes/no | Mason et al. (2005) |
| Thinking and Perceptual Style Questionnaire | TPSQ | 99 | Likert 5 | Linscott and Knight (2004) |
| Specifically developed for adolescents | | | | |
| Junior Schizotypy Scales | JSS | 95 | Yes/no | Rawlings and MacFarlane (1994) |
| Multidimensional Schizotypal Traits Questionnaire-Reduced | MSTQ-R/ JSS-R | 51 | Yes/no | DiDuca and Joseph (1999) |
| Schizotypy Traits Questionnaire for children | STA-C | 37 | Yes/no | Cyhlarova and Claridge (2005) |
| Oviedo Questionnaire for Schizotypy Assessment | ESQUIZO-Q | 51 | Likert 5 | Fonseca-Pedrero et al. (2010c) |
| Schizotypal Personality Questionnaire-Child | SPQ-C | 22 | Yes/no | Raine et al. (2011) |
| Melbourne Assessment of Schizotypy in kids | MASK | 57 | Likert 4 | Jones et al. (2015) |

The SPQ-C (Raine et al. 2011) is a 22-item self-report measure for use in children and adolescents. It was validated in a sample of 3,804 schoolchildren from Hong Kong. The SPQ-C consists of three subscales: cognitive-perceptual (e.g., ideas of reference, paranoid ideation, magical thinking, unusual perceptual experiences), interpersonal (e.g., social anxiety, no close friends, blunted affect), and disorganized (e.g., odd speech and behavior). Internal consistency levels for the subscales and total score range from 0.60 to 0.89, whereas test-retest ranged from 0.40 to 0.65. Sources of validity evidence with other measures have been gathered (e.g., peer victimization, aggression) as well as follow-up genetic studies have been conducted (Ericson et al. 2011; Fonseca-Pedrero et al. 2015b; Raine et al. 2011).

It should be mentioned that the different measurement instruments originally developed for use in adult populations have also been used in adolescent populations. The Chapman scales, the Schizotypal Personality Questionnaire (SPQ) and its brief version (SPQ-B), the Oxford-Liverpool Inventory of Feelings and Experiences (O-LIFE) or its short form, and the Thinking and Perceptual Style Questionnaire (TPSQ) are some examples (see Table 1). It is well known that this practice implies some limitations, although it is equally true that the psychometric properties of these self-reports in adolescents are quite acceptable (Cella et al. 2013; Fonseca-Pedrero et al. 2009, 2015a; Fossati et al. 2003). Hence, the validation of self-reports which have not been specifically designed for the assessment of schizotypy in this age group may also be an

Schizotypy, Table 2 Examples of items used in the schizotypy measures in adolescents

| Measurement instrument | Dimension | Item |
|------------------------|-------------------------|---|
| JSS | Positive | Is it true that you could never learn to read another person's mind? |
| | Negative | Do you feel very close to your friends? |
| | Impulsive nonconformity | Do you sometimes do dangerous things just for fun? |
| STA for children | Positive | Are your thoughts sometimes so strong that you can almost hear them? |
| | Paranoid ideation | Do you often feel that other people have it in for you? |
| | Magical thinking | Have you ever felt that you could tell what another person was thinking? |
| ESQUIZO-Q | Positive | I believe someone is plotting something against me |
| | Anhedonia | I like to receive the visit of my friends at home (need to be recoded) |
| | Social disorganization | I get nervous when I am going to have a serious conversation with another person |
| SPQ-C | Cognitive-perceptual | I sometimes feel there is a person or spirit around me, even when there is no one there |
| | Interpersonal | I feel very uneasy talking to people I do not know well |
| | Disorganization | I am an odd, unusual person |

JSS Junior Schizotypy Scales, *STA for children* Schizotypy Traits Questionnaire for children, *ESQUIZO-Q* Oviedo Questionnaire for Schizotypy Assessment, *SPQ-C* Schizotypal Personality Questionnaire-Child

interesting practice wherever it is supported by the data.

As can be observed, the number of available self-reports for schizotypy assessment in adolescents is quite limited, and their psychometric characteristics have been barely examined. A reliable and valid schizotypy measure is essential to capture this construct as well as to measure it in a scientific and rigorous manner. According to Kwapił and Barrantes-Vidal (2015), a clear operationalization of this construct is necessary, among others, to guide this measurement framework and provide the basis for construct validation. Therefore, it would be necessary to continue advancing in their exhaustive analysis as well as obtain psychometric data supporting their predictive validity in representative and random samples of adolescents from the general population.

Multidimensionality of Schizotypy

The understanding of the structure and content of schizotypy in adolescent populations has considerably advanced in the last two decades. The exhaustive analysis of the internal structure of

trait schizotypy in adolescents permits a better conceptual delimitation and operationalization of the construct. When the factorial structure underlying the schizotypy tools in this age group is analyzed, it can be observed to be a multidimensional construct in nature, phenotypically similar to that found in the general adult population as well as in patients with psychosis. In previous studies conducted in patients, at least three separate dimensions (e.g., positive, negative, and disorganization symptoms) have been reported (Liddle 1987). Just as schizophrenia is phenotypically heterogeneous, encompassing a broad range of emotional, cognitive, perceptual, social, and behavioral functions, schizotypy involves a diverse set of traits.

The number, structure, and content of the dimensions found depend clearly on the measurement instrument used (e.g., SPQ, O-LIFE, ESQUIZO-Q), the sample analyzed (e.g., country, random vs. convenience sample), the statistical analyses conducted (exploratory vs. confirmatory factor analysis), and the level of analyses employed (items vs. subscales). Therefore, it must be kept in mind that the strict comparison among factorial studies is a difficult task which is often hindered by these variables.

Table 3 shows the main factorial studies conducted in adolescent populations in the last years. As can be seen, the number and content of the schizotypy dimensions range from three to five factors. The positive (unusual perceptual experiences, cognitive-perceptual, reality distortion) and negative (anhedonia, interpersonal) dimensions have been widely replicated and have been consistently found across studies and measures. Therefore, the current debate seems to be more centered on the content of the third or even the fourth dimension. The positive dimension makes reference to an excessive or distorted functioning of a “normal” process and includes facets related to unusual perceptual experiences as hallucinatory experiences, paranoid ideation, ideas of reference, and magical thinking. The negative dimension refers to the reduction or deficit in the normal behavior and includes facets regarding difficulties experiencing pleasure at a physical (physical anhedonia) and social level (social anhedonia), blunted affect, and lack of close friends.

Using the SPQ, SPQ-B, or SPQ-C, the three-factor model, composed by the cognitive-perceptual, interpersonal, and disorganized dimensions, is possibly one of the most replicable and consistent models across studies and samples. It has been found in nonclinical, outpatient, and 22q11DS adolescents and stable across differing statistical techniques and level of analysis (Ericson et al. 2011; Fonseca-Pedrero et al. 2009, 2016a; Raine et al. 2011). Moreover, these dimensions have been shown to be invariant across gender, age, and culture (Fossati et al. 2003; Ortuño-Sierra et al. 2013). In addition to the recent construction of the SPQ-C, three types of empirical studies should be mentioned.

First, as is depicted in Table 3, the comparison among studies is complicated mainly due to the relative lack of comparability between self-reports. Thus, a relevant research study would be to examine the underlying factorial structure across several tools that assess the multidimensional structure of schizotypy in adolescent populations. With this aim, Fonseca-Pedrero et al. (2010b) examined the internal structure of the subscales of the JSS-R and TPSQ in a large sample of 991 nonclinical adolescents. They

found a four-factor solution composed of the following factors: positive, social disorganization, negative, and impulsive nonconformity. These results are important with a view to integrating the factorial structures obtained from several self-reports and increasing our comprehension of the multidimensional structure of schizotypy in this age group.

Second, no previous studies had tested the equivalence of the factorial structure of the schizotypal traits across cultures during adolescence. With this aim, Ortuño-Sierra et al. (2013) analyzed whether the dimensional structure underlying the SPQ-B scores was invariant across Spanish and Swiss adolescents. The results indicated that the three-factor model of schizotypy presented adequate goodness-of-fit indices (cognitive-perceptual, interpersonal, and disorganized). Moreover, the results supported the measurement invariance (configural and partial strong invariance) of the SPQ-B scores across the two samples. This research is critical as it shows how emotional, cognitive, and behavioral functions – abnormalities that form the core of schizotypy – differ considerably as a function of culture (Cohen et al. 2015). The finding of comparable factorial structure in cross-cultural samples would lend further support to the validity and utility of this psychosis screening measure in cross-cultural research.

Third, 22q11DS is one of the most frequently cited genetic models of risk for the development of psychotic-spectrum disorders and allows for the examination of etiological mechanisms underlying the transition to clinical psychotic outcomes. However, very little is known about the phenotypic expression and the factorial structure of schizotypal traits in adolescents with this syndrome. With this aim, Fonseca-Pedrero et al. (2016a) analyzed the dimensional structure of schizotypal traits, in a sample of 61 adolescents with 22q11DS, using the SPQ. The analysis of the internal structure of SPQ yielded a three-factor model (cognitive-perceptual, interpersonal, and disorganized). Moreover, the schizotypal traits derived empirically from this factorial model were notably stable across a 3.6-year interval. Hence, this multidimensional structure of

Schizotypy, Table 3 Main factorial studies of schizotypy conducted in adolescent samples

| Reference | Number of factors and type of factorial analysis | Instrument | Sample | Structure and content |
|--------------------------------|--|--------------|------------------------------------|---|
| | | | N; mean (SD) | |
| Venables and Bailes (1994) | 4 | SAE | 437; 16.7 years (0.9) | Unusual perceptual experiences/paranoid and magical ideation (positive) |
| | E | | English ^a | Social anxiety/ disorganization Physical anhedonia Social anhedonia |
| Rawlings and MacFarlane (1994) | 3 | JSS | 136; 12.5 years (0.4) | Positive (split paranoid/ magical ideation) |
| | E | | Australian | Negative Impulsive nonconformity |
| Chen et al. (1997) | 3 | SPQ | 115; 14 years (0.8) | Cognitive-perceptual (positive) |
| | C | | Chinese ^b | Interpersonal Disorganization |
| Wolfradt and Straube (1998) | 3 | STA | 1,362; 15.6 years (1.1) | Magical ideation/unusual perceptual experiences |
| | E | | German | Ideas of reference/social anxiety Suspiciousness |
| DiDuca and Joseph (1999) | 5 | JSS-R | 492; 15.5 years (1.8) | Cognitive-perceptual |
| | E | | English | Aberration Social anhedonia Impulsive nonconformity Physical anhedonia |
| Axelrod et al. (2001) | 3 | SPQ-B | 237; 15.8 years (1.4) | Cognitive-perceptual |
| | E | | Psychiatric adolescent outpatients | Interpersonal Disorganization |
| Fossati et al. (2003) | 3 | SPQ | 929; 16.4 years (1.4) | Cognitive-perceptual |
| | E | | Italian ^c | Interpersonal Disorganized |
| Cyhlarova and Claridge (2005) | 3 | STA children | 317; 13.3 years (1.2) | Unusual perceptual experiences |
| | E | | English | Paranoid ideation/social anxiety Magical thinking |
| Fonseca-Pedrero et al. (2009) | 3 | SPQ-B | 1,683; 15.9 years (1.2) | Cognitive-perceptual |
| | C | | Spanish | Interpersonal Disorganized |
| Fonseca-Pedrero et al. (2010b) | 3 | JSS-R | 991; 14.7 years (1.8) | Positive |
| | E | | Spanish | Negative Impulsive nonconformity |
| Fonseca-Pedrero et al. (2010b) | 3 | TPSQ | 991; 14.7 years (1.8) | Social disorganization |
| | E | | Spanish | Aberrant processing Anhedonia |
| Fonseca-Pedrero et al. (2010c) | 3 | ESQUIZO-Q | 1,683; 15.9 years (1.2) | Social disorganization |
| | E | | Spanish | Positive Anhedonia |

(continued)

Schizotypy, Table 3 (continued)

| Reference | Number of factors and type of factorial analysis | Instrument | Sample | Structure and content |
|--------------------------------|--|------------|---|--|
| | | | N; mean (SD) | |
| Fonseca-Pedrero et al. (2011b) | 3 | ESQUIZO-Q | 1,438; 15.9 years (1.2) | Social disorganization |
| | E | | Spanish | Positive Anhedonia |
| Raine et al. (2011) | 3 | SPQ-C | 3,804; 11.7 years (2.0) | Cognitive-perceptual |
| | C | | Hong Kong | Interpersonal Disorganized |
| Ericson et al. (2011) | 3 | SPQ-C | 1,457; 724 sets of twins and triplets; three waves; follow-up; North American | Cognitive-perceptual |
| | E and C | | | Interpersonal Disorganized |
| Badoud et al. (2011) | 3 | SPQ | 174; 12–17 years | Cognitive-perceptual |
| | C | | Swiss; French-speaking adolescents | Interpersonal Disorganized |
| Cella et al. (2013) | 4 | sO-LIFE | 1,032; 17.3 years (1.3) | Unusual perceptual experiences |
| | C | | Italian | Cognitive disorganization Introvertive anhedonia Impulsive nonconformity |
| Ortuño-Sierra et al. (2013) | 3 | SPQ-B | Spanish = 291; 16.1 years (1.2) | Cognitive-perceptual |
| | C | | Swiss = 241; 15.9 years (1.9) | Interpersonal Disorganized |
| Fonseca-Pedrero et al. (2015b) | 3 | SPQ-C | 508; 13.9 years (1.7) | Cognitive-perceptual |
| | C | | Spanish | Interpersonal Disorganized |
| Fonseca-Pedrero et al. (2016a) | 3 | SPQ | 61; 14.95 years (2.13) | Cognitive-perceptual |
| | E | | Swiss; 22q11DS | Interpersonal Disorganized |

E Exploratory Factor Analysis, *C* Confirmatory Factor Analysis, *SAE* Survey of Attitudes and Experiences, *JSS* Junior Schizotypy Scales, *STA* Schizotypal Traits Questionnaire, *SPQ-(B/C)* Schizotypal Personality Questionnaire-(Brief/Child), *JSS-R* Junior Schizotypy Scales-Reduced, *TPSQ* Thinking and Perceptual Style Questionnaire, *ESQUIZO-Q* Oviedo Questionnaire for Schizotypy Assessment, *sO-LIFE* Oxford-Liverpool Inventory of Feelings and Experiences-Short

^a333 English adults

^b345 Chinese adults

^c803 Italian University students

schizotypal traits, measured by the SPQ, overlaps with those found in previous studies including those of typically developing adolescents. Taken together, these findings suggest that a similar factorial structure of schizotypy can be found across samples with different clinical status (e.g., non-clinical adolescents, adolescents at genetic high risk, adolescents at clinical high risk, and patients), which provides support for the multi-dimensional continuum model of schizotypy and psychosis.

Other dimensional models of schizotypy are equally plausible (see Table 3). For example, in some studies, the third dimension of disorganization could be substituted by a dimension of impulsive nonconformity or by a more general dimension of social disorganization (Cella et al. 2013; Fonseca-Pedrero et al. 2010b, c). However, other studies posit a different three-factor model composed by the positive, paranoid ideation/social anxiety, and magical thinking dimensions or by the factors of

magical ideation/perceptual experiences, ideas of reference/social anxiety, and suspiciousness (DiDuca and Joseph 1999; Wolfradt and Straube 1998).

Gender and age are two sociodemographic variables that seem to play an important role in the phenotypic expression of schizotypy as well as psychotic symptoms during adolescence. First, when the relationship between schizotypy and gender is analyzed, it is found that adolescent females obtain higher scores than males in the positive, paranoid ideation, magical ideation, ideas of reference, and social anxiety dimensions; however, males tend to score higher than females in the anhedonia (physical and social anhedonia), disorganized (odd behavior, blunted affect, no close friends), and impulsive nonconformity dimensions (Fonseca-Pedrero et al. 2008, 2012; Fossati et al. 2003).

Second, when groups of adolescents are compared with adults (university students or general population samples), the younger participants tend to score higher than the older ones in most of the dimensions of schizotypy (Chen et al. 1997; Fossati et al. 2003; Venables and Bailes 1994). However, when groups of adolescents are compared exclusively, the role of age is not so clearly outlined. In this regard, some studies have not found an association between age and schizotypy (DiDuca and Joseph 1999; Wolfradt and Straube 1998), while others have found insignificant levels of association (Fonseca-Pedrero et al. 2009), a positive correlation (Fonseca-Pedrero et al. 2008), or even a negative association between both variables (Cyhlarova and Claridge 2005). Recently, Fonseca-Pedrero et al. (2012) found, using a large and representative sample of 1,618 nonclinical adolescents, that the younger adolescents had lower scores in odd thinking and language, lack of close friends, and excessive social anxiety subscales (social disorganization dimension) compared to the older adolescents. These results found in adolescents are parallel and convergent to those found in adult populations and in patients with psychosis as well as with other related constructs such as psychotic-like experiences and (subclinical) psychotic symptoms.

To summarize, although there is no unanimous agreement on the number of dimensions, the results of the different empirical studies taken as a whole allow us to assert that schizotypy in adolescent populations is composed, at a minimum, of three dimensions, namely, cognitive-perceptual (positive, reality distortion), interpersonal (negative anhedonia), and disorganized (cognitive disorganization). Moreover, the SPQ, SPQ-B, and SPQ-C are the most commonly used measurement instruments for testing the multidimensional structure of schizotypal traits as an indirect measure of schizotypy during adolescence.

Nomological Network of Schizotypy

Schizotypy as a construct has a long history from genetic, experimental, and clinical perspectives. This previous extensive empirical research conducted in the schizotypy arena is essential to building a strong scientific model (to be tested), not only based on its relevance as a liability marker or its role in understanding etiological mechanisms for psychosis but also in relation with other constructs from multiple levels of analyses (e.g., genetics, cells, brain, cognitive, behavioral). Paul E. Meehl is an outstanding scientist not only for his schizotypy work but also for positing the concept of a nomological network, working together with Lee Cronbach (Cronbach and Meehl 1955). This *net* is essential to schizotypy construct validation and will be a relevant endeavor for schizotypy in the coming years. In brief, a nomological network for schizotypy research is needed to (a) have a clear representation and operationalization of the latent construct (allowing it to be measured), (b) establish their observable manifestations, and (c) set their interrelationships with other constructs (related or not), that is, the links between theoretical constructs that can be measured. In this regard, the schizotypy construct, measured by several indicators (e.g., psychometric indices, laboratory tasks), is empirically related or not to other measured constructs at several levels of

analyses. Consequently, the schizotypy nomological network is an ongoing process based on empirical research.

First, schizotypy is defined as a liability trait that can be measured by genetic, psychometric, laboratory, and clinical indicators (Lenzenweger 2010).

Second, schizotypy, at the phenotypic level, is operationalized as a multidimensional construct composed basically of three factors (cognitive-perceptual, interpersonal, and disorganization) and based on quantitative profile scores. For a clear definition of the schizotypy construct, two types of research have to be mentioned: (a) follow-up studies to test its trait nature and its predictive validity and (b) correlational analyses to differentiate schizotypy from other latent constructs. Previous research has shown that schizotypal traits are highly stable across measures and samples, particularly during adolescence (Cella et al. 2013; Debbané et al. 2013; Ericson et al. 2011). For instance, Ericson et al. (2011) found that the stability of SPQ-C scores between early and middle adolescence was $r = 0.58$, which reflects moderate stability. Similar results have been found in adolescents with 22q11DS (Fonseca-Pedrero et al. 2016a). Hence, schizotypy seems to be a trait in nature (Debbané and Barrantes-Vidal 2015). Moreover, these results are relevant in order to differentiate schizotypal traits from other related constructs, such as psychotic-like experiences, or the *traits* from the *states* (symptoms). From another point of view, several follow-up studies carried out in adolescents indicated that individuals with high scores on schizotypy self-reports have a higher probability of developing psychotic-spectrum disorders (Debbané et al. 2015). These results are quite important as they show the content and predictive validity of these sets of traits as well as the usefulness and validity of this approach. Second, previous research studies have shown that schizotypal traits, psychotic-like experiences, and self-reported clinical high-risk symptoms are moderately associated but can be differentiated in community derived samples of adolescents (Barrantes-Vidal et al. 2013; Fonseca-Pedrero et al. 2016c).

Third, the schizotypy framework assumes the possibility of finding individuals with “intermediate” phenotypic expressions across the continuum that, although they may never evolve into clinical psychoses, can exhibit deficits which are qualitatively similar, but less severe, than those found in patients with psychosis. Moreover, this model adopts an extended psychosis phenotype approach where these traits are continuously distributed across the general population, so they are not necessarily associated to a mental disorder. Previous research has shown that adolescents who report schizotypal traits also present subtle brain function, psychophysiological, motor, neurocognitive, social cognition, emotional, affective, behavioral, and/or social deficits. For instance, adolescents who scored high on schizotypal measures showed, among others, more depressive symptoms, maladaptive personality traits, obsessive compulsive symptoms, behavioral problems, suicidal ideation, poorer social functioning, prosocial skills, reflective functioning, and quality of life as well as neurocognitive deficits in comparison with those who scored low (Barrantes-Vidal et al. 2002; Debbané et al. 2014; Ettinger et al. 2014; Fonseca-Pedrero et al. 2010a, 2011a, c, 2015a, b; Raine et al. 2011).

Fourth, just as with the vulnerability-stress models, the schizotypy model entails the necessity of the confluence or interaction of multiple genetic, neurodevelopmental, cognitive, psychosocial, and environmental risk factors for the development of a clinical condition of functional psychosis (see above, the psychosis proneness-persistence-impairment model). For instance, previous research has found that those traits and experiences located below the clinical threshold, during development, on interaction with greater exposure to proxy genetic and environmental risk factors, may cause abnormal persistence of these experiences and traits and produce linear increases in the psychosis severity outcome (Linscott and van Os 2013; van Os et al. 2009).

These findings reveal a clear overlap between schizotypy and psychosis, supporting the notion of phenomenological, temporal, and etiological

continuity between schizotypal traits and psychosis.

Gaps in Knowledge

The study of schizotypy during adolescence is a relatively recent field that needs to be the object of more exhaustive and systematic research. A wide variety of issues still remain to be resolved in schizotypy research from a developmental framework.

First, with regard to the use of measurement instruments in this age group, their psychometric properties have to be tested in representative samples of adolescents from the general population, being particularly relevant to gathering new evidences of their validity in independent longitudinal studies. Further longitudinal studies are required to examine the extent to which schizotypal traits (e.g., cognitive-perceptual, interpersonal, and disorganized dimensions) could contribute to improving the prediction of conversion to psychotic-spectrum disorders in this sector of the population.

Second, new measurement approaches and psychometric procedures such as McDonald's omega, item response theory, computerized adaptive testing, differential item functioning, new structural equation models, or network analysis have to be incorporated in this field. These methodological advances may better capture the complexity and heterogeneity of the schizotypy phenotype. Advances in the field of measurement open up new horizons for the assessment and the understanding of the structure and content of trait schizotypy.

Third, new methodological designs such as the experience sampling method (ESM) have to be added progressively in schizotypy research. ESM is a structured diary technique assessing cognition, affect, symptoms, and contextual factors in the real context (Oorschot et al. 2009). ESM offers several advantages to traditional cross-sectional procedures, for instance, ESM (a) repeatedly assesses individuals in their daily environment, enhancing ecological validity; (b) assesses the participants' experiences at the time of the signal,

minimizing retrospective bias; (c) allows for an examination of the context of individuals' experiences; and (d) captures the interactional nature of the vulnerability-stress model by analyzing dynamic person-environment interactions.

Fourth, the study of the extended psychosis phenotype from multiple levels of analyses and multiple indicators is essential in the new era of studies. For instance, combining genetic, neuroimaging, psychophysiological, neurocognitive, behavioral, and sociological levels of analysis allows us to better understand psychotic-spectrum disorders as well as to examine which factors and level analyses could determine the transition to a psychotic state in high-risk participants. Moreover, new schizotypy studies would be integrated as well as follow the guidelines of the Research Domain Criteria (RDoC). RDoC is a novel research framework for new ways of studying mental disorders. It integrates many levels of information (from genomics to self-reports) to better understand basic dimensions of functioning underlying the full range of human behavior from normal to abnormal.

Fifth, combining multiple high-risk approaches and risk indicators and factors may improve our predictive power for early detection and prevention of psychosis syndrome. For instance, the assessment of multiple genetic and environmental risk factors for psychosis, in a close-in strategy, may help us to enhance the possibility of early identification of adolescents at risk for psychosis as well as other mental health problems (e.g., depression). In addition, the assessment of clinical high-risk symptoms and trait schizotypy among adolescents at genetic high risk provides a window to reliable identification of individuals at heightened risk for psychotic-spectrum disorders as well as more comprehensive and integrated psychosis risk identification efforts. The new studies have to facilitate the integration of early and late risk mental states within the developmental framework.

Sixth, given the public health relevance of schizotypy and its phenotypic indicators during adolescence (e.g., psychosis spectrum symptoms), a new interesting line of research would be to use the schizotypy measures with mental health screening purposes within a prevention approach.

Finally, big data projects and sharing data across international groups would be desirable. Hence, the International Lemanic Workshop on Schizotypy Research (Geneva, December, 2013) set the foundations for future collaborative research through the creation of the Consortium for International Schizotypy Research (CISR).

Conclusion

Psychotic-spectrum disorders have an impact at multiple levels and a clear societal and health expenditure. The prediction of this serious mental disorder is imperative from both clinical and research perspectives. One of the possible strategies to achieve this goal is the reliable and early identification of those individuals at risk for psychotic-spectrum disorders to implement prophylactic interventions in order to delay, ameliorate, or even prevent the onset to frank psychotic features. Schizotypy is a useful and valid construct to achieve this goal. It is defined as a latent personality organization reflecting a putative liability for psychosis. The understanding of schizotypy and its phenotypic indicators (e.g., schizotypal traits) may help elucidate relevant etiological factors, provide a window to examine risk and protective factors for psychotic disorders, and identify individuals at risk for psychosis. Especially interesting is to understand trait schizotypy from a developmental perspective, where adolescence is a key stage to analyze. There are several measurement instruments available for clinicians and researchers to document the presence, frequency, and severity of schizotypal traits in this age group. Schizotypy tools, as an example of psychosis risk screening, have shown adequate psychometric properties. Previous studies have displayed that the factor structure of schizotypy is essentially multidimensional. Although there is no unanimous agreement on the number of dimensions, the results of the different empirical studies allow us to assert that schizotypy in adolescent populations is composed, at a minimum, of three dimensions (cognitive-perceptual, interpersonal, and disorganized). Previous research has demonstrated that

adolescents who report schizotypal traits also present subtle brain function, psychophysiological, motor, neurocognitive, social cognition, emotional, affective, behavioral, and/or social deficits, similar to those found in patient with psychosis. In overall, these findings reveal a clear overlap between schizotypy and psychosis, supporting the notion of phenomenological, temporal, and etiological continuity between both. There is no doubt that in the study of schizotypy in adolescents there are still many pieces of the puzzle to be solved, making it an extremely interesting field in expansion that yet has a fascinating future in store.

References

- Axelrod, S.R., Grilo, C.M., Sanislow, C., & McGlashan, T.H. (2001). Schizotypal Personality Questionnaire-Brief: factor structure and convergent validity in inpatient adolescents. *Journal of Personality Disorders, 15*, 168–79.
- Badoud, D., Chanal, J., Eliez, S., Van Der Linden, M., & Debbané, M. (2011). Validation study of the French schizotypal personality questionnaire in an sample of adolescents: A confirmatory factor analysis. *L'Encéphale, 37*, 299–307.
- Barrantes-Vidal, N., Fañanás, L., Rosa, A., Caparrós, B., Riba, M. D., & Obiols, J. E. (2002). Neurocognitive, behavioral and neurodevelopmental correlates of schizotypy clusters in adolescents from the general population. *Schizophrenia Research, 61*(2), 293–302.
- Barrantes-Vidal, N., Gómez-de-Regil, L., Navarro, B., Vicens-Vilanova, J., Obiols, J., & Kwapil, T. (2013). Psychotic-like symptoms and positive schizotypy are associated with mixed and ambiguous handedness in an adolescent community sample. *Psychiatry Research, 30*, 188–194.
- Barrantes-Vidal, N., Grant, P., & Kwapil, T. (2015). The role of schizotypy in the study of the etiology of schizophrenia spectrum disorders. *Schizophrenia Bulletin, 41*, S408–S416.
- Cella, M., Serra, M., Lai, A., Mason, O. J., Sisti, D., Rocchi, M.B., . . . Petretto, D.R. (2013). Schizotypal traits in adolescents: Links to family history of psychosis and psychological distress. *European Psychiatry, 28*, 247–253.
- Chapman, J. P., Chapman, L. J., & Raulin, M. L. (1976). Scales for physical and social anhedonia. *Journal of Abnormal Psychology, 87*, 374–382.
- Chapman, L. J., Chapman, J. P., & Rawlin, M. L. (1978). Body-image aberration in schizophrenia. *Journal of Abnormal Psychology, 87*, 399–407.
- Chen, W. J., Hsiao, C. K., & Lin, C. C. H. (1997). Schizotypy in community samples: The three-factor

- structure and correlation with sustained attention. *Journal of Abnormal Psychology*, 106(4), 649–654.
- Cohen, A., Mohr, C., Ettinger, U., Chan, R. C. K., & Park, S. (2015). Schizotypy as an organizing framework for social and affective sciences. *Schizophrenia Bulletin*, 41, S427–S435.
- Cronbach, L. J., & Meehl, P. E. (1955). Construct validity in psychological tests. *Psychological Bulletin*, 52, 281–302.
- Cyharova, E., & Claridge, G. (2005). Development of a version of the Schizotypy Traits Questionnaire (STA) for screening children. *Schizophrenia Research*, 80(2–3), 253–261.
- Debbané, M., & Barrantes-Vidal, N. (2015). Schizotypy from a developmental perspective. *Schizophrenia Bulletin*, 41(Suppl. 2), S386–S395.
- Debbané, M., Badoud, D., Balanzin, D., & Eliez, S. (2013). Broadly defined risk mental states during adolescence: Disorganization mediates positive schizotypal expression. *Schizophrenia Research*, 147, 153–156.
- Debbané, M., Vrticka, P., Lazouret, M., Badoud, D., Sander, D., & Eliez, S. (2014). Self-reflection and positive schizotypy in the adolescent brain. *Schizophrenia Research*, 152, 65–72.
- Debbané, M., Eliez, S., Badoud, D., Conus, P., Flückiger, R., & Schultze-Lutter, F. (2015). Developing psychosis and its risk states through the lens of schizotypy. *Schizophrenia Bulletin*, 41, S396–S407.
- Dickson, H., Laurens, K. R., Cullen, A. E., & Hodgins, S. (2012). Meta-analyses of cognitive and motor function in youth aged 16 years and younger who subsequently develop schizophrenia. *Psychological Medicine*, 42, 743–755.
- DiDuca, D., & Joseph, S. (1999). Assessing schizotypal traits in 13–18 year olds: Revising the JSS. *Personality and Individual Differences*, 27(4), 673–682.
- Eckblad, M., & Chapman, L. J. (1983). Magical ideation as an indicator of schizotypy. *Journal of Abnormal Psychology*, 51, 215–225.
- Eckblad, M., Chapman, L. J., Chapman, J. P., & Mishlove, M. (1982). The revised social anhedonia scale. Unpublished manuscript, University of Wisconsin, Madison.
- Ericson, M., Tuvblad, C., Raine, A., Young-Wolff, K., & Baker, L. A. (2011). Heritability and longitudinal stability of schizotypal traits during adolescence. *Behavior Genetics*, 41, 499–511.
- Ettinger, U., Meyhöfer, I., Steffens, M., Wagner, M., & Koutsouleris, N. (2014). Genetics, cognition, and neurobiology of schizotypal personality: A review of the overlap with schizophrenia. *Frontiers of Psychiatry*, 5, 18.
- Fonseca-Pedrero, E., Lemos-Giráldez, S., Muñiz, J., García-Cueto, E., & Campillo-Álvarez, A. (2008). Schizotypy in adolescence: The role of gender and age. *Journal of Nervous and Mental Disease*, 196(2), 161–165.
- Fonseca-Pedrero, E., Lemos-Giráldez, S., Paino, M., Villazón-García, U., & Muñiz, J. (2009). Validation of the schizotypal personality questionnaire brief form in adolescents. *Schizophrenia Research*, 111, 53–60.
- Fonseca-Pedrero, E., Lemos-Giráldez, S., Paino-Piñeiro, M., Villazón-García, U., & Muñiz, J. (2010a). Schizotypal traits, obsessive-compulsive symptoms, and social functioning in adolescents. *Comprehensive Psychiatry*, 51, 71–77.
- Fonseca-Pedrero, E., Linscott, R. J., Lemos-Giráldez, S., Paino, M., & Muñiz, J. (2010b). Psychometric properties of two measures for the assessment of schizotypy in adolescents. *Psychiatry Research*, 179, 165–170.
- Fonseca-Pedrero, E., Muñiz, J., Lemos-Giráldez, S., Paino, M., & Villazón-García, U. (2010c). *ESQUIZO-Q: Cuestionario Oviedo para la Evaluación de la Esquizotipia [ESQUIZO-Q: Oviedo questionnaire for schizotypy assessment]*. Madrid: TEA ediciones.
- Fonseca-Pedrero, E., Lemos-Giráldez, S., Paino, M., & Muñiz, J. (2011a). Schizotypy, emotional-behavioural problems and personality disorder traits in a non-clinical adolescent population. *Psychiatry Research*, 190, 316–321.
- Fonseca-Pedrero, E., Lemos-Giráldez, S., Paino, M., Sierra-Baigrie, S., Santarén-Rosell, M., & Muñiz, J. (2011b). Internal structure and reliability of the Oviedo Schizotypy Assessment Questionnaire (ESQUIZO-Q). *International Journal of Clinical and Health Psychology*, 11, 385–402.
- Fonseca-Pedrero, E., Paino, M., Lemos-Giráldez, S., & Muñiz, J. (2011c). Schizotypal traits and depressive symptoms in nonclinical adolescents. *Comprehensive Psychiatry*, 52, 293–300.
- Fonseca-Pedrero, E., Lemos-Giráldez, S., Paino, M., Sierra-Baigrie, S., & Muñiz, J. (2012). Phenotypic expression of schizotypal traits in an adolescent population. *Journal of Personality Disorders*, 26, 539–350.
- Fonseca-Pedrero, E., Badoud, D., Antico, L., Caputo, G., Eliez, S., Schwartz, S., & Debbané, M. (2015a). Strange-face-in-the-mirror illusion and schizotypy during adolescence. *Schizophrenia Bulletin*, 41, S475–S482.
- Fonseca-Pedrero, E., Ortuño-Sierra, J., Paino, M., Lemos Giraldez, S., & Muñiz, J. (2015b). Experiencias esquizotípicas en la adolescencia: Propiedades psicométricas del Schizotypal Personality Questionnaire-child. [Schizotypal experiences during adolescence: Psychometric properties of the Schizotypal Personality Questionnaire-child] *Anales de Psicología*, 31, 414–421.
- Fonseca-Pedrero, E., Debbané, M., Schneider, M., Badoud, D., & Eliez, S. (2016a). Schizotypal traits in adolescents with 22q11.2 deletion syndrome: validity, reliability and risk for psychosis. *Psychological Medicine*, 46, 1005–1013.
- Fonseca-Pedrero, E., Gooding, D., Debbané, M., & Muñiz, J. (2016b). Psychopathology: Psychosis assessment and high-risk paradigms. In D. Bartram (Ed.), *The ITC international handbook of testing and assessment*. London: Oxford University Press.

- Fonseca-Pedrero, E., Gooding, D. C., Ortuño-Sierra, J., & Paino, M. (2016c). Assessing self-reported clinical high risk symptoms in community-derived adolescents: A psychometric evaluation of the prodromal questionnaire-brief. *Comprehensive Psychiatry*, *66*, 1–8.
- Fossati, A., Raine, A., Carretta, I., Leonardi, B., & Maffei, C. (2003). The three-factor model of schizotypal personality: Invariance across age and gender. *Personality and Individual Differences*, *35*, 1007–1019.
- Fusar-Poli, P., Carpenter, W. T., Woods, S. W., & McGlashan, T. H. (2014). Attenuated psychosis syndrome: Ready for DSM-5.1? *Annual Review of Clinical Psychology*, *10*, 155–192.
- Gore, F.M., Bloem, P.J., Patton, G.C., Ferguson, J., Joseph, V., Coffey, C., . . . Mathers, C.D. (2011). Global burden of disease in young people aged 10–24 years: A systematic analysis. *Lancet*, *18*(377), 2093–2102.
- Horan, W. P., Reise, S. P., Subotnik, K. L., Ventura, J., & Nuechterlein, K. H. (2008). The validity of psychosis proneness scales as vulnerability indicators in recent-onset schizophrenia patients. *Schizophrenia Research*, *100*, 224–236.
- Jones, H. P., Testa, R. R., Ross, N., Seal, M. L., Pantelis, C., & Tonge, B. (2015). The Melbourne assessment of schizotypy in kids: A useful measure of childhood schizotypal personality disorder. *BioMed Research International*, *2015*, 635732. <https://doi.org/10.1155/2015/635732>. Epub 2015 Jan 6.
- Kahn, R.S., Sommer, I.E., Murray, R.M., Meyer-Lindenberg, A., Weinberger, D.R., Cannon, T.D., . . . Insel, T.R. (2015). Schizophrenia. *Nature Reviews Disease Primers*, *1*, 15067. doi:15010.11038/nrdp.12015.15067.
- Kaymaz, N., Drukker, M., Lieb, R., Wittchen, H.U., Werbeloff, N., Weiser, M., . . . van Os, J. (2012). Do subthreshold psychotic experiences predict clinical outcomes in unselected non-help-seeking population-based samples? A systematic review and meta-analysis, enriched with new results. *Psychological Medicine*, *20*, 1–15.
- Kendler, K. S., McGuire, M., Gruenberg, A. M., O'Hare, A., Spellman, M., & Walsh, D. (1993). The Roscommon family study: I. Methods, diagnosis of probands, and risk of schizophrenia in relatives. *Archives of General Psychiatry*, *50*(7), 527–540.
- Kwapil, T. R., & Barrantes-Vidal, N. (2015). Schizotypy: Looking back and moving forward. *Schizophrenia Bulletin*, *41*, S366–S373.
- Lenzenweger, M. F. (2010). *Schizotypy and schizophrenia: The view from experimental psychopathology*. New York: Guilford Press.
- Liddle, P. F. (1987). The symptoms of chronic schizophrenia. A re-examination of the positive-negative dichotomy. *British Journal of Psychiatry*, *151*, 145–151.
- Linney, Y. M., Murray, R. M., Peters, E. R., MacDonald, A. M., Rijdsdijk, F., & Sham, P. C. (2003). A quantitative genetic analysis of schizotypal personality traits. *Psychological Medicine*, *33*(5), 803–816.
- Linscott, R. J., & Knight, R. G. (2004). Potentiated automatic memory in schizotypy. *Personality and Individual Differences*, *37*(7), 1503–1517.
- Linscott, R. J., & van Os, J. (2013). An updated and conservative systematic review and meta-analysis of epidemiological evidence on psychotic experiences in children and adults: On the pathway from proneness to persistence to dimensional expression across mental disorders. *Psychological Medicine*, *43*, 1133–1149.
- Mason, O. (2015). The assessment of schizotypy and its clinical relevance. *Schizophrenia Bulletin*, *41*, S374–S385.
- Mason, O., Claridge, G., & Jackson, M. (1995). New scales for the assessment of schizotypy. *Personality and Individual Differences*, *18*, 7–13.
- Mason, O., Linney, Y., & Claridge, G. (2005). Short scales for measuring schizotypy. *Schizophrenia Research*, *78*(2), 293–296.
- Meehl, P. E. (1962). Schizotaxia, schizotypy, schizophrenia. *American Psychologist*, *17*(12), 827–838.
- Olesen, J., Gustavsson, A., Svensson, M., Wittchen, H. U., & Jönsson, B. (2012). The economic cost of brain disorders in Europe. *European Journal of Neurology*, *19*, 155–162.
- Oorschot, M., Kwapil, T., Delespaul, P., & Myin-Germeys, I. (2009). Momentary assessment research in psychosis. *Psychological Assessment*, *21*, 498–505.
- Ortuño-Sierra, J., Badoud, D., Knecht, F., Paino, M., Eliez, S., Fonseca-Pedrero, E., & Debbané, M. (2013). Testing measurement invariance of the schizotypal personality questionnaire-brief scores across Spanish and Swiss adolescents. *PLoS One*, *8*(12), e82041.
- Raine, A. (1991). The SPQ: A scale for the assessment of schizotypal personality based on DSM-III-R criteria. *Schizophrenia Bulletin*, *17*, 555–564.
- Raine, A., & Benishay, D. (1995). The SPQ-B: A brief screening instrument for schizotypal personality disorder. *Journal of Personality Disorders*, *9*, 346–355.
- Raine, A., Fung, A. L., & Lam, B. Y. (2011). Peer victimization partially mediates the schizotypy-aggression relationship in children and adolescents. *Schizophrenia Bulletin*, *37*, 937–945.
- Rawlings, D., & MacFarlane, C. (1994). A multidimensional schizotypal traits questionnaire for young adolescents. *Personality and Individual Differences*, *17*(4), 489–496.
- Stafford, M. R., Jackson, H., Mayo-Wilson, E., Morrison, A. P., & Kendall, T. (2013). Early interventions to prevent psychosis: Systematic review and meta-analysis. *British Medical Journal*, *346*, 12. <https://doi.org/10.1136/bmj.f185>.
- van Os, J., Linscott, R. J., Myin-Germeys, I., Delespaul, P., & Krabbendam, L. (2009). A systematic review and meta-analysis of the psychosis continuum: Evidence for a psychosis proneness-persistence-impairment model of psychotic disorder. *Psychological Medicine*, *39*, 179–195.
- van Os, J., Kenis, G., & Rutten, B. P. (2010). The environment and schizophrenia. *Nature*, *468*, 203–312.

- Venables, P. H., & Bailes, K. (1994). The structure of schizotypy, its relation to subdiagnoses of schizophrenia and to sex and age. *British Journal of Clinical Psychology, 33*(3), 277–294.
- Walker, E., & Bollini, A. (2002). Pubertal neurodevelopmental and the emergence of psychotic symptoms. *Schizophrenia Research, 54*, 17–23.
- Wolfradt, U., & Straube, E. R. (1998). Factor structure of schizotypal traits among adolescents. *Personality and Individual Differences, 24*(2), 201–206.
- Zammit, S., Kounali, D., Cannon, M., David, A. S., Gunnell, D., Heron, J., . . . Lewis, G. (2013). Psychotic experiences and psychotic disorders at age 18 in relation to psychotic experiences at age 12 in a longitudinal population-based cohort study. *American Journal of Psychiatry, 170*, 742–750.

School Belonging

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Overview

Sense of school belonging has become accepted as a relevant factor in contemporary efforts to understand classroom motivation, engagement, and achievement, as well as students' psychological well-being at school. Theory and research alike have demonstrated the factors and nature of belonging, as well as its efficacy in supporting students' school experiences. Moreover, there is evidence that belonging serves as an *essential* underlying experience for engaged, achievement-related behavior. During the first decade of focus on factors and models of belonging, social and participatory experiences emerged as the primary anchors to belonging. The second decade offered the emerging awareness of the situated, contextual, cultural, person-centered nature of motivation, engagement, and development. This suggested the empowering nature of students' culture, identity, and agency when it comes to their sense of belonging. Contemporary contributions to our understanding of belonging bring a more empowering, collective, and critical lens to bear on this issue. This is especially

important for minoritized/marginalized students for whom mainstream identities and norms are not appropriate, who may therefore experience a particularly acute dispossession from sense of self, community, agency, and therefore loss of belonging.

Introduction

Supporting and maintaining students' academic motivation, engagement, and achievement continues to be a major national interest, attracting the attention of parents, educators, communities, and policy-makers alike. Extensive and painstaking theoretical and research-based efforts have attempted to support teachers of students of all ages, who find themselves confronted daily with the desire to inspire motivation in their students, i.e., to instill self-energized choice, effort, and persistence regarding school-related tasks. Research suggests that both intrapersonal cognitive processes (for review, see Eccles and Wigfield 2002) and interpersonal features of students' school lives (Carnegie Council on Adolescent Development 1989) undergird such student engagement and well-being. Unfortunately, despite educators' best efforts, many dimensions of student motivation decline steadily from the moment students enter formal education; this decline appears especially pronounced during adolescence (Eccles et al. 1996). In Weiner's 1990 *Journal of Educational Psychology* report on the state of motivational research, he anticipated a critical move in the understanding of motivation when he concluded that:

We have to consider frameworks larger than the self; other motivational constructs, such as 'belongingness,' must be brought into play when examining school motivation . . . In sum, school motivation cannot be divorced from the [contextual] fabric in which it is embedded.

Over the decades since Weiner's forecast, sense of school belonging is one construct that has claimed an increasingly central role in contemporary efforts to find clues to motivational processes within the context in which they occur (Anderman and Freeman 2004; Faircloth 2009).

Theory and research have indicated that positive school affect such as belonging supports students' motivation, engagement, and achievement and a profile of variables that shape belonging has emerged, as well as models of how belonging functions in relation to student motivation and engagement. Our understanding of the complexity of the processes and issues that impact students' ability to craft a connection to school has become more nuanced, and therefore potentially more powerful to the present day.

The First Decade (1991–2000)

Theoretical Foundations of Belonging

Theoretical support for the importance of belonging emerged from a variety of sources that were prevalent especially during the first decade after Weiner's introduction of the concept. Pivotal among them was the belief in the motivating force of human needs. According to many psychological theories, human behavior and motivation are enhanced when basic needs are met. In their trailblazing treatise on belonging, Baumeister and Leary (1995) made the case that the need for belonging (defined as the need to form at least a minimum quantity of affectively positive connections within one's context) is so prevalent and far-reaching that it dominates an individual's emotion, cognition, behavior, and health. Explained in terms of Maslow's (1999) hierarchy of psychology needs, the need for belonging must be met before experiences such as motivated engagement can emerge. According to the widely accepted motivational theory of self-determination (Connell and Wellborn 1991), the need for relatedness (a concept congruent with belonging) affects an individual's self-concept and their expectations regarding interactions within their context; under conditions in which the need for relatedness is met, students exhibit higher levels of engagement and motivation. Specific to school experiences, students' sense of belonging became accepted as a pivotal determinant of whether students withdraw (both affectively and literally) from school (Leithwood and Aitken 1995). Each of these theoretical

perspectives underscores the pivotal role of belonging in human motivation, engagement, and achievement and continues to serve as the dominant theoretical models.

Research Foundations of Belonging

Belonging has also been investigated in a substantial body of empirical studies. Given their theoretical roots, most attention during the first decade focused primarily on the social or interpersonal underpinnings of belonging.

Guided by this perspective and the premise that students have difficulty sustaining academic engagement without a sense of belonging, Goodenow (1993) developed what became the classic measure of student belonging, an 18-item student questionnaire to assess what she referred to as "psychological sense of school membership (PSSM)." She defined this sense of connection as "students' sense of being accepted, valued, included, and encouraged by others (teacher & peers) in the academic classroom setting and of feeling oneself to be an important part of the life and activity of the class" (p. 25), focusing on three factors: general belonging, teacher bonding, and peer support. She went on to develop a parallel scale (the Classroom Belonging and Support Scale: CBSS) to assess students' sense of belonging within specific classes, rather than within the school as a whole. Findings from initial investigations with these scales have provided support for their reliability and validity (Goodenow 1993). Building from Goodenow's work, Hagborg (1998) claimed that 11 of Goodenow's 18 items formed one general belonging factor that accounted for most of the variance in belonging. Based on these statistical considerations, Hagborg incorporated those 11 items into a shorter measure of school belonging: the PSSM-Brief that also demonstrated a high degree of reliability and satisfactory evidence of validity. The PSSM/CBSS and, to some degree, the PSSM-Brief serve as the standard measures of belonging in this field.

Research has consistently demonstrated a positive relationship between the factors represented by these original measures of belonging and positive school affect, motivation, engagement, and achievement. Goodenow (1993) found that

students' sense of classroom belonging consistently explained significant portions of the variance in their motivation, which in turn predicted academic effort and achievement. Working with the same construct, Anderman (1999) found that psychological sense of school membership attenuated declines in motivation and achievement across the transition to middle school. Children who did not enjoy a positive sense of belonging were distinctly more likely to be disaffected or disengaged at school (Osborne 1997), and in a study of students who had already dropped out, Hymel et al. (1996) found that many specifically reported a lack of belonging at school. Osterman's (2000), Anderman and Freeman's (2004), and Juvonen's (2006) in-depth reviews of research on belonging highlight important factors, results, and mechanisms that emerged primarily during this first decade of research.

The Role of Bonding with Teachers

The quality of students' relationships with teachers (students' perceptions of teacher support, respect, and care) has consistently been linked with students' positive perceptions of the classroom, and their engagement and achievement (Skinner and Belmont 1993). Among various potential factors of students' sense of belonging, Wentzel (1998) reported that perceived teacher support made the strongest contribution and was the only source of support contributing significantly to students' interest and engagement in class. Similarly, Ryan et al. (1994) reported a strong association between student engagement and seeing teachers as sources of support. There is evidence of this positive relationship among ethnically diverse (Ryan and Patrick 2001) as well as predominantly minority samples (Finn and Voelkl 1993). However, some researchers (e.g., Gillock and Reyes 1996) reported contradictory findings concerning the importance of teacher relations within ethnically diverse samples (mixed results regarding the relationship between teacher support and student belonging within predominantly Latino and African-American samples). Experiences of disrespect for their ethnicity experienced by certain minority families may contribute to this variance (Way and

Pahl 2001); a cultural emphasis on familial or neighborhood-based relationships found in some minority homes (Triandis 1990) may also lead members of minority populations to look to adult relationships from home or community, rather than school, as a source of support. More research is clearly needed to sort out these complex relationships.

Peer Relationships

Adolescents frequently assert that a key determinant of their sense of connection and affect regarding school is the ability to "hang out," or interact, with their peers (Wentzel 1998). Research supports their claim; school-based peer relationships have proven to be significant predictors of sense of belonging (Osterman 2000), an influence that appears to peak in early adolescence. Group affiliations (in addition to friendship relationships) have also been demonstrated to be associated with other experiences related to sense of belonging. For instance, group membership during early adolescence is associated with heightened interest and enjoyment in school, and greater academic engagement (Wentzel and Caldwell 1997). In contrast, early adolescents who lack membership in the larger social structure may feel disaffection for the schooling environment (Hymel et al. 1996).

Bukowski et al. (1993) noted that different peer experiences (i.e., peer acceptance, friendship, peer network membership, etc.) address different dimensions of adjustment; it is important therefore to explore adolescent peer relationships in ways that accurately represent their complex nature in the lives of adolescents. For example, research on peer groups in relation to school adjustment has typically focused on groups that are stable over time despite the fact that adolescent peer relationships are typically characterized by dynamic features such as changing and/or multiple peer group memberships. Cairns et al. (1998) proposed that such dynamic aspects of peer group membership are beneficial (that adolescents use affiliations for their own developmental gain) and should be explored for their role in adjustment. Simultaneous membership in more than one peer network is increasingly common across adolescence (Shrum and Cheek 1987) as through an

adaptive developmental process referred to as “degrouing” (p. 218), peer network structures move from a system of tightly knit networks to a more diffuse system of multiple peer networks with more permeable boundaries. Multiple group affiliations have the potential to be developmentally facilitative for several reasons. Membership in multiple peer groups may afford students more anchors in the diverse social ecology of the classroom, greater access to peer acceptance, and greater participation in the classroom setting compared to students who maintain a single peer group affiliation, a constellation of connections that may further promote their sense of belonging.

A small body of research suggests that a student’s ethnic background may make a difference in the role played by friendship in belonging. Way and Chen (2000) reported that only one-third of Latino, Asian-descent, or African-American participants’ most supportive friends attended their same school. In other research, African-American students were almost twice as likely as their European-American counterparts to locate their best friends outside of the school context and to report lower levels of support from their school-based friendships (Clark and Ayers 1991). It may be that members of minority groups who experience lack of understanding of their ethnicity in the school setting form fewer intimate school-based friendships (Way and Pahl 2001) potentially affecting their belonging. Family socialization practices may also place more emphasis on familial, rather than school-based relationships (Gaines 1997; Marin and Marin 1991; Triandis 1990). These differing perspectives regarding peer relationships may color the degree to which school-based friendships reflect an experience of belonging for adolescents representing these minority groups, again underscoring the complex nature of school belonging and the need for further research.

Extracurricular Involvement

To a lesser degree than the focus on bonding with teachers and peers, student extracurricular involvement has been demonstrated to relate positively to school attachment and achievement (Eccles and Barber 1999). In his classic

participation–identification theory, Finn (1989) had demonstrated that time spent in social, athletic, or other noncompulsory activities provides a primary source of school belonging. In a review of the research on extracurricular involvement, Lamborn et al. (1989) concluded that academic effort and achievement tended to improve as hours spent on extracurricular activities increased. Several investigations of the associations between extracurricular involvement, school affect, engagement, and achievement for ethnic minority students have suggested that these relationships vary across ethnic groups in ways meaningful for sense of belonging. For example, Gerber (1996) found a significantly stronger association between the number of extracurricular activities engaged in, and academic achievement, for European-American students than for African-American students. These findings suggest that extracurricular activities may play different roles with regard to school affect and achievement for different ethnic groups.

The Second Decade (2001–2010)

Important developments in the study of belonging emerged in the second decade of focused research. To a great degree, our understandings have been informed by the emerging realization, in many fields, of the situated, contextual, cultural, person-centered nature of motivation, engagement, participation, and development (e.g., Bronfenbrenner and Morris 1998; Holland et al. 1998; Lave and Wenger 1991; Magnussen 2003). Three key developments illustrate how this understanding was reflected in work around belonging: (1) an emerging emphasis on a socioculturally nuanced understanding of youth development; (2) a transition from an interpersonal to an intrapersonal lens on belonging, highlighted by the exploration of student identity; and (3) the benefit of supporting students’ experiences of valuing school content and activities. Additionally, it was during this decade that research established the essential nature of belonging to student motivation, engagement, and achievement.

Emerging Sociocultural Perspectives

In their review of school belonging, Anderman and Freeman (2004) highlighted potential insights provided by sociocultural theory rooted in the work of Lev Vygotsky (1978). Vygotsky's view is one that requires us to pay attention to the historically formed cultural contexts in which children are situated; that is, child development (which theoretically would include their development of belonging) could only be understood by focusing on both individual, interpersonal, and cultural-historical factors as they mutually influenced one another (Tudge and Scrimsher 2003). We must begin to understand the historically derived differences in backgrounds, to pay particular attention to the ways in which we know and construct a classroom community and classroom knowledge with children from different cultural backgrounds. Vygotsky would suggest that we also have to learn *from* and *with* our students, changing the traditional teaching model (i.e., one that focuses primarily on a unidirectional transmission of skills and concepts that many of us use in our classrooms) to one that allows a more collaborative learning process to develop, one in which we as teachers learn as our children are learning. This altered perspective is revolutionary if understood correctly, but sheds particularly fertile light for sense of belonging. Looking back at Lave and Wenger's (1991) work on meaningful/legitimate participation, this reminds us that individuals do not automatically become an active member of a community, but rather can negotiate their way from peripheral to more central participation if given the opportunity to do so in a way that is meaningful for them. Unfortunately, Hickey (2003) suggests that the type of engaged participation that would lead to a sense of school belonging is actually relatively rare, school practices that encourage nonparticipation (compliance and docility) being far more common. This sociocultural lens highlights the fact that because typical American classrooms are characterized by practices reflecting the dominant culture, school belonging may be lower and most critical, for students who find themselves outside of the cultural mainstream (Hatt 2007; Meece and Kurtz-Costes 2001; Rubin 2007). The cultural

contrasts that many minority students experience (e.g., between home culture and school norms) can erect barriers that the student must navigate at school.

Harnessing Adolescent Identity Development

As belonging research entered its second decade, it made sense to look beyond traditional interpersonal models of belonging, to more proximal (intrapersonal rather than interpersonal) sources of belonging.

For example, the work of developing a well-integrated identity had traditionally been proposed as a premier developmental task for adolescents (and emerging adults, see Arnett 2006), often preoccupying energy and attention (Erikson 1968). Contemporary conceptions of identity influenced by sociocultural perspectives suggested that an individual's sense of identity is "constructed" in an attempt to negotiate a sense of self that allows them to feel like they belong; they "want to be part of the story" (McCarthy and Moje 2002, p. 232). Historically, Bakhtin (1978) had used the term "self-authoring" to refer to this process in which identities are coconstructed between the individual and the context, allowing students to negotiate a meaningful connection with learning. Critical theorists have long urged educators to construct teaching and learning environments in which students have opportunities for authentic and meaningful experiences (Fine 1991; Freire 1970; Greene 1995). Yet, as Hargreaves (1996) points out, students are not often asked to engage in school projects on topics that directly relate to their lives or significant contemporary issues, a failure that has silenced many student voices and alienated students from educational experiences, instead of using their cultural or lived experiences, knowledge, and interests in the service of school belonging (Moll 1990). Students have described discordance between their identities and school activities in ways that suggest that such lack of congruence generates frustration and a barrier to their engagement, connection, and belonging (Faircloth 2009; Hatt 2007; Wortham 2004). From this perspective, an individual's evolving understanding of their identity may be powerfully positioned to support

adolescents' location of a meaningful connection to school (i.e., a sense of belonging). Viewing identity development and belonging through this lens, a student's ability to craft a sense of belonging (as opposed to experiencing frustration or disaffection) may be inextricably linked to whether the student experiences a sense of congruence between their sense of self and their school experiences.

The next wave of belonging research therefore began to explore the sense of belonging provided by connections between adolescents' school experiences and their developing sense of their own identity. Drawing from contemporary models connecting with students' culture, identity, and voice (i.e., cultural modeling (Lee 2007) and third space/hybrid identities (Gutiérrez 2008; Gutiérrez and Larson 2007; Moje et al. 2004)), Faircloth (2009) explored adolescents' perspective regarding whether congruence between their identity and their learning activities related to their sense of belonging in their ninth-grade English class. Students participated in weekly activities relating their work in English to their own lives (e.g., things considered important, interesting, and relevant to them). For example, when studying *The Odyssey*, students discussed/wrote about goals they would be willing to devote a lifetime to – as Odysseus had – and the relationship (or nonrelationship) between their schoolwork and those personally relevant goals. When they studied *To Kill a Mockingbird*, they discussed issues of racism in their lives and how they might be the Atticus Finch of their school or community. They worked with the teacher and researcher to identify ways that stronger connections between learning and their interests and goals could be achieved. At the end of the semester, the students completed the Classroom Belonging and Support Scale (Goodenow 1993) as well as a qualitative survey of their experience in their English class. Three issues dominated students' comments: Nearly every student reported the value of relating class activities to their identity or sense of self. Class members also specifically described feeling more connected to class when they participated in activities that allowed them to express their identity (“*I feel like my voice is bigger.*”).

It is of value to our understanding of belonging to explore competing models of belonging in order to more skillfully support adolescent motivation, engagement, and learning through the mediating experience of belonging. It was therefore the goal of an additional study by Faircloth (2010a) to compare the fit of Goodenow's traditional three-factor model of belonging, anchored in social relationships (general belonging, teacher bonding, and peer support), Hagborg's one-factor model (general belonging), and the contrasting three-factor model of belonging incorporating connections to student culture, identity, and voice introduced by Faircloth. Exploratory factor analysis of the classic belonging survey with a current sample of students favored a model of belonging that closely reflect dimensions suggested by contemporary researchers exploring the connection between belonging and student identity and voice. Structural equation modeling comparing the three models clearly demonstrated that the model that highlights connections with students' interests, their culture, and their voice fits the data best. This provides encouragement for applying a sociocultural lens, and connections to students' culture, identity, and voice, to ongoing efforts to understand, support, and investigate students belonging.

Connecting to Students Values

In an experience somewhat related to identity, recent work by the late Jere Brophy suggests an additional avenue for establishing student belonging. Brophy (2008) claimed that among the three primary domains of motivational research (expectancy, valuing, and context), valuing is the least understood, leading him to consider and identify potential pathways to appreciation of school content and activities that might support students' connection to learning (and hence their belonging). He suggested the importance of framing students' initial exposure to, and scaffolding their subsequent engagement with, school content and activities in ways that reveal connections to experiences that are interesting or valuable to them. Such experiences in which students find learning meaningful and worthwhile can provide students with what Brophy has labeled “purposeful engagement” in learning. Flum and Kaplan

(2006) explain the engaging nature of such connections, suggesting that students who intentionally examine the relevance, meaning, or value of school content develop an exploratory orientation toward learning, which involves actively seeking/processing/valuing information to create self-relevant meaning. They argue that teachers can support this process of valuing of school by dialoguing with students about the meaning and value of school learning, scaffolding their skill at relating material to self-interests. The engagement and meaning suggested by each of these perspectives support the sorts of connections that are central to belonging.

In an empirical investigation of the results of scaffolding student appreciation of learning as a support for belonging, Faircloth (2010b) explored the experience of ninth-grade English students' as they researched a self-selected topic that they claimed had value for them (e.g., depression, abuse, gangs, and guns). Following the Fairbanks model and attempting to align learning with "Kids" Business (2000), students wrote an extended research paper on their topic of choice and presented their results in a form of their choosing (e.g., producing a play, designing a pamphlet) in an effort to give "voice" to students' interests and perspectives. At the end of the year, students participated in individual interviews and written surveys addressing their belonging, and reactions to assignments, in their English class. The results of this integration of students' values with learning was captured in student statement such as, *"I started to like English class. In fact, I started to like coming to school."* And, *"Compared to this class, in most school work I am wearing a mask instead of feeling connected."* Given the important function of belonging in students' lives, this evidence of significant, authentic, empowering connections with school generated by "scaffolding students' appreciation" of learning has important implications for belonging that deserve additional attention.

The Essential Nature of Belonging

One important facet of belonging that has emerged from research during this second decade relates to its indispensable nature. Rather than merely

offering an independent, ancillary benefit to students, sense of belonging appears to be required groundwork for motivation, engagement, and achievement. For example, simultaneously exploring the intersection between various dimensions of belonging, traditional motivational variables, and student achievement among a large, diverse sample of high school students, Faircloth and Hamm (2005) found that belonging completely accounted for (mediated) the relationship between traditional motivational variables and academic success for African-American and Latino students, and partially accounted for this relationship for European-American students and students of Asian descent. Previous studies exploring single components of belonging independently had suggested this pattern. For example, in her original work with belonging, Goodenow (1993) found that student belonging explained (mediated) significant portions of the students' motivational experiences, which in turn predicted effort and achievement. Roeser et al. (1996) found that while positive teacher-student relationships predicted positive school-related affect, a significant portion of that result was explained by the feelings of belonging that resulted from the positive relationship. As well, Anderman (1999) found belonging effective in attenuating the chronic declines in motivation typically reported across the transition to middle school. Children who do not enjoy a positive sense of belonging are distinctly more likely to be disaffected or disengaged at school (Voelkl 1997). These results suggest that rather than being a supplemental motivational asset to students, belonging may undergird key motivational experiences in essential ways. The work by Faircloth was a clear confirmation of that pattern. Within the secure base of positive perceptions of belonging, other motivational experiences develop and support academic success most effectively.

The Current Decade

As belonging research entered the current decade, the viability of belonging as an essential piece of the student engagement and achievement puzzle

was well established. However, the emerging model of belonging was not without flaws. It reflects a focus on belonging as an individually experienced phenomenon, despite the fact it emerges *from* social interactions. Moreover, issues like belonging or community are often based primarily on creating connections through unity and sameness, which ultimately excludes as much as it might include. In this limited interpretation, belonging may be understood to *require* sameness and unity, while difference serves as a basis for exclusion. Bettez (2011) therefore challenged existing, traditional models of belonging that are built on sameness, are individual-centric, and ignore issues of social-justice/social-responsibility. In our diverse, public school classrooms, she argues that it is vital that we work for understandings and applications of belonging that resist the demand for sameness, and focus rather on building an appreciation of our diversity. She also suggests that in order to build socially just models of belonging, we must embrace a socially responsible notion of cross-cultural interactions and communication. In her attempts to work with her own participants to develop an understanding of how to build community, she emphasizes the role of reciprocal relationships, and building relationships and communication skill across cultural differences. Other insights into our understanding and harnessing of belonging are also emerging, including the reminder that there is much that we do not know about what belonging actually is. Change happens slowly, but each of these challenges has stimulated continued efforts to understand belonging, and will hopefully serve to strengthen our understanding and application of belonging. Far from finished, this summary of the current decade provides a glimpse at how efforts to honor these challenges and insights are beginning to take shape.

Harnessing Diversity

Many contemporary scholars are developing pedagogical models designed to honor diversity in the manner called for by Bettez and it is hoped that these will serve students' sense of belonging well. For example, *cultural sustaining pedagogy* (Paris 2012) attempts to support young people in

sustaining the cultural and linguistic competence of their homes and communities – which he claims is essential to our democratic project of schooling in our demographically changing US and global schools and communities. Highlighting potentially powerful avenues for a belongingness that celebrates diversity, he highlights Moll and Gonzalez use of the term “funds of knowledge” to refer to “historically accumulated and culturally developed bodies of knowledge and skills essential for household or individual functioning and well-being” (133). To that he adds Gutiérrez and her collaborators use of the “third space” framework to design a “curriculum and its pedagogy [that] are grounded in the historical and current particulars of students’ everyday lives.” These two frameworks’ efforts to join the home and community practices, histories, and activities of students and communities of color with dominant school ones in meaningful ways that do not devalue either in the process of school learning and access suggest a powerful lens through which to address Bettez’s timely challenge to the focus on sameness that has marked belonging for so long.

Ethnic studies courses have been theorized as one optimal way to honor students’ “funds of knowledge” and craft “third spaces” by creating a relevant and meaningful curriculum that affirms students’ identities, draws from their funds of knowledge, and builds students’ critical intellectualism. An extensive theoretical and qualitative literature stresses the promise of such instructional practices and content aligned with minority students’ experiences (Banks 2012; Cammarota and Romero 2009; Sleeter 2011). Dee and Penner (2017) examined the effects of participation in an ethnic studies course for a large group (n = 1405) of ninth-grade students identified by their high schools as at risk of dropping out (i.e., an eighth-grade GPA below 2.0). Several academic outcomes (i.e., attendance, grade point average, and credits earned toward graduation) that are highly relevant for high school affect and persistence improved significantly for these students, compared to students who did not participate in the ethnic studies course. Both Cammarota (Social Justice Education Project, 2007) and Lewis et al. (Emancipatory Education,

2006) found positive effects specifically on school connectedness as well, using similar models. The first study applying an ethnic studies course at a diverse middle school, specifically to explore the impact on belonging, is underway at this time.

Individual Versus Collective Belonging

In a preliminary attempt to explore the social or collective nature of belonging, as suggested by current challenges to belonging, Faircloth and McClanahan (2017) endeavored to see classroom belonging through the eyes of the diverse class members of four sixth-grade English Language Arts classes, at a diverse, struggling, Title I, public, middle school. Partnering with the students, listening to them, asking them to explain, constantly, repeatedly, over the course of a year – through classroom observations and discussion, focus group discussions, and qualitative surveys, we aimed to authentically honor and reflect the youths’ voices as they explained belonging to us. Of central importance, we attended to evidence of group, in addition to individual, experiences relative to belonging and identity. Although observations of these four classrooms suggest a strong traditional sense of classroom belonging among students, it was clear that the students’ experience of belonging went far beyond an individual experience. When explaining the importance of being understood and validated by their peers and teachers, they described the pain caused by being unable to find such validation as *“feeling invisible”* and wanting to, *“cry like thunder.”* When they can’t get teachers or peers to understand their point of view or their struggles, they feel like *“screaming on the inside.”* This group of students insisted that – through this important validation of each other – the class was *“building belonging together.”* *“If you share your feelings, that helps you and that helps the class. So, it’s sort of like we are building belonging together. You’re making belonging even stronger for the class by sort of advocating for yourself.”*

Deconstructing the Very Term Belonging

Work is ongoing – and more is needed – to gain a more nuanced understanding of what actually comprises a feeling of belonging, not just

belonging’s antecedents and affordances. In an insightful contribution, Gray (2014, 2017) challenges belonging researchers to understand more accurately what experiences belonging is actually composed of. Using “optimal distinctiveness theory” he challenges the notion that belonging must always be understood to mean “fitting in.” His work demonstrates that “standing out” works in concert with “fitting in” to provide the optimal experience of psychological membership in a classroom. Surely there are many other assumptions that need to be questioned and new insights to be explored. Clearly, additional work is needed.

Socially Just Models of Belonging

A model of belonging that is social just, or supports the fight for social justice – as suggested by Bettez – is an exciting idea, although examples are lean and challenges abound. The aforementioned ethnic studies courses offer one example of an educational praxis to provide students with tools for identifying, reflecting on, critiquing, and acting against systemic racism and other forms of oppression. Perhaps the study mentioned previously applying an ethnic studies curriculum at a middle school, to support belonging, may begin to add insight.

One strategy that has been proposed is critical ethnography, grounded in the idea that researchers can use the tools of ethnography to conduct empirical research in an unjust world in ways that examine and transform inequalities. Tan and Faircloth (2016) engaged in longitudinal critical ethnography with refugee youth in a weekly, community based, afterschool STEM club, to explore belonging among adolescent, refugee females. The critical reflexivity required for this task was a challenge. For example, before even considering what “learning” or “research” could look like in this setting, we invested nearly a year in tutoring, hanging out, and becoming familiar to community members. We also came to see that it was crucial to shape our STEM Club activities around the needs of youth in the community, which precluded drawing automatically on our previous research practices or the wealth of resources available in mainstream science education. All of these choices disturbed our professional moorings, illustrating

the challenge involved in exploring these powerful aspects of belonging. Despite these challenges, we did observe increasing persistence and determination among members of the STEM club, as well as increased agency as they became willing to request club tasks that are meaningful to them. Students reflected on the safety and connection they feel in the club setting, stating that the design of the STEM club (valuing their suggestions, following their lead, listening to them) created a space where, “*you feel more, like, comfortable . . . Yeah, like . . . This is where I belong.*” At best, this was an rudimentary attempt on our part to apply critical ethnography but hopefully other, more experienced critical ethnographers will see the value of this potential benefit of belonging, and join our ranks.

Conclusion

Walton et al. (2012) in an article entitled *Mere Belonging* highlights the fact that even minimal cues of connectedness affect important aspects of self in powerful ways. It is this hope that animates the efforts of researchers, educators, parents, and others to “lean in” to the work of understanding the complexities of belonging and to weather the challenges inherent in affording an empowering sense of school belonging to all students.

References

- Anderman, L. H. (1999). Classroom goal orientation, school belonging and social goals as predictors of students' positive and negative affect following the transition to middle school. *Journal of Research and Development in Education*, 32, 89–103.
- Anderman, L. H., & Freeman, T. (2004). Students' sense of belonging in school. In M. L. Maehr & P. R. Pintrich (Eds.), *Advances in motivation and achievement: Motivating students, improving schools: The legacy of Carol Midgley* (Vol. 13, pp. 27–63). Greenwich: Elsevier.
- Arnett, J. (2006). Suffering, selfish, slickers? Myths and reality about emerging adults. *Journal of Youth and Adolescence*, 36(1), 23–29.
- Bakhtin, M. M. (1978). *The formal method in literary scholarship: A critical introduction to sociological poetics* (trans: Wehrle, A.J.). Baltimore: Johns Hopkins University Press.
- Banks, J. A. (2012). Ethnic studies, citizenship education, and the public good. *Intercultural Education*, 23(6), 467–473.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachment as a fundamental human motivation. *Psychological Bulletin*, 117(3), 497–530.
- Bettez, S. C. (2011). Critical community building: Beyond belonging. *Educational Foundations*, 25(3–4), 3–19.
- Bronfenbrenner, U., & Morris, P. A. (1998). The ecology of developmental processes. In W. Damon (Series Ed.) & R. M. Lerner (Volume Ed.), *Handbook of child psychology: Vol. 1: Theoretical models of human development* (pp. 993–1028). New York: Wiley.
- Brophy, J. (2008). Scaffolding appreciation for school learning: An update. In M. Maehr, S. Karabenick, & T. Urdan (Eds.), *Advances in motivation and achievement* (Vol. 15, 48). New York: Elsevier.
- Bukowski, W. M., Hoza, B., & Boivin, M. (1993). Popularity, friendship, and emotional adjustment during early adolescence. In B. Laursen (Ed.), *Close friendships in adolescence* (pp. 23–37). San Francisco: Jossey-Bass.
- Cairns, R., Xie, H., & Leung, M. (1998). The popularity of friendship and the neglect of social networks: Toward a new balance. In W. M. Bukowski & A. H. Cillessen (Eds.), *Sociometry then and now: Building on six decades of measuring children's experiences with the peer group. New directions for child development* (Vol. 80, pp. 25–53). San Francisco: Jossey-Bass.
- Cammarota, J. (2007). A social justice approach to achievement: Guiding Latina/o students toward educational attainment with a challenging, socially relevant curriculum. *Equity & Excellence in Education*, 40(1), 87–96.
- Cammarota, J., & Romero, A. (2009). The social justice project: A critically compassionate intellectualism for Chicano/a students. In W. Ayers, T. Quinn, & D. Stovall (Eds.), *Handbook for social justice education* (pp. 465–476). New York: Routledge.
- Carnegie Council on Adolescent Development, (1989). *Turning Points: Preparing American Youth for the 21st Century*. Washington, DC: Carnegie Council.
- Clark, M. L., & Ayers, M. (1991). Friendship similarity during early adolescence: Gender and racial patterns. *Journal of Psychology*, 126, 393–405.
- Connell, J., & Wellborn, J. (1991). Competence, autonomy and relatedness: A motivational analysis of self-system processes. In M. R. Gunnar & L. A. Sroufe (Eds.), *Self-processes and development*. Hillsdale: Erlbaum.
- Dee, T., & Penner, E. (2017). The causal effects of cultural relevance: Evidence from an ethnic studies curriculum. *American Educational Research Journal*, 54(1), 127–166.
- Eccles, J. S., & Barber, B. L. (1999). Student council, volunteering, basketball, or marching band: What kind of extracurricular involvement matters? *Journal of Adolescent Research*, 14, 10–43.

- Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology*, 53, 109–132.
- Eccles, J. S., Lord, S., & Buchanan, C. M. (1996). School transitions in early adolescence: What are we doing to our young people? In J. A. Graber, J. Brooks-Gunn, & A. C. Peterson (Eds.), *Transitions in adolescence*. Mahwah: Erlbaum.
- Erikson, E. H. (1968). *Identity, youth, and crisis* (pp. 91–141). New York: Norton.
- Faircloth, B. S. (2009). Making the most of adolescence: Harnessing the search for identity to understand classroom belonging. *Journal of Adolescent Research*, 24(3), 321–248.
- Faircloth, B. S. (2010a). Understanding adolescent classroom belonging: Comparing three models. Paper presented at the 2010 Annual Meeting of the American Educational Research Association, Denver.
- Faircloth, B. S. (2010b). Adolescent classroom belonging: “Wearing a mask” vs. feeling a connection with learning. Paper presented at the 2010 Annual Meeting of the American Educational Research Association, Denver.
- Faircloth, B. S., & Hamm, J. V. (2005). Sense of belonging among high school students representing four ethnic groups. *Journal of Youth and Adolescence*, 34(4), 293–309.
- Faircloth, B. S. & McClanahan, J. (2017). Belonging 2.0: Taking a more critical look at belonging. Paper presented at the 2017 Annual Meeting of the American Educational Research Association, San Antonio.
- Fine, M. (1991). *Framing dropouts: Notes on the politics of an urban public high school*. Albany: SUNY Press.
- Finn, J. (1989). Withdrawing from school. *Review of Educational Research*, 59(2), 117–142.
- Finn, J., & Voelkl, K. (1993). School characteristics related to student engagement. *Journal of Negro Education*, 62, 249–268.
- Flum, H., & Kaplan, A. (2006). Exploratory orientation as an educational goal. *Educational Psychologist*, 41, 99–110.
- Freire, P. (1970). *Pedagogy of the oppressed*. New York: Basic Books.
- Gaines, S. O. (1997). *Culture, ethnicity, and personal relationship processes*. New York: Routledge.
- Gerber, S. (1996). Extracurricular activities and academic achievement. *Journal of Research and Development in Education*, 30, 42–50.
- Gillock, K. L., & Reyes, O. (1996). High school transition-related changes in urban minority students’ academic performance and perceptions of self and school environment. *Journal of Community Psychology*, 24(3), 245–261.
- Goodenow, C. (1993). Classroom belonging among early adolescent students: Relationships to motivation and achievement. *Journal of Early Adolescence*, 13, 21–43.
- Gray, D. L. (2014). Understanding STEM-focused high school students’ perceptions of task importance: The role of “standing out” and “fitting in” in mathematics class. *Contemporary Educational Psychology*, 39, 29–41.
- Gray, D. L. (2017). Is psychological membership in the classroom a function of standing out while fitting in? Implications for achievement motivation and emotions. *Journal of School Psychology*, 61, 103–121.
- Greene, M. (1995). *Releasing the imagination: Essays on education, the arts, and social change*. San Francisco: Jossey-Bass.
- Gutiérrez, K. D. (2008). Developing a sociocritical literacy in the third space. *Reading Research Quarterly*, 43(2), 148–164.
- Gutiérrez, K. D., & Larson, J. (2007). Discussing expanded spaces for learning. *Language Arts*, 85(1), 69–77.
- Hagborg, W. (1994). An exploration of school membership among middle and high-school students. *Journal of Psychoeducational Assessment*, 12, 312–323.
- Hagborg, W. (1998). An investigation of a brief measure of school membership. *Adolescence*, 33(130), 461–468.
- Hargreaves, A. (1996). *Schooling for change: Reinventing education for early adolescents*. London: Falmer.
- Hatt, B. (2007). Street smarts vs. book smarts: The figured world of smartness in the live marginalized, urban youth. *The Urban Review*, 39(2), 145–166.
- Hickey, D. T. (2003). Engaged participation vs. marginal non-participation: A stridently sociocultural model of achievement motivation. *Elementary School Journal*, 103(4), 401–429.
- Holland, D., Lachicotte, W., Skinner, D., & Cain, C. (1998). *Identity and agency in cultural worlds*. Cambridge: Harvard University Press.
- Hymel, S., Comfort, C., Schonert-Reichl, K., & McDougald, P. (1996). Academic failure and school dropout. In J. Juvonen & K. R. Wentzel (Eds.), *Social motivation: Understanding children’s school adjustment* (pp. 313–345). New York: Cambridge University Press.
- Juvonen, J. (2006). Sense of belonging, social bonds, & school functioning. In P. Alexander & P. Winne (Eds.), *Handbook of educational psychology* (2nd ed., pp. 655–424). Mahwah: Lawrence Erlbaum.
- Lamborn, S., Brown, B. B., Mounts, N., & Steinberg, L. (1989). *Noninstructional influences on high school student achievement: The contributions of parents, peers, extracurricular activities, and part-time work*. Washington, DC: Office of Educational Research and Improvement.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.
- Lee, C. (2007). *Culture, literacy, and learning*. New York: Teachers’ College Press.
- Leithwood, K., & Aiken, R. (1995). *Making school smarter*. Thousand Oaks: Corwin.
- Lewis, K. M., Sullivan, C. M., & Bybee, D. (2006). An experimental evaluation of a school-based emancipatory intervention to promote African American well-being and youth leadership. *Journal of Black Psychology*, 32(1), 3–28.

- Magnussen, D. (2003). The person approach: Concepts, measurement models and research strategy. In S. C. Peck & R. W. Roeser (Eds.), *Person-centered approaches to studying development in context: New directions for child and adolescent development* (pp. 3–24). Somerset: Jossey-Bass.
- Marin, G., & Marin, B. V. (1991). *Research with Hispanic populations*. Newbury Park: Sage.
- Maslow, A. (1999). *Toward a psychology of being* (3rd ed.). Princeton: Van Nostrand.
- McCarthy, S. J., & Moje, E. (2002). Identity matters. *Reading Research Quarterly*, 37(2), 228–238.
- Meece, J., & Kurtz-Costes, B. (2001). The schooling of ethnic minority children and youth. *Educational Psychologist*, 36(1), 1–7.
- Moje, E. B., Ciechanowski, K. M., Kramer, K., Ellis, L., Carrillo, R., & Collazo, T. (2004). Working toward third space in content area literacy: An examination of everyday funds of knowledge and discourse. *Reading Research Quarterly*, 39(1), 38–70.
- Moll, L. C. (1990). Introduction. In L. C. Moll (Ed.), *Vygotsky and education: Instructional implications and applications of sociohistorical psychology* (pp. 1–27). Cambridge: Cambridge University Press.
- Osborne, J. W. (1997). Identification with academics and academic success among community college students. *Community College Review*, 25(1), 59–69.
- Osterman, K. (2000). Students' need for belonging in the school community. *Review of Educational Research*, 70(3), 323–367.
- Paris, D. (2012). Culturally sustaining pedagogy: A needed change in stance, terminology, and practice. *Educational Researcher*, 41, 93–97.
- Reyes, O., Gillock, K. L., Kobus, K., & Sanchez, B. (2000). A longitudinal examination of the transition into senior high school for adolescents from urban, low-income backgrounds. *American Journal of Community Psychology*, 28(4), 519–545.
- Roeser, R. W., Midgley, C., & Urdan, T. C. (1996). Perceptions of the school psychological environment and early adolescents' psychological and behavioral functioning in school: The mediating role of goals and belonging. *Journal of Educational Psychology*, 88(3), 408–422.
- Rubin, B. (2007). Learner identity amid figured worlds: Constructing (in)competence at an urban high school. *The Urban Review*, 39, 217–249.
- Ryan, A. M. (2001). The peer group as a context for the development of young adolescent motivation and achievement. *Child Development*, 72(4), 1135–1150.
- Ryan, A., & Patrick, H. (2001). The classroom social environment and changes in adolescent motivation and engagement during middle school. *American Educational Research Journal*, 38(2), 437–460.
- Ryan, R., Stiller, J. D., & Lynch, J. H. (1994). Representations of relationships to teachers, parents, and friends as predictors of academic motivation and self-esteem. *Journal of Early Adolescence*, 14(2), 226–249.
- Shrum, W., & Cheek, N. H. (1987). Friendship in school: Gender and racial homophily. *Sociology of Education*, 61, 227–239.
- Skinner, E. A., & Belmont, M. J. (1993). Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year. *Journal of Educational Psychology*, 85(4), 571–581.
- Sleeter, C. E. (2011). *The academic and social value of ethnic studies: A research review*. Washington, DC: National Education Association Research Department.
- Tan, E., & Faircloth, B. (2016). "I come because I make toy": Examining nodes of criticality in an afterschool Science & Engineering (SE) club with refugee youth. In S. Marx & S. L. Gregory (Eds.), *Qualitative research in STEM*. New York: Routledge.
- Triandis, H. C. (1990). Cross-cultural studies of individualism and collectivism. In J. J. Berman (Ed.), *Nebraska symposium on motivation 1989: Cross-cultural perspectives* (pp. 41–133). Lincoln: University of Nebraska Press.
- Tudge, J. R. H., & Scrimsher, S. (2003). Lev S. Vygotsky on education: A cultural-historical, interpersonal, and individual approach to development. In B. J. Zimmerman & D. H. Schunk (Eds.), *Educational psychology: A century of contributions* (pp. 207–228). Mahwah: Lawrence Erlbaum Associates.
- Voelkl, K. (1997). Identification with school. *American Journal of Education*, 105, 294–318.
- Vygotsky, L. S. (1978). *Mind and society: The development of higher psychological processes*. Cambridge: Harvard University Press.
- Walton, G. M., Cohen, G. L., Cwir, D., & Spencer, S. J. (2012). Mere belonging: The power of social connections. *Journal of Personality and Social Psychology*, 102(3), 513–532.
- Way, N., & Chen, L. (2000). Close and general friendships among African American, Latino, and Asian American adolescents from low-income families. *Journal of Adolescent Research*, 15(2), 274–302.
- Way, N., & Pahl, K. (2001). Individual and contextual predictors of perceived friendship quality among ethnic minority, and low-income adolescents. *Journal of Research on Adolescence*, 11(4), 325–349.
- Weiner, B. (1990). History of motivational research in education. *Journal of Educational Psychology*, 82, 616–622.
- Wentzel, K. R. (1998). Social relationships and motivation in middle school: The role of parents, teachers, and peers. *Journal of Educational Psychology*, 90(2), 202–209.
- Wentzel, K. R., & Caldwell, K. (1997). Friendships, peer acceptance, and group membership. *Child Development*, 68, 1198–1209.
- Wortham, S. (2004). *Learning identity: The joint emergence of social identification and academic learning*. Cambridge: Cambridge University Press.

School Climate

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Overview

Many view school climate as beliefs, values, and attitudes that shape interactions among students and with teachers, and is influenced by educational and social values (Emmons et al. 1996; Koth et al. 2008; Kuperminc et al. 1997). School climate is a broad construct, and has been of interest to educational researchers and policymakers for many years. It has its origins in organizational research and has been recognized as an important component of successful and effective schools (Brand et al. 2003; Miller and Fredericks 1990). It is a product of social interactions among students and teachers, is influenced by educational and social values, and has been shown to be related to social situations within classrooms and to the school as a whole. These interactions and experiences impact students' academic success and psychological well-being. Students' perceptions of various dimensions of school climate have been related to academic achievement and performance (Battistich et al. 1995; Brand et al. 2003; Griffith 1999; Jia et al. 2009; Roeser and Eccles 1998), student behavior problems (Gottfredson et al. 2005; Koth et al. 2008; Kuperminc et al. 1997; Loukas and Murphy 2007; Loukas and Robinson 2004), adjustment problems (Kuperminc et al. 2001), and psychological indicators such as depressive symptoms and self-esteem (Jia et al. 2009; Loukas and Murphy 2007; Loukas and Robinson 2004; Roeser and Eccles 1998; Way et al. 2007).

Importance of School Climate

The study of school climate examines factors that influence students' success.

The idea that schools can possess a climate that fosters or hinders learning is intuitively appealing to both educators and researchers (Miller and Frederick 1990). School reform is in the forefront of a national effort to improve experiences and academic outcomes for all students (Glennan 1998; Stingfield et al. 1996). While recognizing the importance of student background and motivational factors on student success, policymakers and educators are also examining the school context. This includes interactions among and between students and teachers. The quality and consistency of these interpersonal interactions within schools influence adolescents' cognitive, social, and psychological development (Haynes et al. 1997).

From a social cognitive perspective (Bandura 2001; Rogers 1951), people tend to react to experiences based upon subjective perceptions, not necessarily to how the experiences are objectively; therefore, perceptions rather than the objective reality are key to understanding how one adapts to the social environment (Bronfenbrenner 1979). In addition, social control theory (Hirschi 1969) suggests that schools with positive climates increase students' attachment to healthy norms of behavior. It is therefore likely that students' perceptions of the school environment have a significant impact on their behavior at school, and will influence their attitudes toward education and their sense of self.

Schools play an important role in the development of adolescents, and provide a context for them to learn about themselves and their relationships with peers and adults. Developmental theory states that the initiation into adolescence centrally involves defining self or identity and forming intimate relationships outside the family with both adults and peers (Blatt and Bass 1995; Santrock 1987). Erickson (1968) theorized that during this period, adolescents begin to search for who they are and what they are about. Adolescents spend much time in school as members of multiple social groups. These experiences and perceptions within the school environment will likely affect identity development, belief in one's competence, social relations toward peers and adults, and standards of fairness both within the

school context and social systems beyond (Santrock 1987).

used and are able to handle the complexities of school climate data.

History of School Climate Research

Based on organizational theory and the assumption that schools are formal organizations, early school effectiveness studies defined school climate in terms of objective and easily measurable structural attributes of the school. Variables external to the participants, such as size, building characteristics, and finances or resources, demonstrated few and inconsistent relationships to student outcomes. Early researchers were led to conclude that schools have little effect on students (Anderson 1982; Coleman et al. 1966; Purkey and Smith 1983). Subsequent research, however, found a relationship between student achievement and the level of resource utilization rather than amount of resources present. In addition, poorly funded and maintained schools relying on outdated materials may erode the morale and commitment of both students and teachers, which may in turn affect student outcomes (Rutter 1983). School climate research began changing its focus from concrete school characteristics to organizational behaviors of teachers and principals, and the degree of shared values among students and staff (Anderson 1982; Halprin and Croft 1963; Purkey and Smith 1983). Although recognizing that process-oriented factors are key elements to school climate, these conceptualizations drew more from intuition than theory (Anderson 1982).

As researchers took a more nuanced approach, the focus shifted to teachers' and students' perception of the school environment. With this emphasis on perceptions of the social climate in schools, stronger associations with student outcomes began to emerge (Brookover et al. 1979; Stringfield et al. 1985). In the late 1990s, another development in the research on school climate occurred with the utilization of more sophisticated methodologies and statistical techniques. Techniques such as multilevel modeling using hierarchical linear regression (HLM) and structural educational modeling (SEM) are now widely

Measuring School Climate

School climate is viewed as multidimensional encompassing interpersonal, organizational, and instructional dimensions, and has been examined from different theoretical and methodological perspectives. Although experts have not agreed upon one definition, climate is often defined as shared beliefs, values, and attitudes that shape interactions among students and with teachers, and is influenced by educational and social values (Emmons et al. 1996; Koth et al. 2008; Kuperminc et al. 1997). Research includes both teachers' and students' perceptions of school climate. Although teacher perception of the school environment has been associated with student outcomes and the organizational health of the school, the remainder of this paper will focus on students' perceptions of school climate. Climate is a multifaceted construct with numerous and diverse aspects, and researchers operationally define and measure school climate in various ways. Specific domains that comprise school climate include *discipline, order, and school safety* (Brand et al. 2003; Gottfredson et al. 2005; Juvonen et al. 2006; Koth et al. 2008; Kuperminc et al. 1997; Loukas and Murphy 2007; Loukas and Robinson 2004); *consistency in rules* (Brand et al. 2003; Gottfredson et al. 2005; Way et al. 2007); *academic motivation or values* (Brand et al. 2003; Battistich et al. 1995; Jia et al. 2009; Koth et al. 2008; Kuperminc et al. 1997; Roeser and Eccles 1998); *student-teacher relations* (Brand et al. 2003; Kuperminc et al. 1997; LaRusso et al. 2008; Way et al. 2007); *student-peer relations* (Battistich et al. 1995; Brand et al. 2003; Jia et al. 2009; Kuperminc et al. 1997; Loukas and Murphy 2007; Loukas and Robinson 2004; Way et al. 2007); *school attachment and bonding* (Gottfredson et al. 2005; LaRusso et al. 2008; Loukas and Murphy 2007; Loukas and Robinson 2004; Stewart 2003; Vieno et al. 2005); and *student autonomy* (Battistich et al. 1995; Jia et al. 2009; Roeser

and Eccles 1998; Vieno et al. 2005; Way et al. 2007).

Since school climate is multidimensional in nature, an important issue is determining the appropriate unit of analysis: individual students versus groups of students. Earlier research has conceptualized climate as a property of the school and analyzed the data at the school level. Typically, an indicator of climate was assessed and correlated with indicators of students' average performance, school characteristics, or student body composition. However, aggregating individual rating to form a single group-level indicator assumes similar variation in the perception of different groups within the school and prevents investigation of diversity in perceptions of climate.

Not all researchers view climate as an organizational indicator. Several recent studies have emerged documenting significant variation both within schools (likely attributable to individual-level factors) and between schools (likely attributable to school-level variables) thereby illustrating the importance of a multilevel approach (Brand et al. 2003; Battistich et al. 1995; Griffith 1999; Koth et al. 2008; Kuperminc et al. 2001, 1997; Loukas and Murphy 2007; Loukas and Robinson 2004; Roeser and Eccles 1998; Stewart 2003; Vieno et al. 2005). Multilevel modeling techniques are ideal for examining school data since the data are inherently clustered. Students are nested within classrooms, which are nested within schools. Single-level models are inappropriate for such data because they assume that regression coefficients apply equally to all contexts (Luke 2004; Raudenbush and Bryk 2002). In addition, because individuals from the same school context will likely have correlated errors, a basic assumption of multivariate regression is violated (Luke 2004). Multilevel modeling procedures account for nonindependence of observations (students within schools) and allow for correlated error structures. More advanced statistical software used in SEM also has the capacity to cluster students and account for the nonindependence of observations.

A related yet slightly different construct to school climate is classroom climate. Some

research has utilized three-level modeling to include student-level, classroom-level, and school-level factors. The amount of variance attributable to classroom level factors ranged from 8% to 11% (Koth et al. 2008; Vieno et al. 2005). It is likely that the climate of specific classrooms varies within a single school and that classroom management, class composition, and teacher characteristics may influence students' experiences. At the elementary level, classroom-level factors may be more appropriate to assess; however, most middle and high school students move from class to class encountering several and different classroom compositions. Throughout the day, students are in contact with a larger and more diverse array of students and teachers for shorter periods of time; therefore, it is appropriate to utilize assessments that capture students' experiences across the entire school day (Brand et al. 2003).

Factors Influencing School Climate

Individual-level factors. Although early research into gender and ethnic differences in students' perceptions of school climate have been inconclusive, more recent research using more sophisticated methodology and sampling more diverse populations have yielded more consistent findings. For each school climate domain, multilevel models can determine the amount of variance attributable between schools (school-level factors) and within schools (individual-level factors). Unconditional models (without covariates) calculate the amount of variance for each level. Research indicates that the majority of variance is accounted for by individual-level factors (65–85%), and a smaller, yet not insignificant, percentage (4–27%) is attributable at the school level (Battistich et al. 1995; Brand et al. 2003; Griffith 1999; Koth et al. 2008). This suggests that individual-level differences (differences between students) account for more variation in students' perceptions of school climate than differences between schools.

Studies suggest that different subgroups of students perceive the climate at the school

differently. Boys tend to perceive school climate more negatively than girls, specifically in the domains of safety, order, and clarity of rules (Griffith 1999; Koth et al. 2008; Kuperminc et al. 1997). Boys tend to display more disruptive behaviors and are at increased risk for school violence (Lahey et al. 2000); therefore, they may perceive the environment as less safe. In addition, girls tend to perceive higher levels of teacher and peer support (Kuperminc et al. 1997; Way et al. 2007), and have a more positive perception of academic attitudes and school satisfaction (Battistich et al. 1995; Griffith 1999; Koth et al. 2008). In addition, African American and Hispanic students perceive school climate less favorably than Caucasian students. Minority students perceive the environment as less safe and have poorer perceptions regarding academic attitudes (Griffith 1999; Koth et al. 2008). Juvonen et al. (2006) investigated ethnic diversity and found that African American and Hispanic students felt safer in schools, were less harassed, and felt less lonely as the ethnic diversity within the school increased.

Although not a true individual-level variable, “time” has been investigated using longitudinal data to assess change in students’ perceptions of school climate. Using growth curve modeling, trajectories of change in students’ perception of school climate were examined. Findings suggest a decline in school climate over the 3 years of middle school (Roeser and Eccles 1998; Way et al. 2007). Although girls initially perceive school climate more positively than boys, over time girls report a sharper decline in comparison to boys (Way et al. 2007).

School-level factors. School-level factors are variables that are aggregated and applied equally to all students within a school. In multilevel analyses, school averages are used to make comparisons between schools. Socioeconomic status (SES) has been examined in relation to various domains of school climate. Schools with higher percentages of low SES students tend to have lower perceptions of peer support and a lower rating of clarity and consistency of rules; however, they tend to have a higher rating of teacher support (Way et al. 2007). Battistich et al. (1995)

examined interactions between schools’ sense of community and poverty. Their findings indicate that some of the strongest effects occurred among schools with the most disadvantaged students, suggesting that some of the negative effects of poverty can be influenced by schools successfully creating a caring community.

Other school-level variables have been explored. Students from larger schools tend to perceive school climate more negatively (Koth et al. 2008; Stewart 2003). The rate of faculty turnover has demonstrated mixed findings. Findings suggest that higher teacher turnover is related to lower student perception of school order and discipline, but not related to the perception of academic attitudes. In addition, no association was found between student mobility and student perception of order and discipline and academic motivation (Koth et al. 2008).

School Climate and Student Outcomes

Academic performance. Various domains of school climate have been related to student’s academic performance. Increased performance on achievement tests is positively associated with perceptions of teacher regard and academic motivation (Brand et al. 2003; Roeser and Eccles 1998). Battistich et al. (1995) found academic attitudes are related to students’ perception of school community; however, there is no association with school community and academic performance. Student grades and GPA have been found to be positively associated with perceptions of academic motivation, teacher support, peer support, and clarity of rules (Brand et al. 2003; Jia et al. 2009). Students’ self-reported academic performance and academic values are related to perception of teacher support (Griffith 1999; Roeser and Eccles 1998).

Student behavior problems. Findings suggest students’ perception of school climate is associated with behavioral problems in schools. Students who perceive school climate as fair and consistent have fewer reported behavior problems and less-frequent victimization (Brand et al. 2003; Koth et al. 2008; Gottfredson et al. 2005).

In addition, fewer disciplinary referrals and less externalizing symptoms are associated with boys' positive overall perception of school climate (Kuperminc et al. 1997).

Interaction effects have also been investigated. Kuperminc et al. (1997) found that African American boys had fewer teacher-reported behavior problems when their overall school climate perceptions were positive. The authors suggest that school climate may play a protective role in culturally linked risk for boys' externalizing problems. Interactions between temperament domains relating to emotional modulation, known as *effortful control*, and girls' externalizing problems also have been explored. Findings indicate that girls who perceive peer relationships more positively and are low on effortful control report fewer conduct problems (Loukas and Murphy 2007; Loukas and Robinson 2004).

Psychological indicators and adjustment problems. Positive perception of various domains of school climate, specifically teacher support, academic attitudes, and peer support, is significantly related to lower reports of depressive symptoms and an increase in self-esteem (Brand et al. 2003; Jia et al. 2009; Roeser and Eccles 1998). Findings show that perceived school climate moderated the relationship between domains of effortful control and boys' internalizing problems. Boys with low effortful control and high perceptions of peer relationships reported fewer depressive symptoms (Loukas and Murphy 2007; Loukas and Robinson 2004). Positive perceptions of school climate moderated the negative effects of self-criticism. Youth with high levels of self-criticism did not show expected increases in internal and external problems when they perceived a positive overall school climate (Kuperminc et al. 2001).

Conclusion

Research suggests that students' perceptions of various domains of school climate are associated with a range of positive effects for students; therefore, students' perceptions of the school

environment impact their behavior at school, and influence their attitudes toward education and their sense of self. Research suggests that a positive perception of school climate promotes academic success, and improves student attitudes and psychological well-being. In other words, students are more likely to succeed in school if they feel safe and supported. As student enrollment becomes increasingly diverse, it is the role of educators to create an environment for all students to feel safe, valued, and supported, thus increasing the likelihood of success in school.

Cross-References

► [Academic Achievement: Contextual Influences](#)

References

- Anderson, C. S. (1982). The search for school climate: A review of the research. *Review of Educational Research*, 52(3), 368–420.
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52, 1–26.
- Battistich, V., Solomon, D., Kim, D., Watson, M., & Schaps, E. (1995). Schools as communities, poverty levels of student populations, and students' attitudes, motives, and performance: A multilevel analysis. *American Educational Research Journal*, 32(3), 627–658.
- Blatt, S. J., & Bass, R. B. (1995). Relatedness and self-definition: A dialectical model of personality development. In G. G. Noam & K. W. Fischer (Eds.), *Development and vulnerability in relationships* (pp. 309–338). Hillsdale: Lawrence Erlbaum Associates.
- Brand, S., Felner, R., Shim, M., Seitsinger, A., & Dumas, T. (2003). Middle school improvement and reform: Development and validation of a school-level assessment of climate, cultural pluralism, and school safety. *Journal of Educational Psychology*, 95(3), 570–588.
- Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge: Harvard University Press.
- Brookover, W. B., Beady, C., Flood, P., Schweitzer, J., & Wisenbaker, J. (1979). *School social systems and student achievement: Schools can make a difference*. New York: Praeger.
- Coleman, J., Campbell, E., Hobson, C., McPartland, J., Mood, A., Weinfield, F., et al. (1966). *Equality*

- of educational opportunity. Washington: U.S. Government Printing Office.
- Emmons, C. L., Comer, J. P., & Haynes, N. M. (1996). Translating theory into practice: Comer's theory of school reform. In J. P. Comer, N. M. Haynes, E. Joyner, & M. Ben-Avie (Eds.), *Rallying the whole village* (pp. 27–41). New York: Teachers College Press.
- Erickson, E. (1968). *Identity: Youth and crisis*. New York: Norton.
- Glennan, T. K. (1998). *New American schools after six years*. Santa Monica: Rand Corporation.
- Gottfredson, G. D., Gottfredson, D. C., Payne, A. A., & Gottfredson, N. C. (2005). School climate predictors of school disorder: Results from a national study of delinquency prevention in schools. *Journal of Research in Crime and Delinquency*, 42, 412–444.
- Griffith, J. (1999). School climate as “social order” and “social action”: A multi-level analysis of public elementary school student perceptions. *School Psychology of Education*, 2, 339–369.
- Halprin, A. W., & Croft, D. B. (1963). *The organizational climate of schools*. Chicago: University of Chicago Press.
- Haynes, N. M., Emmons, C. L., & Ben-Avie, M. (1997). School climate as a factor in student adjustment and achievement. *Journal of Educational and Psychological Consultation*, 8(3), 321–329.
- Hirschi, T. (1969). *Causes of delinquency*. Berkeley: University of California Press.
- Jia, Y., Way, N., Ling, G., Yoshikawa, H., Chen, X., Hughes, D., et al. (2009). The influence of student perceptions of school climate on socialemotional and academic adjustment: A comparison of Chinese and American adolescents. *Child Development*, 80(5), 1514–1530.
- Juvonen, J., Nishina, A., & Graham, S. (2006). Ethnic diversity and perceptions of safety in urban middle school. *Psychological Science*, 17(5), 393–400.
- Koth, C. W., Bradshaw, C. P., & Leaf, P. J. (2008). A multilevel study of predictors of student perceptions of school climate: The effects of classroom-level factors. *Journal of Educational Psychology*, 100(1), 96–104.
- Kuperminc, G. P., Leadbeater, B. J., Emmons, C., & Blatt, S. J. (1997). Perceived school climate and difficulties in the social adjustment of middle school students. *Applied Developmental Sciences*, 1, 76–88.
- Kuperminc, G. P., Leadbeater, B. J., & Blatt, S. J. (2001). School social climate and individual differences in vulnerability to psychopathology among middle school students. *Journal of School Psychology*, 39, 141–159.
- Lahey, B. B., Schwab-stone, M., Goodman, S. H., Waldman, I. D., Canino, G., Rathouz, P. J., et al. (2000). Age and gender differences in oppositional behavior and conduct problems: A cross-sectional household study of middle childhood and adolescents. *Journal of Abnormal Psychology*, 109, 488–503.
- LaRusso, M. D., Romer, D., & Selman, R. L. (2008). Teachers as builders of respectful school climates: Implications for adolescent drug use norms and depressive symptoms in high school. *Journal of Youth Adolescence*, 37, 386–398.
- Loukas, A., & Murphy, J. L. (2007). Middle school student perceptions of school climate: Examining protective functions on subsequent adjustment problems. *Journal of School Psychology*, 45, 293–309.
- Loukas, A., & Robinson, S. (2004). Examining the moderating role of perceived school climate in early adolescent adjustment. *Journal of Research on Adolescence*, 14(2), 209–233.
- Luke, D. (2004). *Multilevel modeling*. Thousand Oaks: Sage.
- Miller, S. I., & Frederick, J. (1990). The false ontology of school climate effects. *Educational Theory*, 40(3), 333–342.
- Purkey, S. C., & Smith, M. S. (1983). Effective schools: A review. *The Elementary School Journal*, 83, 427–452.
- Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods* (2nd ed.). Thousand Oaks: Sage.
- Roeser, R. W., & Eccles, J. S. (1998). Adolescents' perceptions of middle school: Relation to longitudinal changes in academic and psychological adjustment. *Journal of Research on Adolescence*, 8(1), 123–158.
- Rogers, C. R. (1951). *Client-centered therapy*. Boston: Houghton-Mifflin.
- Rutter, M. (1983). School effects on pupil progress: Research findings and policy implications. *Child Development*, 54, 1–29.
- Santrock, J. W. (1987). *Adolescence* (3rd ed.). Dubuque: Wm C. Brown.
- Stewart, E. A. (2003). School social bonds, school climate, and school misbehavior: A multilevel analysis. *Justice Quarterly*, 20(3), 575–604.
- Stingfield, S., Ross, S. M., & Smith, L. (Eds.). (1996). *Bold plans for school restructuring: The new American schools design*. Mahwah: Erlbaum.
- Stringfield, S., Teddlie, C., & Suarez, S. (1985). Classroom interaction in effective and ineffective schools: Preliminary results from Phase III of the Louisiana School Effectiveness Study. *Journal of Classroom Interaction*, 20, 31–37.
- Vieno, A., Perkins, D. D., Smith, T. M., & Santinelo, M. (2005). Democratic school climate and sense of community in school: A multilevel analysis. *American Journal of Community Psychology*, 36, 327–341.
- Way, N., Reddy, R., & Rhodes, J. (2007). Students' perceptions of school climate during middle school years: Associations with trajectories of psychological and behavioral adjustment. *American Journal of Community Psychology*, 40, 194–213.

School Connectedness

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Overview

Over the past 25 years, numerous studies have been conducted on school connectedness. Although there is no commonly accepted definition of school connectedness and the elements that comprise this construct are still debated, school connectedness generally reflects the degree to which students feel like they are part of the school and are cared for by others at the school (Resnick et al. 1997; Wilson 2004). Existing evidence indicates that school connectedness is associated with better academic outcomes and fewer behavioral and emotional problems (Loukas and Pasch 2012; Niehaus et al. 2012; Shochet et al. 2006). The relevance of school connectedness to students' lives is highlighted in studies showing that school connectedness makes a unique contribution to student outcomes even after considering family and peer connectedness (Law et al. 2013; Kaminski et al. 2010) and that it also offsets the impact of poor family relations on students' behavioral problems (Loukas et al. 2010). To advance the understanding of school connectedness effects, researchers will need to improve conceptual consistency and further elaborate the transactional processes through which connectedness develops over time.

Defining School Connectedness

Connectedness has been referred to as a basic human need. Individuals have a need to belong and a desire to experience lasting interpersonal relationships (Baumeister and Leary 1995).

Connectedness may describe interpersonal relationships between individuals, such as between parents and their children or between peers, but may also describe individuals' interactions with and feelings toward the contexts in which they live (Lee and Robbins 1995). The school is an example of a context to which children and adolescents develop connectedness (Resnick et al. 1997). Given that children spend more time in the school context than in any other and that experiences in this context will affect student outcomes for years to come (see Catalano et al. 2004), school connectedness is a particularly important topic for examination.

Educators have long recognized the relevance of school connectedness to students' lives. Generally referring to the interpersonal or affective aspect of the school's environment, most researchers agree that school connectedness reflects the degree to which students feel like they are part of the school and are cared for by others at the school (Furlong et al. 2011; Wilson 2004). Among the scholars who do research in this area, however, there is as much variation as there is commonality in definitions of school connectedness and a similar level of variability exists in the elements comprising this construct. Whereas some researchers assess school liking, sense of belonging, school safety, and quality of interpersonal relationships with peers and teachers, others include academic engagement, student engagement in decision-making, and participation in extracurricular activities (see Libbey 2004 for review). Variability also exists in the term used to capture this aspect of the school environment. The terms most commonly used include school connectedness, school bonding, and school attachment, although it is not uncommon to also see the terms school involvement and school engagement. In some instances, these terms are treated interchangeably, whereas in others, the same term is conceptualized differently by various researchers. The lack of consistent use of definitions, conceptualizations, and measures makes comparing results and drawing conclusions difficult. Still, it is generally accepted that school connectedness is associated with better academic outcomes and fewer behavioral and

emotional problems (Loukas and Pasch 2012; Niehaus et al. 2012; Shochet et al. 2006) and for this reason continues to be of interest to child and adolescent researchers.

Theories of School Connectedness

Various theories guide understanding of the development of school connectedness and its role in student outcomes. Hirschi's Control Theory (1969) conceptualizes school connectedness, referred to as bonding, as involvement in school activities, attachment to individuals at the school, acceptance of the school's beliefs, and commitment to the values of the school. Hirschi argued that students who feel a connection to their schools have internalized the goals and values of the school and are, therefore, less likely to engage in deviant behaviors that contradict the schools' values. Hirschi's later work with Gottfredson (Gottfredson and Hirschi 1990) on a General Theory of Crime added the notion of student self-control as a key factor in the development of school connectedness because it facilitates successful social interactions at school, which leads to reinforcement for students' efforts.

Social Development Theory (SDT) (Catalano et al. 1996) is similar to Control Theory in that it conceptualizes connectedness as attachment and commitment to a socializing unit, such as the school. Unlike Control Theory, however, SDT proposes involvement in the socializing unit as a necessary precondition that leads to attachment and commitment. From this perspective, involvement is a core element in the socialization process leading to connectedness. Social Development Theory describes connectedness as the result of a process that begins with the student's perception of opportunities for involvement with others and their social environment. If the child has sufficient skill to interact successfully in the school and if meaningful rewards are gained for interaction, then a bond or connection to the school develops. It is important to note that a strong connection to the school is more likely to develop if behavioral reinforcement for appropriate interaction is consistent. Once established, a strong connection

promotes conformity to the norms, values, and beliefs of the school and in this way inhibits engagement in behaviors that are inconsistent with the socializing unit.

Social Development Theory is particularly useful because it explains the development of both prosocial behaviors, such as academic achievement, and antisocial behaviors, such as conduct problems and substance use. That is, an individual may be socialized into prosocial or antisocial behavior, depending upon the norms, values, and beliefs of the socializing unit to which the bonding or connection occurs. Social Development Theory is also capable of accounting for the influences of peers (deviant or not), family, and other socializing units in the community such as scouting, youth sports organizations, and arts programs.

Two other perspectives provide additional insight into the nature of the process through which school connectedness occurs. Stage-Environment Fit Theory (Eccles et al. 1993) argues that a mismatch between students' developmental needs and school demands could easily lead to motivational problems for youth and, in turn, poor school connectedness. On the other hand, when schools meet developmental needs, students are likely to continue to pursue goals set out by the school using behaviors positively sanctioned by their schools. Because of this emphasis on the fit between the student and their environment, Stage-Environment Fit Theory lends itself well to analysis of the developmental appropriateness of school processes for the students who are engaged in them.

Like Stage-Environment Fit Theory, transactional models of development (Sameroff and MacKenzie 2003) focus on the interactive relationships between the individual and the social contexts in which they are embedded. These models are unique in that they acknowledge the bi-directionality of influence between the student and their school – schools impact students, but students also impact schools. In the process, a dynamic interaction evolves that shapes students' developmental trajectories. From this perspective, a child who lacks self-control and acts out may cause others in the schooling environment to

become negatively reactive. Evidence indicates, for example, that the presence of antisocial behavior in kindergarten predicts increased levels of conflict and decreased levels of closeness with teachers one year later (Birch and Ladd 1998). The resulting lack of positive reward from the teacher may preclude the formation of connections between the child and the school.

Despite the different emphases and conceptualizations of school connectedness laid out by these four theories, there is considerable convergence. All four theories recognize that school environments and student characteristics both influence students' connectedness. All four theories also recognize that children's and adolescents' developmental trajectories are influenced to at least some extent by the degree to which they are connected to their schools. Still, these theories vary to the extent to which they elaborate on the relevance of development to the connectedness process.

Research on School Connectedness

Just as theoretical differences do not preclude areas of convergence, the variability in definitions and terminology employed by researchers does not prevent agreement on several points regarding school connectedness: First, school connectedness contributes to positive outcomes and protects adolescents from experiencing negative outcomes; second, school environmental factors and student characteristics contribute to the development of school connectedness; third, school connectedness declines over the course of the school career; and fourth, the development of connectedness and the benefits that accrue to it may not be the same for all students.

Positive and Protective Effects of School Connectedness

Theory predicts that students who are well connected to their schools will show more positive outcomes, such as better academic achievement and performance, and be protected from negative outcomes such as school dropout, delinquency, substance use, and depressive

symptoms. Research tends to support these predictions.

School outcomes. Both school connectedness and constituent concepts such as student–teacher relations and school engagement are associated with positive schooling outcomes. Higher levels of school connectedness and bonding are associated with better academic performance (Eisenberg et al. 2003) and lower likelihood of grade retention, school suspension/expulsion, and school dropout (Hawkins et al. 2001). Engagement in school is also positively associated with academic achievement (Hawkins et al.) as is quality of student–teacher relationships (Hamre and Pianta 2001; Hughes et al. 2008). Drawing on literatures derived from studies of student–teacher relationships, bonding, and achievement, Bergin and Bergin (2009) propose that secure attachments to teachers impact academic achievement independently and also indirectly through school bonding.

Antisocial behaviors. Numerous empirical studies indicate that school connectedness protects students from concurrent and subsequent negative outcomes (Resnick et al. 1997). For example, levels of school connectedness assessed in the sixth and seventh grades have been found to be negatively associated with conduct problems one year later in seventh and eighth grades (Loukas et al. 2006, 2009). Results from the Seattle Social Development Project (see Catalano et al. 2004 for review) show that school bonding in the seventh grade is associated with a greater likelihood of ceasing delinquent behaviors between seventh and ninth grades. Findings from this project also show that school bonding in the fifth grade protects students from engaging in violent behaviors and substance use as far out as age 21 (Catalano et al. 2004).

Internalizing problems. Although most of the research on the protective effects of school connectedness has focused on its relation to antisocial behaviors, evidence indicates that it is also associated with fewer internalizing problems such as anxiety and depressive symptoms (Shochet et al. 2006; Shochet and Smith 2014). As an example, Shochet and his colleagues reported that school connectedness, assessed when students were in the eighth grade, was associated

with fewer anxiety symptoms for girls and fewer depressive symptoms for all students one year later. It is likely that students who are connected to their schools form supportive relationships with teachers (Whitlock 2006) and prosocial peers (Battistich et al. 2004) and for this reason are less likely to experience internalizing problems.

Development of School Connectedness: Environmental and Individual Contributions

As outlined by transactional models (Sameroff and Mackenzie 2003), school connectedness is driven by the dynamic interaction between students and their school environments, with students impacting their schools and vice versa. Research on school connectedness tends to not capture the dynamic interplay between student and school. At best, it provides a series of snapshots drawn from longitudinal surveys. At least as often, however, it provides single snapshots with no evidence of causal direction among a set of correlated variables. Nonetheless, several conclusions can be drawn about how school environments and student characteristics engender student connection to school.

How schools encourage connectedness. School climate is the construct that has been most commonly used to describe the aspects of the school that impact the development of school connectedness. It has been defined as the attitudes, beliefs, values, and norms that shape instructional practice, academic achievement, and the process through which the school is administered (see McEvoy and Welker 2000). According to Stage-Environment Fit Theory (Eccles et al. 1993), schools whose instructional practices, definitions of academic achievement, and administrative processes enable students to meet their developmental, social, and academic needs should encourage more students to feel connected. Evidence supports this hypothesis, indicating that school climate is positively associated with connectedness (Catalano et al. 2004; Loukas et al. 2006; Wilson 2004).

In their examination of school climate, McNeely et al. (2002) found that school connectedness was higher among students attending schools characterized by smaller school size, positive classroom management approaches,

discipline policies that are not harsh, and a homogeneous racial/ethnic student body. Other studies have found that interactive teaching and communal organization both promote school bonding (Catalano et al. 2004; Payne 2008). Interactive teaching requires students to master learning objectives before proceeding and teachers to monitor the process of mastery (Hawkins et al. 1988). Communal organization emphasizes informal relations among students and teachers, common classroom norms and experiences, and collaboration by teachers, administrators, parents, and students (Payne 2008). School environments that are supportive of children developing positive and/or intimate relationships with adults and that focus on child learning rather than merely “covering material” appear to be the most encouraging of the development of school connectedness in students.

How students contribute to their own school connectedness. Social Development Theory posits that involvement is a precursor to the formation of school connectedness (Catalano et al. 1996). Students must engage in school activities if they are to experience meaningful reinforcement from them. Involvement alone, however, is not sufficient for a student to develop a connection to the school. Students must have the skills, particularly self-control (Arneklev et al. 1993), to enable them to engage successfully in social interactions. Students who skillfully engage in school activities should experience higher levels of connectedness than their peers who fall short in this regard (Catalano et al. 1996).

One individual characteristic that is particularly likely to prevent students from engaging in school is antisocial behavior. Because children with elevated levels of antisocial behaviors experience more negative interactions with teachers and peers than do their counterparts (Ettelkand and Ladd 2015; Silinskas et al. 2015), their level of connectedness to the school is likely to be compromised. Consistent with this line of thinking, Loukas and associates (2009) found that elevated levels of conduct problems among sixth and seventh grade students were associated with lower levels of school connectedness one year later, even after accounting for baseline levels of school connectedness. To test a hypothesis of the

interplay between students and their schools, Loukas et al. also assessed if lower levels of school connectedness would be associated with more conduct problems one year later, after accounting for prior levels of conduct problems. It was found to be true. Hence, lower levels of school connectedness predicted more conduct problems one year later and vice versa. These findings lend support to transactional models of development and underscore the importance of examining student characteristics in the development of school connectedness.

A Decline in School Connectedness

Students at all developmental and grade levels can benefit from feeling connected to their school. Even so, school bonding and connectedness decline across time (Loukas et al. 2016; Whitlock 2006). The middle school years tend to be the time when the decline begins. Why does this developmental decline in school connectedness occur? From the perspective of Stage-Environment Fit Theory (Eccles et al. 1993), the decline is due to the failure of middle schools to meet the new developmental needs of their early adolescent students. For example, as early adolescents strive for autonomy and independence from parents, needs for interpersonal affiliation and intimacy with nonparental adults and with peers intensify. Yet, in comparison to elementary schools, middle school classrooms are larger, more formal, and more impersonal (Eccles and Midgley 1989). Such classrooms fail to meet students' needs by inhibiting the development of close, caring student–student, and student–teacher relationships. Similarly, the need for autonomy is unmet when middle school students, who strive for more control over their lives, are provided with fewer opportunities than elementary school students for decision-making in the classroom (Feldlaufer et al. 1988). These developmental mismatches contribute to disengagement and disconnectedness from the school.

Do Some Students Gain More Benefits from School Connectedness?

Schools provide only one of several contexts in which children and adolescents can connect

and/or bond to others to advance their socialization process. Students with high levels of connectedness to their families and/or peers may experience positive outcomes even if they are not highly connected to their schools. For students lacking strong, prosocial influences, schools may offer a unique opportunity to engage in, be rewarded for, and become committed to positively sanctioned behaviors.

The relevance of the school to students' lives is highlighted in studies showing that the positive influence of school connectedness on student outcomes remains, even after taking into consideration family and peer connectedness (Law et al. 2013; Kaminski et al. 2010). Results from such studies indicate that the influence of school connectedness is unique and independent of connectedness to two other proximal developmental contexts. Moreover, school connectedness may compensate for low levels of connectedness to other contexts and in this way is particularly beneficial for students at elevated risk for negative outcomes. In a recent prospective study of sixth and seventh graders, it was found that school connectedness offset the impact of poor quality family relations on students' conduct problems one year later (Loukas et al. 2010). Students reporting poor quality family relations were protected from experiencing elevated levels of conduct problems because they felt connected to their middle schools.

School connectedness may also be particularly beneficial for females, regardless of their level of connectedness to other key developmental contexts or risk for negative outcomes. Girls tend to report more intimacy in relationships with peers (Maccoby 1998) and to invest more energy in their interpersonal relationships than males (see Leadbeater et al. 1995) and for these reasons may be more strongly impacted by their feelings of connectedness to the school. In fact, research indicates that interpersonal relationship quality is more strongly associated with girls' than boys' adjustment problems (Leadbeater et al. 1999). Nonetheless, evidence of gender differences in school connectedness is inconsistent across studies, with some studies indicating that girls report more connectedness than boys (Loukas et al. 2012;

Kaminski et al. 2010) and others indicating that boys report more than girls (Bonny et al. 2000). Findings regarding the moderating role of gender in the association between school connectedness and student adjustment are also mixed. Whereas some studies find no gender differences in the association between school connectedness and adolescent adjustment (Brookmeyer et al. 2006; Loukas et al. 2009), others find that school connectedness is associated with girls' but not boys' outcomes. Ayers et al. (1999) showed that girls, but not boys, with a higher level of school connectedness during seventh grade were less likely to initiate delinquent behavior between seventh and ninth grades. Although Shochet and his colleagues found that school connectedness was predictive only of girls' anxiety symptoms one year later, these researchers also found no gender differences in the connectedness-depressive symptoms association. Still other studies indicate that school connectedness is predictive of boys' but not girls' outcomes. Thus, Blum et al. (2003) reported that while school connectedness was associated with lower levels of violent involvement for boys, the same was not true for girls. Taken collectively, these findings suggest that there are insufficient data to generalize regarding the extent to which the protective nature of school connectedness varies for males and females. Additional research is needed to identify the circumstances under which gender differences might occur and the factors that could explain these potential differences.

Gaps in Knowledge and Future Research

Considerable progress has been made over the last 25 years in understanding the nature, development, and consequences of school connectedness. Researchers wishing to move the field forward from this point will need to pay attention to improvements in conceptual consistency, careful elaboration of the transactional process through which connectedness develops and in turn impacts student outcomes, and the thoughtful application of methodological approaches that capture the dynamics of these processes.

Conceptual Consistency

Conceptual consistency would be best achieved by having all researchers adopt the same label, definition, and dimensions for school connectedness. It goes almost without saying that such a high degree of convergence is unlikely given the number of research traditions involved in school connectedness work and the interesting findings that have come out of this work. An argument can be made, however, for the widespread use of multidimensional models of school connectedness, such as that proposed by Catalano et al. (2004) containing the four dimensions of involvement, attachment, commitment to, and acceptance of schools' values. The use of multidimensional models could offer the following advantages:

1. The matching of specific dimensions of school connectedness with specific antecedents to and consequence of connectedness. In the case of the four dimensions of the Catalano et al. model, it may be that the dimension of involvement is more strongly associated with academic outcomes, while the dimensions of attachment and commitment are more closely associated with student emotional and behavioral outcomes. Research that differentiates among the dimensions of connectedness could well provide more elaborated findings that would be especially useful for developers of school interventions.
2. Closely associated with the former point, a multidimensional approach would allow examination of the role of each dimension of school connectedness in offsetting specific risk factors. Attachment to school personnel, for example, may offset or buffer the impact of peer delinquency on students' antisocial behaviors. Thus, students whose friends engage in delinquent behaviors may nonetheless report low levels of delinquency because they formed an attachment to their teachers (e.g., Crosnoe et al. 2002). Alternatively, a strong belief in school values and commitment to academic activities may offset the impact of learning difficulties, such that children with learning difficulties may achieve better academic success because of their belief in the

schools' values and commitment to its activities.

3. Pathways to connectedness might be more clearly delineated if multiple dimensions were examined. These pathways may be defined by the order in which the dimensions of connectedness impact student experience. According to SDT, involvement in school precedes attachment and commitment. However, it is entirely possible to conceive other sequences leading to connectedness. For example, attachment to teachers might precede involvement and commitment for students who lack attachment to other developmental contexts. Furthermore, it is likely that this developmental sequence would vary across groups of students defined by a myriad of factors, such as gender, age, race/ethnicity, and attachment to other contexts. Understanding the unfolding of school connectedness for various subgroups of students could lead to intervention programs that more effectively target students' needs.

Reflecting on a similar conceptual and methodological muddle of approaches in resilience research, Luthar et al. (2000) noted that variation in research approaches that results in the same findings offers a higher level of validation for the findings when they converge. The same could be said of school connectedness research. Perhaps the testing of multidimensional models that vary somewhat in content will serve to validate and differentiate the effectiveness of the various approaches. If researchers can at least converge on the use of multidimensional measures of school connectedness, there is considerable potential for answering new or at least more finely pointed questions in this field.

Elaboration of the Transactional Process

The mechanism by which school connectedness develops is perhaps most articulately expressed in terms of the transactional process through which schools and students adapt to each other. The study of this process as it unfolds is the logical focus of research on the development of school connectedness. While the general analysis of dynamics described above could facilitate this

process, more information is needed about external factors that impact the interplay among the dimensions of connectedness. On one hand, the process must be understood in terms of developmental stages that could impact the interplay of child and school factors. On the other, differences among various student populations (e.g., students with behavior or learning problems) must be more clearly elaborated as well. While an understanding of the general process will inform the general structure and content of school interventions, the subgroup differences will provide for more nuanced approaches that fit specific school settings. Qualitative studies could provide considerable guidance as to the structure of dynamic models of school connectedness and should be employed as a source of cross-validation for large-scale quantitative research.

Application of Methodological Approaches to Capture Dynamics in Process

Several studies employed methodological approaches that offered promise for exploring in a more nuanced way the interactive process through which connectedness does or does not develop between child and school. Chief among these was the work of school researchers in New Zealand who explored the use of Photovoice (<https://photovoice.org/>) in understanding the lives of children in secondary school (Nelson and Christensen 2009). These researchers used a limited set of prompts to focus students on collecting meaningful data with their cameras. Combined with group drawing sessions, and one on one interviews with students, these data collection approaches allowed the authors to document the importance of "...relaxed, mutually respectful relationships..." between teachers and students. The presence of these relationships was positively associated with student willingness to engage the course material.

The insight from qualitative studies such as described above could help structure highly informative survey research drawing on approaches such as that use by Rudasil et al. (2014). Their study used growth modeling techniques to explore data from three time points during the sixth grade year. The researchers reported that

students who reported larger declines in school connectedness over the course of the year were more likely to report increases in affiliation with deviant peers by the year's end. Studies with multiple waves within a critical year in the life of youths could indeed tell a detailed story about the process by which teachers and children demonstrate mutual respect and eventually develop connections that bind children to school and the promise it holds.

Multilevel modeling techniques (Raudenbush and Bryk 2002) provide researchers with a useful tool for exploring variability in school settings and potential interactions between school settings and student characteristics. Joyce and Early (2014) used multilevel modeling in their study of school connectedness and teacher support effects on depressive symptoms in seventh through twelfth graders. They identified significant school level variation in depressive symptoms. Payne (2008) found that students in communally organized schools were less likely to exhibit delinquent behavior and that communal organization moderated the protective student bonding–delinquency relationship. These findings highlight the potential of multilevel modeling to add nuance to our understanding of the interplay between student and school as both entities negotiate the expectations for behavior and support.

The analysis of multiple waves of data within a single year can yield key insights into the timing of processes by which students adjust to their school settings. Qualitative tools such as Photo-voice and large sample statistical techniques such as multilevel modeling provide means for identifying the successful combinations of student and school characteristics that support student connection to school. Together these research approaches may well provide the information needed to create and deliver in timely fashion effective interventions that bind students to schools when their needs and receptivity are greatest.

References

- Arneklev, B. J., Grasmick, H. G., Tittle, C. R., & Bursik, R. J., Jr. (1993). Low self-control and imprudent behavior. *Journal of Quantitative Criminology*, *9*, 226–247.
- Ayers, C. D., Williams, J. H., Hawkins, J. D., Peterson, P. L., Catalano, R. F., & Abbott, R. D. (1999). Assessing correlates of onset, escalation, deescalation, and desistance of delinquent behavior. *Journal of Quantitative Criminology*, *15*, 277–306.
- Battistich, V., Schaps, E., & Wilson, N. (2004). Effects of an elementary school intervention on students' 'connectedness' to school and social adjustment during middle school. *The Journal of Primary Prevention*, *24*, 243–262. <https://doi.org/10.1023/B:JOPP.000018048.38517.cd>.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*, 497–529.
- Bergin, C., & Bergin, D. (2009). Attachment in the classroom. *Educational Psychology Review*, *21*, 141–170.
- Birch, S. H., & Ladd, G. W. (1998). Children's interpersonal behaviors and the teacher–child relationship. *Developmental Psychology*, *34*, 934–946.
- Blum, J., Ireland, M., & Blum, R. W. (2003). Gender differences in juvenile violence: A report from Add Health. *Journal of Adolescent Health*, *32*, 234–240.
- Bonny, A. E., Britto, M. T., Klostermann, B. K., Hornung, R. W., & Slap, G. B. (2000). School disconnectedness: Identifying adolescents at risk. *Pediatrics*, *106*, 1017–1021.
- Brookmeyer, K. A., Fanti, K. A., & Henrich, C. C. (2006). Schools, parents, and youth violence: A multilevel, ecological analysis. *Journal of Clinical Child & Adolescent Psychology*, *35*, 504–514.
- Catalano, R. F., Kosterman, R., Hawkins, J. R., Newcomb, M. D., & Abbott, R. D. (1996). Modeling the etiology of adolescent substance use: A test of the social development model. *Journal of Drug Issues*, *26*, 429–455.
- Catalano, R. F., Haggerty, K. P., Oesterle, S., Fleming, C. B., & Hawkins, J. D. (2004). The importance of bonding to school for healthy development: Findings from the Social Development Research Group. *Journal of School Health*, *74*, 252–261.
- Crosnoe, R., Erickson, K. G., & Dornbusch, S. M. (2002). Protective functions of family relationships and school factors on the deviant behavior of adolescent boys and girls: Reducing the impact of risky friendships. *Youth & Society*, *33*, 515–544.
- Eccles, J. S., & Midgley, C. (1989). Stage/environment fit: Developmentally appropriate classrooms for early adolescents. *Research on Motivation in Education*, *3*, 139–186.
- Eccles, J. S., Midgley, C., Wigfield, A., Buchanan, C. M., Wigfield, A., Reuman, D., et al. (1993). Development during adolescence: The impact of stage/environment fit on young adolescents' experiences in schools and families. *American Psychologist*, *48*, 90–101.
- Eisenberg, M. E., Neumark-Sztainer, D., & Perry, C. L. (2003). Peer harassment, school connectedness, and academic achievement. *Journal of School Health*, *73*, 311–316.
- Ettekal, I., & Ladd, G. W. (2015). Developmental pathways from childhood aggression–disruptiveness,

- chronic peer rejection, and deviant friendships to early-adolescent rule breaking. *Child Development*, 86(2), 614–631.
- Feldlaufer, H., Midgley, C., & Eccles, J. S. (1988). Student, teacher, and observer perceptions of the classroom environment before and after the transition to junior high school. *Journal of Early Adolescence*, 8, 133–156.
- Furlong, M. J., O'Brennan, L. M., & You, S. (2011). Psychometric properties of the Add Health School Connectedness scale for 18 sociocultural groups. *Psychology in the Schools*, 48(10), 986–997.
- Gottfredson, M., & Hirschi, T. (1990). *A general theory of crime*. Stanford: Stanford University Press.
- Hamre, B. K., & Pianta, R. C. (2001). Early teacher-child relationships and the trajectory of children's school outcomes through eighth grade. *Child Development*, 72, 625–638.
- Hawkins, J. D., Doueck, H. J., & Lishner, D. M. (1988). Changing teaching practices in mainstream classrooms to improve bonding and behavior of low achievers. *American Educational Research Journal*, 25, 31–50.
- Hawkins, J. D., Guo, J., Hill, K. G., Battin-Pearson, S., & Abbott, R. D. (2001). Long-term effects of the Seattle Social Development intervention on school bonding trajectories. *Applied Developmental Science*, 5, 225–236.
- Hirschi, T. (1969). *Causes of delinquency*. Berkeley: University of California Press.
- Hughes, J. N., Luo, W., Kwok, O., & Loyd, L. K. (2008). Teacher-student support, effortful engagement, and achievement: A 3-year longitudinal study. *Journal of Educational Psychology*, 100, 1–14.
- Joyce, H. D., & Early, T. (2014). The impact of school connectedness and teacher support on depressive symptoms in adolescents: A multilevel analysis. *Child and Youth Services Review*, 39, 101–107.
- Kaminski, J. W., Puddy, R. W., Hall, D. M., Cashman, S. Y., Crosby, A. E., & Ortega, L. A. G. (2010). The relative influence of different domains of social connectedness on self-directed violence in adolescence. *Journal of Youth and Adolescence*, 39, 460–473.
- Law, P. C., Cuskelly, M., & Carroll, A. (2013). Young people's perceptions of family, peer, and school connectedness and their impact on adjustment. *Australian Journal of Guidance and Counselling*, 23(1), 115–140.
- Leadbeater, B. J., Blatt, S. J., & Quinlan, D. M. (1995). Gender-linked vulnerabilities to depressive symptoms, stress, and problem behaviors in adolescents. *Journal of Research on Adolescence*, 5, 1–29.
- Leadbeater, B. J., Kuperminc, G. P., Blatt, S. J., & Hertzog, C. (1999). A multivariate model of gender differences in adolescents' internalizing and externalizing problems. *Developmental Psychology*, 35, 1268–1282.
- Lee, R. M., & Robbins, S. B. (1995). Measuring belongingness: The social connectedness and the social assurance scales. *Journal of Counseling Psychology*, 42, 232–241.
- Libbey, H. P. (2004). Measuring student relationships to school: Attachment, bonding, connectedness, and engagement. *Journal of School Health*, 74, 274–283.
- Loukas, A., & Pasch, K. E. (2012). Does school connectedness buffer the impact of peer victimization on early adolescents' subsequent adjustment problems? *The Journal of Early Adolescence*, 33, 245–266. <https://doi.org/10.1177/0272431611435117>.
- Loukas, A., Suzuki, R., & Horton, K. D. (2006). Examining school connectedness as a mediator of school climate effects. *Journal of Research on Adolescence*, 16, 491–502.
- Loukas, A., Ripperger-Suhler, K. G., & Horton, K. D. (2009). Examining bidirectional relations between school connectedness and early adolescent adjustment. *Journal of Youth and Adolescence*, 38, 804–812.
- Loukas, A., Roalson, L. A., & Herrera, D. A. (2010). School connectedness buffers the effects of negative family relations and poor effortful control on early adolescent conduct problems. *Journal of Research on Adolescence*, 20, 13–22.
- Loukas, A., Ripperger-Suhler, K. G., & Herrera, D. E. (2012). Examining competing models of the associations among peer victimization, adjustment problems, and school connectedness. *Journal of School Psychology*, 50(6), 825–840.
- Loukas, A., Cance, J. D., & Batanova, M. D. (2016). Trajectories of school connectedness across the middle school years: Examining the roles of adolescents' internalizing and externalizing problems. *Youth and Society*, 48(4), 557–576. <https://doi.org/10.1177/0044118X13504419>.
- Luthar, S. S., Cichetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development*, 71, 543–562.
- Maccoby, E. E. (1998). Gender and group process. A developmental perspective. *Current Directions in Psychological Science*, 11, 54–58.
- McEvoy, A., & Welker, R. (2000). Antisocial behavior, academic failure, and school climate. *Journal of Emotional and Behavioral Disorders*, 8, 130–140.
- McNeely, C. A., Nonnemaker, J. M., & Blum, R. W. (2002). Promoting school connectedness: Evidence from the national longitudinal study of adolescent health. *Journal of School Health*, 72, 138–146.
- Nelson, E., & Christensen, K. (2009). Photovoice in the middle: How our students experience learning at school and beyond. *New Zealand Journal of Teachers Work*, 6(1), 35–46.
- Niehaus, K., Rudasill, K. M., & Rakes, C. R. (2012). A longitudinal study of school connectedness and academic outcomes across sixth grade. *Journal of School Psychology*, 50, 443–460. <https://doi.org/10.1016/j.jsp.2012.03.002>.
- Payne, A. A. (2008). A multilevel analysis of the relationships among communal school organization, student bonding, and delinquency. *Journal of Research in Crime and Delinquency*, 45, 429–455.
- Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods*. Thousand Oaks: Sage.
- Resnick, M. D., Bearman, P. S., Blum, R. W., Bauman, K. E., Harris, K. M., Jones, J., et al. (1997). Protecting

- adolescents from harm: Findings from the national longitudinal study on adolescent health. *Journal of the American Medical Association*, 278, 823–832.
- Rudasil, K. M., Niehaus, K., Crockett, L. J., & Rakes, C. R. (2014). Changes in school connectedness and deviant peer affiliation among sixth-grade students from high-poverty neighborhoods. *Educational Psychology Papers and Publications*. Paper 163. <http://digitalcommons.unl.edu/edpsychpapers/163>
- Sameroff, A. J., & MacKenzie, M. J. (2003). Research strategies for capturing transactional models of development: The limits of the possible. *Development & Psychopathology*, 15, 613–640.
- Shochet, I. M., & Smith, C. L. (2014). A prospective study investigating the links among classroom environment, school connectedness, and depressive symptoms in adolescents. *Psychology in the Schools*, 51(5), 480–492.
- Shochet, I. M., Dadds, M. R., Ham, D., & Montague, R. (2006). School connectedness is an underemphasized parameter in adolescent mental health: Results of a community prediction study. *Journal of Clinical Child and Adolescent Psychology*, 35, 170–179.
- Silinskas, G., Dietrich, J., Pakarinen, E., Kiuru, N., Aunola, K., Lerikainen, M., . . . Nurmi, J. (2015). Children evoke similar affective and instructional responses from their teachers and mothers. *International Journal of Behavioral Development*, 39(5), 432–444.
- Whitlock, J. L. (2006). Youth perceptions of life at school: Contextual correlates of school connectedness in adolescence. *Applied Developmental Science*, 10, 13–29.
- Wilson, D. (2004). The interface of school climate and school connectedness and relationships with aggression and victimization. *Journal of School Health*, 74, 293–299.

personnel working in schools to manage this formative opportunity in ways that helpfully guide adolescents whose actions concern us. The critical and opportune nature of lessons in emotional and behavioral management and interpersonal relating is especially important for adolescents from stigmatized groups based on differences in race, gender, socioeconomic status, sexuality, or ability, who have to overcome confusing and possibly destructive messages about who they are and how they fit into society. Unfortunately, decades of accumulated research have demonstrated that conventional, punitive, and exclusionary methods of school discipline have failed adolescents, and in fact have systematically contributed to their emotional, behavioral, and academic problems, especially for those most at risk. Iatrogenic experiences with school discipline have been linked with adolescents' problems both inside and outside of school and also with diminished life trajectories extending far beyond their school years.

Introduction

In the recent literature on school discipline, it is clear that its definition has broadened considerably to include a multitude of factors relevant to student conduct and schools' involvement with it. Traditionally, and conventionally, school discipline has tended to be narrowly defined as a set of punitive, exclusionary, managerial practices used by teachers, school administrators, and other school personnel in response to student misbehaviors. Disciplinary practices have historically intended to correct student behaviors; promote behavioral learning; provide a respite for teachers and other students from disruptive, distracting, and potentially harmful students; and, in some cases, involve parents in addressing students' problematic conduct in school (Dupper et al. 2009). More inclusively, however, school discipline may be thought to be comprised of an interacting and nested set of formal and informal conditions and processes enacted within schools, intended to not just manage and modify student behaviors but to create environments, relationships, and interactions that promote (what is

School Discipline

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Overview

Adolescents with problematic behavior patterns are often first confronted about them in school (Jimerson et al. 2006). Accordingly, an arguably inordinate burden is placed on teachers, school counselors and administrators, and security

seen as) appropriate student functioning. It has been argued that school curricula, the structure of the school day, class size, the physical arrangement of students in the classroom, instructional approaches, exams, constant surveillance, regimentation of the school day, restriction of movement, and other typical features of schools were instituted as disciplining structures and processes in public schools (Rothstein 1984, 1996; Tyack 1974). Critical analysts, and research, have suggested that the overarching intention of these structures and processes has been to inculcate values, ways of thinking, and behaviors consistent with the needs and values of American society as much as it has been educational (Cohen 2013; Rothstein; Tyack).

Critical theorists have asserted that, additionally, the latent purposes of school discipline include the inculcation of values and habits friendly to a capitalist economic system and the perpetuation of racist and classist biases, structures, and processes (Cohen 2013; Rothstein 1996; Tyack 1974). Recent research on the use and outcomes of school discipline, framed by an inclusive, ecological perspective considering the influences of organizational, institutional, and cultural level factors on schools' disciplinary policies and practices, appears to be consistent with these views.

Disciplinary Practices Defined

The discrete disciplinary actions taken by schools include a variety of interventions and ways of interacting with students. Conventionally defined, disciplinary practices include after-school detention, office referral, in-school and out-of-school suspension, expulsion and transfer, and corporal punishment (striking students). These practices have received the most scholarly attention and may be the acts most often associated with discipline in schools. Discrete disciplinary acts also include teachers' behavioral management techniques used in the classroom and hallways and other forms of corporal punishment including physical restraint, seclusion, involuntary confinement, and other actions taken to manage student

behaviors as they occur. Beginning in the 1990s, the use of "strong models" or "get tough" policies and procedures (Skiba and Losen 2015/2016) including the use of video cameras, the presence of police and security guards, and the use of metal detectors has been emphasized in many schools. During this time schools have also more regularly used referrals to police and sought criminal charges against students for in-school conduct problems (Henault 2001).

However, for quite a few years, schools have also begun implementing new, alternative, non-punitive approaches to school discipline, focusing on modified approaches to teaching, promotion of tolerance and understanding of the complex nature of student behaviors, modifying school cultures, and providing training and support for those involved in school discipline. These innovations have not yet been universally adopted, and most schools continue to use conventional disciplinary methods, in spite of the lack of empirical support for their effectiveness and the wealth of findings demonstrating their potential for long-lasting harm to disciplined students and other students as well.

Brief History of School Discipline in the USA

Scholarship in the sociology of education (Bourdieu and Passeron 1977; Durkheim 1956, 1961; Katz 1975; Knatznelson and Weir 1985; Lazerson and Grubb 1974; Mannheim and Stewart 1962; Perry and Morris 2014; Rothstein 1984, 1995; also see Foucault 1975) has conceptualized schooling as serving society's needs for creating loyal, conforming citizens and competent contributors to its social, political, and economic systems. Critical histories of early schooling in the USA assert that the disciplining of students, especially immigrant students, was an essential purpose of education in its incipient forms beginning in the late eighteenth century (Katz 1975; Rothstein 1984, 1996; Tyack 1974). Schools were expected to address concerns raised by the presence of unoccupied adolescents in urban and rural areas who, due to an industrializing

economy, were no longer burdened with agrarian tasks at home with their families. These concerns were intensified with mass immigrations in the 1800s and impelled community and business leaders to develop normalizing experiences in schools that would help to create an “Americanized” and adequately compliant and skilled workforce.

In the late nineteenth and early twentieth centuries, the rise of bureaucratization in American society served to reinforce many of the disciplinary policies and practices instituted in early schools, including emphases on efficiency, rules, order, conformity, categorization, competition, and the depersonalization of students. Further, as bureaucratization of schooling was led by community business leaders and professionals on school boards, the values of upper-middle-class society formed a basis for the policies and practices developed by these boards and their appointed superintendents, including the racist and classist beliefs popular in the nineteenth century. The overarching philosophy of socializing students, especially adolescent students, informed virtually every aspect of youths’ experiences in school, especially for foreign-born, poorer, and nonwhite youths (Katz 1975; Rothstein 1984, 1996; Tyack 1974).

Because of the lack of educational and psychological research, commonsense theories, community fears and needs, biases, and socialization values dominated school design and innovation for well over a century. This included, according to Hyman (1990), an American Christian belief of original sin and the presence of demonic spirits in children, which were thought to require stern and harshly punitive methods of parenting and instruction (Hyman 1990). In keeping with the beliefs of Social Darwinism, popular in the late nineteenth and early twentieth centuries, many Americans saw a need “to socialize the animal nature of youth to produce self discipline, compliance, deference” (Rothstein 1984, p. 11).

In the 1970s rising rates of suspension among all students (Skiba and Losen 2015/2016), especially students of color, led to a study by the Children’s Defense Fund (1975) and legal challenges by civil rights organizations asserting

unjust use of discipline in schools (Skiba and Losen 2015/2016). In spite of these challenges, beginning in the 1980s, school disciplinary practices became even more punitive. At this time “zero tolerance” policies originated in the federal and state drug enforcement agencies and applied severe punishments to all individuals convicted of criminal drug offenses. Due to national outcry against the use of these policies in response to minor offenses, these agencies gradually abandoned the zero tolerance mandate in the 1990s. At around the same time, zero tolerance policies began to appear in school systems across the country. The use of these policies expanded under the 1994 Gun-Free Schools Act, which required schools to expel students who were found in possession of a weapon on school grounds (Henault 2001). Further expansion of zero tolerance policies occurred after the 1999 Columbine High School massacre in response to widespread concerns about school violence. Many schools’ policies were modified to require mandatory suspension or expulsion in response to a broader array of student offenses, such as possession of tobacco products on campus or disruptive classroom behavior (Rosa et al. 2015; Skiba and Peterson 1999). These policy shifts dramatically impacted disciplinary practices in schools, and since the mid-1970s the rate of school suspensions has doubled (Skiba and Losen 2015/2016).

The change in philosophy and policies and practices in schools did not, however, coincide with a rise in violence or other types of behavior problems but rather appeared to have been a response to media reports which created a perception of out-of-control students and unsafe schools (Cohen 2013; Skiba and Losen 2015/2016). The image of the predatory adolescent had taken hold in American culture (Cohen). In fact, however, between 1994 and 2002, violent crimes committed by adolescents in and away from school dropped to their lowest levels in three decades (Butts 2003; United States Department of Education, National Center for Education Statistics 2007; reported in Cohen 2013). It has been argued that schools may actually be the safest places for children and adolescents (Monahan and Torres 2010).

By 2005, a growing body of empirical literature on the unintended and harmful consequences of zero tolerance policies in schools prompted the American Psychological Association to create a Zero Tolerance Task Force dedicated to investigating the effectiveness of these policies. Their 2008 report concluded that zero tolerance policies were ineffective at reducing students' problem behaviors and improving school safety. Further, they found compelling evidence of the harmful consequences of mandatory exclusionary discipline on disciplined students, as well as school climates and school-wide academic achievement (American Psychological Association Zero Tolerance Task Force 2008). The American Psychological Association, the American Medical Association, the American Academy of Pediatrics, the Human Rights Watch, and the American Civil Liberties Union have all taken formal positions against the use of corporal punishment in schools (Anderson 2015). Still, in spite of increased attention and recent innovations, it is thought that school discipline currently is "far more invasive and punitive" than it has been in decades (Perry and Morris 2014, p. 1069; also see Hirschfield 2008; Kupchik 2010; Robers et al. 2010; Welch and Payne 2010).

School Discipline: Statistics

How Many Students Are Involved in School Discipline?

According to the US Department of Education Office for Civil Rights (2014), millions of adolescents are involved with school discipline each year. This report on school discipline was the first using data collected from all public schools and school districts in the USA. The following most recent statistics on a limited range of disciplinary practices were reported for the 2011–2012 school year for grades K–12:

- 49 million children and adolescents were enrolled in public schools in the USA.
- 3,385,868 students were suspended in-school at least once.

- 3,172,403 students were suspended out-of-school at least once.
- 1, 419,690 students were suspended more than once.
- Approximately 19,000 students were suspended (out-of-school) each school day.
- 130,000 students were expelled.
- 249,752 referrals were made to law enforcement, and 64,218 school-related arrests were made.
- 166, 607 students were corporally punished.

Reporting on national data from a recent longitudinal study, Shollenberger (2015) found that 35% of students were suspended at least once during their K–12 educational careers. Losen and Martinez (2013), reporting on data on middle schools and high schools from the 2009–2010 school year, reported that over 2 million students had been suspended that year. Approximately 10.1% of all American middle school, junior high, and high school students were suspended out-of-school during the 2011–2012 school year (Rumberger and Losen 2016). This rate is four times the rate of the overall suspension in elementary school (Rumberger and Losen).

Again, all these findings only concern a limited range of disciplinary experiences; even still, the data show that millions of students are formally punished and excluded from their classrooms and their schools every year. Losen et al. (2015) calculated that suspended students were out of the classroom for 18 million days in a school year.

While 31 states and the District of Columbia have prohibited the use of corporal punishment in public schools, it is still legal and continues to be used in 19 states and is still sometimes used in states where it is illegal (Anderson 2015).

Disparities in the Use of Discipline in Schools

The statistics on school discipline indicate marked disparities in its use, largely based on students' race. According to findings published by the US Department of Education Office of Civil Rights in 2014, black students are suspended and expelled more than three times more often than are white students. Five percent of white students are suspended compared with 16% of black students.

This pattern of racial disparity is evident as early as preschool. Black students are disproportionately referred to law enforcement compared to whites: 27% of referrals to law enforcement are black students (16% of the student population), while 42% are white students, who make up 51% of the student population. Black students are also disproportionately arrested due to school-related incidents compared to white students (31% blacks students arrested vs. 39% white students). Black students are disproportionately sent out of the classroom to the school office (Bradshaw et al. 2010) and more often subject to corporal punishment, almost three times more often than nonblack students (Anderson 2015).

While black students are most at risk for suspension, other students of color are also more likely to be disciplined compared with white students (Anyon et al. 2014; Skiba and Losen 2015/2016). Native American students (1% of the student population) are also disproportionately suspended and expelled from school (2% of suspensions and 3% of expulsions) (United States Department of Education Office for Civil Rights 2014). Blacks, Native Americans, and Latino students are most likely to be suspended, while white, Asian, and Hawaiian/Pacific Islander students are least likely to be suspended (Skiba and Losen). Overall, students of color are involved in 58% of school referrals to law enforcement and 60% of arrests of students in schools (US Department of Education Office of Civil Rights). Other research has produced similar findings regarding students of color – especially African-Americans – and disciplinary actions (Gregory et al. 2008; Raffaele-Mendez and Knoff 2003; Raffaele-Mendez et al. 2002; Shaw and Braden 1990; Skiba 2001; Skiba et al. 2002; Skiba and Losen 2015/2016; Shollenberger 2015; Townsend 2000; Wu et al. 1982).

Students with disabilities are also disproportionately disciplined. They are given out-of-school suspension twice as often as students without disabilities (13% vs. 6%) (Balfanz et al. 2015; Mallet 2014). Students with disabilities are also disproportionately secluded or placed in involuntary confinement (12% vs. 58%). Students with disabilities removed from

classrooms are prohibited from returning to school for longer periods of time than are other students (Balfanz et al. 2015).

Other key risk factors for increased likelihood of facing disciplinary action in schools include gender, income, and academic performance. Male students are suspended up to three times as often as are female students, especially at the secondary level (Losen 2015; Losen and Martinez 2013). Students from lower socioeconomic status homes are at greater risk of being disciplined (Christie et al. 2004; Costenbader and Markson 1998; Gregory 1996; Shaw and Braden 1990; Skiba et al. 2002; Wu et al. 1982). Students who are less academically successful also are more likely to be disciplined (Gregory and Weinstein 2008). Findings regarding the discriminatory use of school discipline are among the most robust in this area of study and have established that students who may already be especially at risk for multiple psychosocial challenges may be systematically though, probably, mostly unconsciously, targeted for punitive treatment at school, communicating a view of them as subordinate and undeserving of fair treatment and respect.

Student Behaviors Associated with School Discipline

Most often, students are disciplined for defiant acts with teachers, not aggressive, violent, or other behaviors that might endanger others or disrupt classroom safety (Gregory and Weinstein 2008; Shollenberger 2015; Skiba et al. 1997). Violent acts by students, in fact, appear to be relatively infrequent (Skiba et al.). Skiba et al., using data from middle schools from two Midwestern school districts, identified the most common acts leading to office referrals as disobedience, disrespect, lack of cooperation, insubordination, and inappropriate use of language. Fighting and other more aggressive acts were less commonly the source of disciplinary action. Shollenberger's (2015) analysis of national data supported these findings and also found that students' first involvement with school discipline rarely involved acts of aggression. Controlling for type and severity of behavior, black students are disproportionately and more harshly disciplined than white students (Gregory and Weinstein;

Skiba and Losen 2015/2016; Skiba et al. 2002), meaning that disparities are not attributable to differences in behavior among student groups.

The Ineffectiveness and Iatrogenic Impact of School Discipline

Studies of school discipline have established correlations and to a lesser extent causal connections between standard school disciplinary practices and several negative outcomes for disciplined adolescents' behaviors, academic performance, biopsychosocial well-being, and functioning after leaving school.

Unchanged and Worsened Problematic Behaviors

Harsh school policies and practices such as zero tolerance policies and strict codes of conduct have been shown to fail to deter unwanted student behaviors and, in some cases, increase these behaviors, inflating school suspension rates as well as truancy (American Psychological Association Zero Tolerance Task Force 2008; Cantor and Wright 2001; Colvin et al. 1993; Heitzeg 2009; Newcomb et al. 2002; Noguerra 1995; Skiba and Losen 2015/2016; Shollenberger 2015; Theriot et al. 2010; Tobin et al. 1996). Students who are suspended are often suspended repeatedly, indicating no change or a worsening in proscribed behaviors (Atkins et al. 2002; Dupper 1994; Safer 1986). These strict practices have been found to be more related to increased suspension rates than are previous problematic student behaviors in junior high and high schools (Wu et al. 1982). School discipline can paradoxically increase student aggression and violence both in and outside of school (Hyman and Perone 1998; Maurer 1990; Strauss 1989). Schools' use of strip searches of students has been associated with student anger and revenge fantasies (Hyman 1990; Hyman and Perone 1998). It has been found that shootings in schools take place more often in states that allow corporal punishment in school (Arcus 2002).

The impact of school discipline on students' out-of-school behavior as well as their long-term functioning is now well-studied. Students

corporally punished in school have been found to be more aggressive at home following their discipline (Hyman and Perone 1998). Witnessing corporal punishment may also lead to increased aggression among witnesses (Hyman 1990). An association has been found between the use of corporal punishment in schools and states' homicide rates (Strauss 1989) and the number of youths convicted of crimes who were on death row (Hyman 1990). Recent concern over the long-term negative consequences has contributed to the study of what has come to be known as "the school to prison pipeline," focused on disciplined adolescents' high rate of involvement with the juvenile justice system (Archer 2010; Bahena et al. 2012; Fabelo et al. 2011; Heitzeg 2009; Hirschfield 2008; Mallet 2014; Noguerra 2003; Porter 2015; Skiba et al. 2014b; Terriquez et al. 2013).

Psychological Sequelae

The negative impact of school discipline on disciplined students' psychological well-being is well documented (American Psychological Association Zero Tolerance Task Force 2008). Some students experience intensely negative reactions to their exposure to school discipline that may overwhelm their capacities for coping. It has been estimated that as many as 2% of students who receive corporal punishment in school may develop symptoms associated with trauma exposure (Hyman 1990; Maurer 1990). Trauma symptoms may include sleep disturbances and nightmares, anxiety, psychological numbing of thoughts and emotions, flashbacks, and avoidance of people, places, and situations associated with traumatic events. In one study, students subjected to harsh physical and verbal treatment by their teacher developed trauma symptoms which improved when the teacher was replaced (Krugman and Krugman 1984). Symptoms of depression and diminished self-esteem have been identified among disciplined schoolchildren, including decreased self-confidence, hypersensitivity to criticism, and diminished self-efficacy (Hyman 1997; Krugman and Krugman 1984). These symptoms mimic those found in some children who are subjected to severe corporal

punishment at home and may have more serious consequences among youths subjected to disciplinary practices at school (Spencer 1999). For some students, overall social functioning may be diminished following their exposure to school discipline (Hyman 1990; Krugman and Krugman 1984; Spencer 1999).

Physical Sequelae

Students may suffer physical harm when exposed to corporal punishment, which is, as stated earlier, used legally in 19 states in the USA (Center for Effective Discipline n.d.). Corporal punishment includes paddling and striking students with objects, extreme exercise, and forcing students to maintain uncomfortable or painful positions for long periods of time. Students subjected to these forms of corporal punishment may develop medical conditions including bruises, welts, and blisters, while a small number of students have died from disciplinary exercise (Hyman 1995).

School Attendance, Retention, and Graduation

Disciplined students are at greater risk for tardiness, absenteeism, grade retention, and dropout (Balfanz et al. 2015; Costenbader and Markson 1998; Ekstrom et al. 1986; Fabelo et al. 2011; Fine 1991; Hyman 1990; Jimerson et al. 2006; Krugman and Krugman 1984; Marchbanks et al. 2014; Marchbanks et al. 2015; Newcomb et al. 2002; Spencer 1999). Zero tolerance policies and multiple suspensions and expulsion have been linked with dropout rates, especially for students of color (Heitzeg 2009; National Association of School Psychologists 2006). Balfanz and colleagues showed that one suspension in the 9th grade doubled students' risk for dropout from 16% to 32%. Additionally, they report that suspension independently predicts a 20% greater likelihood of dropout, controlling for factors such as absenteeism and poor academic performance.

Academic Performance

By definition, exclusionary discipline prevents students from being in the classroom, meaning that disciplined students miss instruction and opportunities to gainfully interact with teachers and fellow

students, limiting learning opportunities (Gregory and Weinstein 2008; Shollenberger 2015). Suspended students do not typically receive compensatory instruction (Townsend 2000). Links have been established between suspension, expulsion, and diminished academic performance and failure for disciplined students (Arcia 2007; Balfanz et al. 2007, 2015; Davis and Jordan 1994; Fine 1991; Gersch and Nolan 1994; Osher et al. 2006; Perry and Morris 2014; Reyes et al. 2012; Safer 1986; Skiba and Losen 2015/2016). Disciplined students have reported increased difficulties with concentrating in school and diminished interest in their schoolwork following their incidents of discipline (Hyman 1990; Hyman and Perone 1988). The negative impact of discipline on academic performance is especially strong among African-American students (Davis and Jordan 1994; Fremon and Hamilton 1997; Townsend 2000).

Damaged Relationships with Teachers and Peers

Strong teacher-student relationships are essential to students' capacities to perform in school and for their overall well-being (Skiba and Losen 2015/2016; Gregory et al. 2014a, b, 2015; Osher et al. 2006; Resnick et al. 1997). "...at-risk adolescents report that a close and supportive relationship with a teacher is a key feature distinguishing those who succeed in school from those who do not. . . . When relationships function well, the resulting increases in motivation to comply with basic school norms also appears likely to lead to reductions in problematic behavior" (Gregory et al. p. 8). Students' relationships with teachers and other school personnel are routinely strained when students are disciplined (Jimerson et al. 2006). Students reacting to actions taken against them may subsequently dysfunctionally modify the ways in which they relate to both adults and peers at school. Disciplined students may distance themselves from teachers after being disciplined (Schwartz 1989). Students who have been disciplined by teachers in verbally hostile ways may show greater tendencies toward displaying hostility in their interactions with peers (Hyman 1995). Students have also been found to become involved with peers with

behavior problems following incidents of discipline at school, further increasing the likelihood of further acting out on their part (Williams 1979). Again, damaged relationships between school personnel and students may be more hurtful to African-American students, who may be especially crestfallen after disciplinary incidents due to their higher positive attitudes toward school (Downey et al. 2009; Gregory and Weinstein 2008; McNeal and Dunbar 2010; Sheets 1996).

Understanding of Self and Others and Relatedness to Society

These findings suggest that adolescents' developmental pathways may be iatrogenically altered by their experiences with school discipline (see American Psychological Association Zero Tolerance Task Force 2008). Most concretely, the diminished biopsychosocial functioning and poor academic performance that may be both exacerbated and engendered by school discipline can limit students' attainment of intellectual, psychological, and interpersonal capacities required for success in all areas of living, including higher education, employment, and in relationships. Additionally, however, school discipline appears capable of altering students' images of themselves and others and their relationships with them, promoting in some students a sense of the world as an arbitrarily harsh place (Kupchik and Ellis 2008). As a response to their experiences of school discipline, adolescents may develop a disconnection and defensiveness in their social and occupational roles and relationships, including a diminished capacity for aspiration and goal orientation, and an ambivalent attitude toward authority. Ultimately, this kind of discouragement, distancing, and mistrust can act to disinhibit both self-destructive and antisocial processes (see Merton 1968).

“Collateral Damage”: The Impact of Discipline on Schools, Non-disciplined Students, Teachers, and Society

Conventional school disciplinary policies and practices have been found to be ineffective in producing safer schools and also have been

shown to exert deleterious effects on non-disciplined students, schools, and society. Schools generally are not improved by harsh disciplinary policies and practices. There is no empirical support that schools are made safer by conventional disciplinary methods. Schools with higher rates of suspension have been found to have less safety, lower perceived safety, and worse climate (Arcia 2007; Bickel and Qualls 1980; Fabelo et al. 2011; Henault 2001; Losen 2015; Sharkey and Fenning 2012; Skiba and Losen 2015/2016; Steinberg et al. 2015). Schools with higher rates of disciplinary actions have lower academic achievement among their non-disciplined students (American Psychological Association Zero Tolerance Task Force 2008; Perry and Morris 2014). Teachers have reported increased disrespect and threats associated with the use of punitive discipline with students (Gregory and Weinstein; National Center for Educational Statistics 2000).

Society also bears a burden created by punitive school discipline. As mentioned, disciplined students are significantly more likely to be held back in grade, drop out of school, become involved in criminal activity, and incur incarceration (Kamentz 2016; Marchbanks et al. 2014; Rumberger and Losen 2016; Terriquez et al. 2013). Marchbanks et al. found that disciplined students' overall earnings are significantly reduced, and that the costs associated with school discipline in Texas amounted to \$750 million over the lifetime of a cohort of students. Rumberger and Losen estimated that the total costs of school discipline to the USA could vastly exceed \$100 billion over the lifetimes of all students disciplined in US schools.

Why School Discipline Harms Students

Theories regarding the mechanisms at work explaining the ineffectiveness and iatrogenic nature of school discipline focus on five key domains: students' developmental immaturity, students' psychological reactivity, ineffectiveness and unintended effects of disciplinary punishment, disempowerment of students, and alienation of students from adults and peers at school (see Cameron and Sheppard 2006).

Developmental Immaturity

Recent studies suggest that adolescents' brain structures continue to develop well into adolescence. This developmental immaturity impacts adolescents' capacities to manage impulses, resist peer pressure, judge risk, and hold a future orientation (American Psychological Association Zero Tolerance Task Force 2008). When student misbehaviors are products of this kind of immaturity, there may be greater likelihood of ineffectiveness and iatrogenic reactions by students to discipline that in practice overestimates students' control over their behaviors. Psychological immaturity may create greater vulnerability among adolescents for the development of all the sequelae described in this essay as being consequential to harsh discipline in schools.

Psychological Reactivity

Students' psychological reactions to discipline include suppressed negative emotions, stigmatization and negative self-image, and trauma. Suppressed negative emotions, including anger, humiliation, shame, and anxiety, might be expressed as a kind of defensive, defiant overreaction or inappropriate reaction to peers' and teachers' words and actions and can escalate into aggression and violence (Brantlinger 1991; Gregory and Weinstein 2008; Hyman and Perone; Skiba et al. 2002; Townsend 2000). Stigmatization and negative self-image can be produced in students who respond to indirect messages in teachers' disciplinary actions that express expectations about students that are perceived by students as negative. Students may also react in the same way to the indirect and direct rejecting messages of peers that may be based on judgments about them formed by knowledge of their disciplinary experiences (see Eden 2003). Trauma symptoms can be triggered when discipline involves public ridicule or humiliation (Rothstein 1984).

Ineffectiveness and Unintended Consequences of Punishment

School discipline may be viewed as primarily emotionally and impulsively produced as opposed to rationally executed educational and/or

therapeutic activity. "Suspension, expulsion, and other exclusionary discipline practices are by nature reactionary. These practices do not address nor attempt to resolve root causes of misbehaviors in individual students. Rather, exclusionary practices serve to remove so-called bad apples for the benefit of the class, favoring the goals of classroom management and social control over the needs of individual students" (Cohen p. 2). Even though discipline may halt behaviors in the immediate moment, if it does not also teach more appropriate behaviors, it will likely be ineffective in durably changing behaviors (Bear 1995; Cohen 2013; Khazan 2016; Sharkey and Fenning 2012; Townsend 2000; Wu et al. 1982). Behaviors may also not be modified due to an overreliance on punishment or its use in ways that are of the wrong intensity, are not timely, or are not experienced by students as adequately aversive (Bongiovanni 1979). For some students, unwanted behaviors may be reinforced inadvertently when suspensions and other actions that take them out of school help them to escape from the unhappiness of the school environment (Atkins et al. 2002; Costenbader and Markson 1998; Dupper et al. 2009; Rossow and Parkinson 1999). This may be especially the case with students without supervision at home during the day (Dawson 1991; Dupper et al.). A self-fulfilling prophecy effect may be produced by messages students receive suggesting that they do not have the skills or character required for success in school, paradoxically inducing acting out behaviors (Henault 2001; Townsend 2000). Additionally, when teachers and other school personnel use gratuitously aggressive and hostile methods, they model these for students, some of whom will internalize and use these methods in their relationships and interactions with others (Butchart 1998; Hyman 1990).

School discipline is routinely administered in draconian ways as teachers and other school personnel tend to eschew positive, instruction-based interactions with students in which they work with students to develop and use more socially appropriate behaviors in school, believing the more negative approaches to be effective and appropriate. They also may tend to use discipline that is

excessive in relation to the behavior it is intended to address (Brophy 1996; Brophy and McCaslin 1992; Furlong et al. 1994, in Shafii and Shafii 2001; also see Ringer et al. 1993). For example, school personnel often state that suspension is only used as a last resort for dealing with extreme student misbehaviors, but it is the most commonly used form of school discipline and is used most often for minor, nonviolent incidents such as insubordination, tardiness, truancy, and dress code violations (Brooks et al. 1999; Dupper 1994; Skiba et al. 1997). Most students in US schools report witnessing or having been the object of some type of punitive verbal intervention by a teacher (Hyman 1988), and as many as 60% of students are the object of hostile verbal interactions with a teacher (Hyman 1995).

Disempowerment

Students who are disciplined in coercive and oppressive ways may experience this as rejecting and devaluing and as a denial of their need to have and use power (Glasser 1969; Henry and Abowitz 1998). The effect of this can be resentment and oppositional reactivity to authority, and a refusal to participate, expressing protest over this perceived assault (Beyer 1998; Gregory and Weinstein 2008; McEwan 1998; Spencer et al. 2001). When schools interact with students in ways that communicate messages of mistrust of them and suggesting that they are not competent or capable of acting responsibly, this may erode students' emerging capacities for autonomous, self-directed activity and promote an apathetic disinvestment from their own activities and important pursuits (Beyer 1998).

Alienation

Related to this, when students experience adults' disciplinary actions as messages indicating a lack of interest in and concern for them, the bonds between students with adults and peers at school can be damaged. Students may develop a negative attitude toward school that diminishes their motivations to perform and belong (Downey et al. 2009). Students who feel neglected and rejected may become estranged from others, and this alienation from others may disinhibit

disciplined students, who may act out their hurt and anger through withdrawal, disruptive behaviors, and violence (see Brantlinger 1991; Henault 2001; Noguerra 1995). Students' alienation may be exacerbated when there are cultural differences between teachers and students (Bryant et al. 2000; Noguerra; Pianta et al. 2002; Townsend 2000; Sheets 1996; Skiba and Losen 2015/2016).

Reasons for Disparities in the Use of School Discipline

Bias

The disparities in the use of school discipline – the disproportionate targeting of black, male, and disabled students – are exceedingly well documented. Most often, disparities are attributed in some way to bias on the part of school personnel. Cultural differences or “discontinuities” (Townsend 2000) may evoke “implicit biases” (Gregory et al. 2015) outside the awareness of teacher or school administrator. Though there are mixed findings, some research has shown that racial differences between students and teachers are associated with increased use of discipline (Downey et al. 2009; Wright 2015).

Student Factors

Exacerbating implicit bias situations may be the nature and intensity of students' reactions to teachers and administrators who confront them about their behavior. African-American students may demonstrate resistance in a way that is perceived as defiant and disrespectful by school personnel (Gregory and Weinstein 2008), which may provoke a more severely punitive reaction. Further, it has been argued that African-American students may be less likely to have been afforded opportunities which help children to develop certain interpersonal habits and skills that teachers may value in the classroom that might help them interact with school personnel in ways that are experienced as comfortable and familiar. These skills may help other students to de-escalate tensions with teachers in ways that help to prevent the use of formal, punitive actions (Downey et al. 2009). This may also be at play with disabled students.

Students' academic difficulties are also linked with disciplinary problems. Students who are failing educationally are more likely to become the focus of teachers' concerns behaviorally (Gregory et al. 2014a, b; Osher et al. 2015; Scott et al. 2001; Skiba et al. 2015). It has been suggested that academic failure can be the initiating process that leads to disciplinary issues (Scott et al.; Toldson et al. 2015). However, this issue has been viewed as much as a problem of effective instruction as it has a student problem (Skiba et al.).

Teacher Factors

Teachers' capacities for relating, understanding students, and managing problematic behaviors are key variables in disparities in the use of school discipline. Teacher experience level does not appear to be an issue (Gregory et al. 2014a, b), but lack of training in the effective handling of student behaviors is a problem (Cohen 2013; Skiba et al. 2015; Skiba and Losen 2015/2016). Teachers may not receive adequate training in their professional education and may be socialized in their schools to overrely on more authoritarian responses to behavioral problems (Cohen). A more commanding, directive stance may be suggested to new teachers who may then underestimate the need for connectedness with students and overrely on authority in their relating. This stance may also affirm a sense that an "appropriate," hierarchical structure must be maintained between themselves and their challenging students (Friesen et al. 2014) which may be exacerbated when the challenges are from students who are members of disparaged groups (Jost et al. 2004). Racial mismatch and a lack of cultural awareness have been found to be related to discriminatory use of discipline (Downey et al. 2009; Wright 2015). Teachers who do not form engaged and concerned relationships with students are more likely to have greater problems with their students (Gregory et al. 2014a, b), which, again, may be exacerbated by cultural and other differences.

School Factors

A more recent research emphasis in research on disparities in the use of school discipline has been on school-level factors (Jimerson et al. 2006;

Osher et al. 2006; Theriot et al. 2010). Schools with higher proportions of African-American students tend to employ more severe, "criminalized" (Ramey 2015) disciplinary programs (Skiba et al. 2015; Welch and Payne 2010). It has also been hypothesized that some students are forced out of school in order to raise student test scores, possibly disproportionately affecting students of color and students with disabilities (Heitzeg 2009).

Alternative Methods and Recommendations

Proven alternative methods of school discipline have been implemented in schools and have shown promising outcomes. Innovative models suggest comprehensive reforms that refocus attention away from a narrow concern with student behaviors and address school and teacher factors (Gregory et al. 2015; Losen 2015; Osher et al. 2006, 2015; Skiba et al. 2015). On the school level, positive behavioral supports (PBS) modifies conventional disciplinary procedures to encourage teachers to respond to students by supporting and reinforcing their pro-social behaviors rather than focusing negatively on misbehaviors (Osher et al.; Rosa et al. 2015). Educating principals about the harmful nature of discipline and the promise of new approaches appears to be essential (Skiba et al.). Teacher trainings focusing on cultural sensitivity and alternative methods of managing student misbehaviors have shown promise (Dupper et al. 2009; Osher et al. 2015; Gregory et al. 2015). Tracking how schools discipline and using data to assess and modify policies and practices are recommended (Osher et al. 2015). Ongoing support and supervision of teachers to enhance their relating and to improve their instructional approaches using video recordings of classroom teaching and interactions has been shown to produce greater learning and improved peer relating among students (Gregory et al.). For students, social and life skills training, anger management classes, and the availability of support centers and counseling services can reduce the incidences of conventional disciplinary practices (Anyon et al. 2014; Mullet 2014; Osher et al. 2015; Rosa

et al.; Skiba and Losen). Restorative sessions used preventively or in the aftermath of conflicts to promote dialogue, understanding, and resolution of differences and to repair relationships have been successful (Gonzalez 2015). The overarching theme for all of these alternative programs is the emphasis on connectedness and compassion vs. distance and punitiveness.

The Continued Use of Traditional Disciplinary Practices

Theorists have suggested that the continued use of traditional practices includes factors at the levels of culture, institution, organization, and individual teachers and school administrators. At the broadest level, attitudes in the USA about children have been informed in part by religious traditions that view children as particularly susceptible to or even naturally born with sinfulness. This has supported parenting practices that emphasize punishment over the use of positive supports or teaching (Hyman 1990). These attitudes and practices were part of the approach to managing behaviors of students in the earliest public schools, which adopted socialization as a primary institutional purpose (Katz 1975; Noguerra 1995; Rothstein 1984). Legal rulings have often supported the use of harsh discipline in schools (Shaw and Braden 1990). Theorists focusing on schools as bureaucracies have posited that traditional disciplinary practices are consistent with formal, standardized, and authoritarian structures and processes of bureaucracies emphasizing order and efficiency (Beyer 1998; Wu et al. 1982). The use of discipline encourages dropout among disruptive students (Fine 1991; Medina and Lewin 2003; Raffaele-Mendez et al. 2002) and, as discussed, raises test scores (Heitzeg 2009). But school administrators who favor punitive approaches exert a profound and negative iatrogenic impact in their schools by increasing the severity and incidence of punitive disciplinary actions diminishing and perhaps even in some cases destroying the very order and efficiency they seek (Gregory et al. 2014a, b; Skiba et al. 2015).

Teachers play perhaps the key role in school discipline. Understandably, they may tend to discipline students out of emotional reactivity (Cohen 2013; Gregory et al. 2015; Neil 1976; Noguerra 1995), which may nullify the teaching element of the intervention (Bongiovanni 1979). Teachers, generally without advanced training in child development or human behavior theories and grappling to comprehend student behaviors may also use a pathologizing or moralistic lens for understanding adolescents' behaviors, which may support the reactive use of punitive discipline (Wu et al. 1982; Cameron and Sheppard 2006). Studies suggest that gender may be a factor in determining choice of disciplinary actions, as male teachers have been found more likely to use punitive discipline (Hyman 1990; Shaw and Braden 1990). Teachers who use punitive discipline are more likely to view it positively and to have been raised by parents who tended to use punishments in their childrearing (Hyman 1990). Teachers may also be underprepared by their training programs for understanding and dealing effectively with students' problematic behaviors and may not understand the limitations and possible negative consequences of punitive discipline (Cameron and Sheppard 2006; Costenbader and Markson 1998; Hall and Wahrman 1988; McEwan 1998). Punitive disciplinary methods may also act to displace onto students frustrations and stresses of working in what can be overwhelming and inadequately supportive environments (Cameron and Sheppard 2006; Epp 1996; Sizer 1984).

Perhaps most troubling is what has been termed "reproduction theory," asserting that school discipline is used surreptitiously and unconsciously to perpetuate class and status inequalities in American society (Bourdieu and Passeron 1977; Cohen 2013; Gregory and Weinstein 2008; Kupchik and Ellis 2008; McIntosh et al. 2014; also see Khan 2016). Schools may insidiously reward and punish student behaviors in ways that favor white, middle-class children and disfavor others. Studies of the draconian and discriminatory use of school discipline are consistent with this thesis. Teachers who discipline reactively, without understanding of the

consequences of their actions, and (perhaps unintentionally) with bias, may act as the unwitting instruments for the perpetuation of oppression in the USA.

Conclusion

Scholarship in school discipline presents a troubling and controversial picture. There appears to be only modest awareness among teachers, administrators, and the public about the potential harms school discipline can produce for adolescents and their development. Recently developed alternative disciplinary methods focusing on modifying school cultures and promoting positive supports and changing school cultures have considerable scientific support and are being instituted in US middle and high schools (American Psychological Association Zero Tolerance Task Force 2008; Cameron and Sheppard 2006). Greater understanding and continued development and implementation of humane and effective discipline in schools may benefit adolescents and their development in ways that ultimately may return benefits to those with whom they relate, work, and interact throughout their lives.

References

- American Psychological Association Zero Tolerance Task Force. (2008). Are zero tolerance policies effective in the schools? An evidentiary review and recommendations. *American Psychologist*, 63(9), 852–862. <https://doi.org/10.1037/0003-066X.63.9.852>.
- Anderson, M. D. (2015). *Where teachers are still allowed to spank students*. Retrieved from <http://www.theatlantic.com/education/archive/2015/12/corporal-punishment/420420/>
- Anyon, Y., Jenson, J. M., Altschul, I., Farrar, J., McQueen, J., Greer, E., et al. (2014). The persistent effect of race and the promise of alternatives to suspension in school discipline outcomes. *Children and Youth Services Review*, 44, 379–386. <https://doi.org/10.1016/j.childyouth.2014.06.025>.
- Archer, D. N. (2010). Introduction: Challenging the school-to-prison pipeline. *New York School Law Review*, 54, 867–872.
- Arcia, E. (2007). A comparison of elementary/K-8 and middle schools' suspension rates. *Urban Education*, 42(5), 456–469.
- Arcus, D. (2002). School shooting fatalities and school corporal punishment: A look at the states. *Aggressive Behavior*, 28(3), 173–183.
- Atkins, M. S., Frazier, S. L., Jakobson, L. J., Arvanitis, D., Cunningham, T., Brown, C., et al. (2002). Suspensions and detentions in an urban, low-income school: Punishment or reward? *Journal of Abnormal Child Psychology*, 30(4), 361–371.
- Bahena, S., Cooc, N., Currie-Rubin, R., Kuttner, P., & Ng, M. (Eds.). (2012). *Disrupting the school-to-prison pipeline*. Cambridge, MA: Harvard Educational Review.
- Balfanz, R., Herzog, L., & MacIver, D. (2007). Preventing student disengagement and keeping students on the graduation track in high-poverty middle-grades schools: Early identification and effective interventions. *Educational Psychologist*, 42, 223–235.
- Balfanz, R., Byrnes, V., & Fox, J. H. (2015). Sent home and put off track: The antecedents, disproportionalities, and consequences of being suspended in the 9th grade. In D. J. Losen (Ed.), *Closing the school discipline gap: Equitable remedies for excessive exclusion* (pp. 17–30). New York: Teachers College Press.
- Bear, C. G. (1995). Best practices in school discipline. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology III* (pp. 431–443). Washington, DC: National Association of School Psychologists.
- Beyer, L. E. (1998). “Uncontrolled students eventually become unmanageable”: The politics of classroom discipline. In R. E. Butchart & B. McEwan (Eds.), *Classroom discipline in American schools: Problems and possibilities for democratic education* (pp. 51–81). Albany: State University of New York Press.
- Bickel, F., & Qualls, R. (1980). The impact of school climate on suspension rates in the Jefferson County Public Schools. *Urban Review*, 12, 79–86.
- Bongiovanni, A. F. (1979). An analysis of research on punishment and its relation to the use of corporal punishment in the schools. In I. A. Hyman & J. H. Wise (Eds.), *Corporal punishment in American education: Readings in history, practice, and alternatives* (pp. 351–372). Philadelphia: Temple University Press.
- Bourdieu, P., & Passeron, J. C. (1977). *Reproduction in education, society, and culture*. Newbury Park: Sage.
- Bradshaw, C. P., Mitchell, M. M., O'Brennan, L. M., & Leaf, P. J. (2010). Multilevel exploration of factors contributing to the overrepresentation of black students in office disciplinary referrals. *Journal of Educational Policy*, 102, 508–520.
- Brantlinger, E. (1991). Social class distinctions in adolescents' reports of problems and punishments in school. *Behavioral Disorders*, 17, 36–46.
- Brooks, K., Schiraldi, V., & Zeidenbert, J. (1999). *School house hype: Two years later*. San Francisco: Center on Juvenile and Criminal Justice.
- Brophy, J. E. (1996). *Teaching problem students*. New York: Guilford.
- Brophy, J. E., & McCaslin, M. (1992). Teachers' reports of how they perceive and cope with problem students. *The Elementary School Journal*, 93, 3–68.

- Bryant, A. I., Schulenberg, J., Bachman, J. G., O'Malley, P. M., & Johnston, L. D. (2000). Understanding the links among school misbehavior, academic achievement, and cigarette use: A national panel study of adolescents. *Prevention Science, 1*(2), 71.
- Butchart, R. E. (1998). Punishments, penalties, prizes, and procedures: A history of discipline in U. S. schools. In R. E. Butchart & B. McEwan (Eds.), *Classroom discipline in American schools: Problems and possibilities for democratic education* (pp. 19–49). Albany: State University of New York Press.
- Butts, J. (2003). *Juvenile crime in D.C.* Washington, DC: Urban Institute Justice Policy Center.
- Cameron, M., & Sheppard, S. M. (2006). School discipline and social work practice: Application of research and theory to intervention. *Children and Schools, 28*(1), 15–24.
- Cantor, D., & Wright, M. M. (2001). *School crime patterns: A national profile of U. S. public schools using rates of crime reported to police*. Report on the Study of School Violence and Prevention. Washington, DC: U. S. Department of Education, Planning, and Evaluation Service.
- Center for Effective Discipline. (n.d.). Discipline at school. Retrieved from <http://stophitting.com/laws/legalInformation.php#StatesBanningCorporalPunishment>
- Children's Defense Fund. (1975). *School suspensions: Are they helping children?* Cambridge, MA: Children's Defense Fund.
- Christie, C., Nelson, M., & Jolivet, K. (2004). School characteristics related to the use of suspension. *Education and Treatment of Children, 27*, 509–526.
- Colvin, G., Kameenui, E. J., & Sugai, G. (1993). Reconceptualizing behavior management and school wide discipline in general education.
- Cohen, R. W. (2013). Reframing the problem: New institutionalism and exclusionary discipline in schools. *Journal of Educational Controversy, 7*(1), A6.
- Costenbader, V., & Markson, S. (1998). School suspension: A study with secondary school students. *Journal of School Psychology, 36*, 59–82.
- Davis, J. E., & Jordan, W. J. (1994). The effects of school context, structure, and experiences on African-American males in middle and high schools. *The Journal of Negro Education, 63*, 570–587.
- Dawson, D. A. (1991). Family structure and children's health and well-being: Data from the 1988 National Health Interview Survey on Child Health. *Journal of Marriage and Family, 53*, 573–584.
- Downey, D. B., Ainsworth, J. W., & Qian, Z. (2009). Rethinking the attitude-achievement paradox among blacks. *Sociology of Education, 82*, 1–19.
- Dupper, D. R., Theriot, M. T., & Craun, S. W. (2009). Reducing out-of-school suspensions: Practice guidelines for school social workers. *Children and Schools, 31*(1), 6–14.
- Durkheim, E. (1956). *Education and sociology* (trans: Fox, S.D.). Glencoe: Free Press.
- Durkheim, E. (1961). *Moral education: A study in the theory and application of the sociology of education* (trans: Wilson, E. K., & Schnurer, H.). New York: Free Press.
- Eden, D. (2003). Self-fulfilling prophecies in organizations. In J. Greenberg (Ed.), *Organizational behavior: The state of the science* Mahwah, NJ: Lawrence Erlbaum Associates (2nd ed., pp. 91–122).
- Ekstrom, R. B., Goertz, M. E., Pollack, J. M., & Rock, D. A. (1986). Who drops out of high school and why? Findings from a national study. *Teachers College Record, 87*, 357–373.
- Epp, J. R. (1996). Schools, complicity, and sources of violence. In J. R. Epp & A. M. Watkinson (Eds.), *Systemic violence: How schools hurt children* (pp. 1–23). Washington, DC: The Falmer Press.
- Fabelo, T., Thompson, M. D., Plotkin, M., Carmichael, D., Marchbanks, M. P., & Booth, E. A. (2011). *Breaking schools' rules: A statewide study of how school discipline relates to students' success and juvenile justice involvement*. New York: Council of State Governments Justice Center. Retrieved from http://knowledgecenter.csg.org/kc/system/files/Breaking_School_Rules.pdf
- Fine, M. (1991). *Framing dropouts: Notes on the politics of an urban high school*. Albany: State University of New York Press.
- Foucault, M. (1975). *Discipline and punish: the birth of the prison*. New York: Random House.
- Fremont, C., & Hamilton, S. R. (1997). Are schools failing black boys? *Parenting, 11*(3), 116.
- Friesen, J. P., Kay, A. C., Eibach, R. P., & Galinsky, A. D. (2014). Seeking structure in social organization: Compensatory control and the psychological advantages of hierarchy. *Journal of Personality and Social Psychology, 106*(4), 590–609.
- Furlong, M., Morrison, G., & Dear, J. (1994). Addressing school violence as part of schools' educational mission. *Preventing School Failure, 38*, 10–17.
- Gersch, I., & Nolan, A. (1994). Exclusions: What the children think. *Educational Policy in Practice, 10*, 35–45.
- Glasser, W. (1969). *Schools without failure*. New York: Harper & Row.
- Gonzalez, T. (2015). Socializing schools: Addressing racial disparities in discipline through restorative justice. In D. J. Losen (Ed.), *Closing the school discipline gap: Equitable remedies for excessive exclusion* (pp. 151–165). New York: Teachers College Press.
- Gregory, J. F. (1996). The crime of punishment: Racial and gender disparities in the use of corporal punishment in U.S. public schools. *The Journal of Negro Education, 64*, 454–462.
- Gregory, A., & Weinstein, R. S. (2008). The discipline gap and African Americans: Defiance or cooperation in the high school classroom. *Journal of School Psychology, 46*(4), 455–475.
- Gregory, A., Allen, J. P., Mikami, A. Y., Hafen, C. A., & Pianta, R. (2014a). Eliminating the racial disparity in classroom exclusionary discipline. *Journal of Applied Research on Children: Informing Policy for Children at Risk, 5*(2), A12.

- Gregory, A., Bell, J., & Pollock, M. (2014b). How educators can eradicate disparities in school discipline: A briefing paper on school-based interventions. Retrieved from http://www.indiana.edu/~atlantic/wpcontent/uploads/2014/03/Disparity_Interventions_Full_031214.pdf
- Gregory, A., Allen, J. P., Mikami, A. Y., Hafen, C. A., & Pianta, R. C. (2015). The promise of a teacher professional development program in reducing racial disparity in classroom exclusionary discipline. In D. J. Losen (Ed.), *Closing the school discipline gap: Equitable remedies for excessive exclusion* (pp. 166–179). New York: Teachers College Press.
- Hall, C. W., & Wahrman, E. (1988). Theoretical orientations and perceived acceptability of intervention strategies applied to acting-out behavior. *Journal of School Psychology, 26*, 195–198.
- Heitzeg, N. A. (2009). *Education or incarceration: Zero tolerance policies and the school to prison pipeline*. Urbana: Forum on Public Policy. Retrieved from <http://files.eric.ed.gov/fulltext/EJ870076.pdf>
- Henault, C. (2001). Zero tolerance in schools. *Journal of Law and Education, 30*(3), 547–553.
- Henry, S. E., & Abowitz, K. K. (1998). Interpreting Glasser's control theory: Problems that emerge from innate needs and predetermined ends. In R. E. Butchart & B. McEwan (Eds.), *Classroom discipline in American schools: Problems and possibilities for democratic education* (pp. 137–196). Albany: State University of New York.
- Hirschfield, P. J. (2008). Preparing for prison? The criminalization of school discipline in the USA. *Theoretical Criminology, 12*(1), 79–101.
- Hyman, I. A. (1988). Corporal punishment. In R. Gorton, G. Schneider, & J. Fischer (Eds.), *Encyclopedia of school administration and supervision* (pp. 79–80). New York: Oryx.
- Hyman, I. A. (1995). Corporal punishment, psychological maltreatment, violence, and punitiveness in America: Research, advocacy, and public policy. *Applied & Preventive Psychology, 4*, 113–130.
- Hyman, I. A. (1990). *Reading, writing, and the hickory stick: The appalling story of physical and psychological abuse in American schools*. Lexington: Lexington Books.
- Hyman, I. A. (1997). *School discipline and school violence: The teacher variance approach*. Boston: Allyn & Bacon.
- Hyman, I. A., & Perone, D. C. (1998). The other side of school violence: Educator policies and practices that may contribute to student misbehavior. *Journal of School Psychology, 36*, 7–27.
- Jimerson, S. R., Morrison, G. M., Pletcher, S. W., & Furlong, M. J. (2006). Youth engaged in antisocial and aggressive behaviors: Who are they? In S. R. Jimerson & M. J. Furlong (Eds.), *Handbook of school violence and school safety: From research to practice* (pp. 3–19). Mahwah: Lawrence Erlbaum Associates.
- Jost, J. T., Banaji, M. R., & Nosek, B. A. (2004). A decade of system justification theory: Accumulated evidence of conscious and unconscious bolstering of the status quo. *Political Psychology, 25*(6), 881–919.
- Kamentz, A. (2016). High school suspensions cost the country \$35 billion annually, report estimates. Retrieved from <http://www.npr.org/sections/ed/2016/06/02/480181488/high-school-suspensions-cost-the-country-35-billion-annually-report-estimates>
- Katz, M. B. (1975). *Class, bureaucracy, and schools: The illusion of educational change in America*. New York: Praeger.
- Khan, S. (2016). *When does equality flourish?* Retrieved from <http://www.newyorker.com/tech/elements/when-does-equality-flourish>
- Khazan, O. (2016). No spanking, no time-out, no problem. Retrieved from <http://www.theatlantic.com/health/archive/2016/03/no-spanking-no-time-out-no-problems/475440/>
- Knatznelson, I., & Weir, M. (1985). *Schooling for all: Class, race, and the decline of the democratic ideal*. New York: Basic Books.
- Krugman, R., & Krugman, M. (1984). Emotional abuse in the classroom. *American Journal of Diseases of Children, 138*, 284–286.
- Kupchik, A. (2010). *Homeroom security: School discipline in an age of fear*. New York: New York University Press.
- Kupchik, A., & Ellis, N. (2008). School discipline and security: Fair for all students? *Youth & Society, 39*(4), 549–574.
- Lazerson, M., & Grubb, W. N. (1974). *American education and vocationalism: A documentary history*. New York: Teachers College Press.
- Losen, D. J. (Ed.). (2015). *Closing the school discipline gap: Equitable remedies for excessive exclusion*. New York: Teachers College Press.
- Losen, D. J., & Martinez, T. E. (2013). Out of school and off track: The overuse of suspension in American middle and high schools. Retrieved from <http://civilrightsproject.ucla.edu/resources/projects/center-for-civil-rights-remedies/school-to-prison-folder/federal-reports/out-of-school-and-off-track-the-overuse-of-suspensions-in-american-middle-and-high-schools>
- Losen, D. J., Hodson, C., Keith, M. A., II, Morrison, K., & Belway, S. (2015). *Are we closing the school discipline gap?* Los Angeles: Center for Civil Rights Remedies.
- Mallet, C. A. (2014). The “learning disabilities to juvenile detention” pipeline: A case study. *Children and Schools*. Advance online publication. <https://doi.org/10.1093/cs/cdu010>
- Mannheim, K., & Stewart, W. A. C. (1962). *An introduction to the sociology of education*. London: Routledge & Kegan Paul.
- Marchbanks, M. P., Blake, J. J., Smith, D., Seibert, A. L., & Carmichael, D. (2014). More than a drop in the bucket: The social and economic costs of dropouts and grade retentions associated with exclusionary discipline. *Journal of Applied Research on Children: Informing Policy for Children at Risk, 5*(2), A17.

- Marchbanks, M. P., Blake, J. J., Booth, E. A., Carmichael, D., Seibert, A. L., & Fabelo, T. (2015). The economic effects of exclusionary discipline on grade retention and high school dropout. In D. J. Losen (Ed.), *Closing the school gap: Equitable remedies for excessive exclusion* (pp. 59–74). New York: Teachers College Press.
- Maurer, A. (1990). Corporal punishment in the public schools. *Humanistic Psychologist, 19*, 30–47.
- McEwan, B. (1998). Contradiction, paradox, and irony: The world of classroom management. In R. E. Butchart & B. McEwan (Eds.), *Classroom discipline in American schools: Problems and possibilities for democratic education* (pp. 135–155). Albany: State University of New York Press.
- McIntosh, K., Girvan, E. J., Horner, R. H., & Smolkowski, K. (2014). Education not incarceration: A conceptual model for reducing racial and ethnic disproportionality in school discipline. *Journal of Applied Research on Children: Informing Policy for Children at Risk, 5*(2), A4.
- McNeal, L., & Dunbar, C., Jr. (2010). In the eyes of the beholder: Urban student perceptions of zero tolerance policy. *Urban Education, 45*(3), 293–311.
- Medina, J., & Lewin, T. (2003). High school under scrutiny for giving up on its students. Retrieved from <http://www.nytimes.com/2003/08/01/nyregion/high-school-under-scrutiny-for-giving-up-on-itsstudents.html?scp=1&high%20school%20under%20scrutiny%20for%20giving%20up%20&st=cse>
- Merton, R. K. (1968). *Social theory and social structure*. New York: Free Press.
- Monahan, T., & Torres, R. D. (2010). Introduction. In T. Monahan & R. D. Torres (Eds.), *Schools under surveillance: Cultures of control in public education* (pp. 1–18). New Brunswick: Rutgers University Press.
- Mullet, J. H. (2014). Restorative discipline: From getting even to getting well. *Children and Schools*. Advance online publication. <https://doi.org/10.1093/cs/cdu011>
- National Association of School Psychologists. (2006). *Zero tolerance and alternative strategies: A fact sheet for educators and policymakers*. Bethesda: NASP.
- National Center for Educational Statistics. (2000). *School survey on crime and safety*. U. S. Department of Education. Retrieved from <http://www.Neces.ed.gov/>
- Neil, S. B. (1976). *Suspensions and expulsions: Current trends in school policies & programs*. Arlington: National School Public Relations Association.
- Newcomb, M. D., Abbott, R. D., Catalano, R. F., Hawkins, J. D., Battin-Pearson, S., & Hill, K. (2002). Mediational and deviance theories of late high school failure: Process roles of structural strains, academic competence, and general versus specific problem behavior. *Journal of Counseling Psychology, 49*(2), 172–186.
- Noguerra, P. A. (1995). Preventing and producing violence: A critical analysis of responses to school violence. *Harvard Educational Review, Summer* (pp. 189–212). Cambridge, MA: Harvard Education Publishing Group.
- Noguerra, P. A. (2003). Schools, prisons, and social implications of punishment: Rethinking disciplinary practices. *Theory Into Practice, 42*(4), 341–350.
- Osher, D., Dwyer, K., & Jimerson, S. R. (2006). Safe, supportive, and effective schools: Promoting school success to reduce school violence. In S. R. Jimerson & M. J. Furlong (Eds.), *Handbook of school violence and school safety: From research to practice* (pp. 51–71). Mahwah: Lawrence Erlbaum Associates.
- Osher, D. M., Poirer, J. M., Jarjoura, R., & Brown, R. C. (2015). Avoid quick fixes: Lessons learned from a comprehensive districtwide approach to improve conditions for learning. In D. J. Losen (Ed.), *Closing the school gap: Equitable remedies for excessive exclusion* (pp. 192–206). New York: Teachers College Press.
- Perry, B. L., & Morris, E. W. (2014). Suspending progress: Collateral consequences of exclusionary punishment in public schools. *American Sociological Review, 79*(6), 1067–1087. <https://doi.org/10.1177/0003122414556308>.
- Pianta, R. C., Hamre, B. K., & Stuhlman, M. (2002). How schools can do better: Fostering stronger connections between teachers and students. In J. E. Rhodes (Ed.), *New directions for youth development: A critical view of youth mentoring* (pp. 91–107). San Francisco: Jossey-Bass.
- Porter, T. R. (2015). The school-to-prison pipeline: The business side of incarcerating, not educating, students in public schools. *Arkansas Law Review, 68*, 55–81.
- Raffaele-Mendez, L. M., & Knoff, H. M. (2003). Who gets suspended from school and why: A demographic analysis of schools and disciplinary infractions in a large school district. *Education and Treatment of Children, 26*(1), 30–51.
- Raffaele-Mendez, L. M., Knoff, H. M., & Ferron, J. M. (2002). School demographic variables and out-of-school suspension rates: A quantitative and qualitative analysis of a large, ethnically diverse school district. *Psychology in the Schools, 39*(3), 259–277.
- Ramey, D. (2015). The social structure of criminalized and medicalized school discipline. *Sociology of Education, 88*(3), 181–201. <https://doi.org/10.1177/0038040715587114>.
- Rausch, M. K., & Skiba R. J. (2004). *Unplanned outcomes: Suspensions and expulsions in Indiana*. Retrieved from http://www.indiana.edu/~equity/docs/Zero_Tolerance_Effectiveness.pdf
- Resnick, M. D., Bearman, P. S., Blum, R. W., Bauman, K., Harris, K. M., Jones, J., . . . Udry, J. R. (1997). Protecting adolescents from harm: Findings from the National Longitudinal Study of Adolescent Health. *Journal of the American Medical Association, 278*, 823–832.
- Reyes, M. R., Brackett, M. A., Rivers, S. E., White, M., & Salovey, P. (2012). Classroom emotional climate, student engagement, and academic achievement. *Journal of Educational Psychology, 104*(3), 700–712.
- Ringer, M. M., Doerr, P. F., Hollenshead, J. H., & Willis, G. D. (1993). Behavior problems in the classroom: A national survey of interventions used by classroom teachers. *Psychology in the Schools, 30*, 168–175.
- Robers, S., Zhang, J., & Truman, J. (2010). *Indicators of school crime and safety: 2010 (NCES 2011-002/NCJ*

- 230812). Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics, Office of Justice Programs, and U.S. Department of Education, National Center for Education Statistics.
- Rosa, J., Keelan, K., & Krueger, J. (2015). *Alternatives to zero tolerance: Best practice summary*. Retrieved from <https://www.cde.state.co.us/dropoutprevention/bestpracticesalternativestozerotolerance>
- Rossow, L. F., & Parkinson, J. (1999). *The law of student expulsions and suspensions*. Dayton: Education Law Association.
- Rothstein, S. W. (1984). *The power to punish: A social inquiry into coercion and control in urban schools*. New York: University Press of America.
- Rothstein, S. W. (1996). *Schools and society: New perspectives in American Education*. Englewood Cliffs: Merrill.
- Rumberger, R. W., & Losen, D. J. (2016). *The high cost of harsh discipline and its disparate impact*. Retrieved from <https://www.civilrightsproject.ucla.edu/resources/projects/center-for-civil-rights-remedies/school-to-prison-folder/federal-reports/the-high-cost-of-harsh-discipline-and-its-disparate-impact/rumberger-losen-hi-cost-discipline-2016.pdf>
- Safer, D. (1986). The stress of secondary school for vulnerable students. *Journal of Youth and Adolescence*, 15, 405–417.
- Schwartz, B. (1989). *Psychology of learning and behavior* (3rd ed.). New York: W. W. Norton.
- Scott, T., Nelson, C. M., & Liaupsin, C. J. (2001). Effective instruction: The forgotten component in preventing school violence. *Education and Treatment of Children*, 24(3), 309–322.
- Shafii, M., & Shafii, S. L. (2001). *School violence: Assessment, management, prevention*. Washington, DC: American Psychiatric Publishing.
- Sharkey, J. D., & Fenning, P. A. (2012). Rationale for designing school contexts in support of proactive discipline. *Journal of School Violence*, 11(2), 95–104.
- Shaw, S. R., & Braden, J. P. (1990). Race and gender bias in the administration of corporal punishment. *School Psychology Review*, 19, 378–383.
- Sheets, R. H. (1996). Urban classroom conflict: Student-teacher perception, ethnic integrity, solidarity, and resistance. *Urban Review*, 28, 165–183.
- Shollenberger, T. L. (2015). Racial disparities in school suspension and subsequent outcomes: Evidence from the National Longitudinal Study of Youth. In D. J. Losen (Ed.), *Closing the school gap: Equitable remedies for excessive exclusion* (pp. 31–43). New York: Teachers College Press.
- Sizer, T. R. (1984). *Horace's compromise: The dilemma of the American high school*. Boston: Houghton Mifflin.
- Skiba, R. (2001). When is disproportionality discrimination? In W. Ayers, B. Dohm, & R. Ayers (Eds.), *Zero tolerance: Resisting the drive for punishment in our schools: A handbook for parents, students, educators, and citizens* (pp. 176–187). New York: New Press.
- Skiba, R. J., & Losen, D. J. (2015). *From reaction to prevention: Turning the page on school discipline*. Retrieved from the American Federation of Teachers website: http://www.aft.org/ae/winter2015-2016/skiba_losen
- Skiba, R., & Peterson, R. (1999). The dark side of zero tolerance: Can punishment lead to safe schools? *Phi Delta Kappan*, 80(5), 372–382.
- Skiba, R., & Sprague, J. (2008). Safety without suspensions. Retrieved from http://www.pbis.org/common/cms/files/Coach_Trainer/Articles/Safety%20Without%20Suspensions.pdf
- Skiba, R., Peterson, R. L., & Williams, T. (1997). Office referrals and suspension: Disciplinary intervention in middle schools. *Education and Treatment of Children*, 20(3), 295–313.
- Skiba, R., Michael, R. S., Nardo, A. C., & Peterson, R. L. (2002). The color of discipline: Sources of racial and gender disproportionality in school punishment. *Urban Review*, 34, 317–342.
- Skiba, R. J., Arredondo, M. I., & Rausch, M. K. (2014a). *New and developing research on disparities in discipline*. Retrieved from http://www.indiana.edu/~atlanatic/wp-content/uploads/2014/12/Disparity_NewResearch_Full_121114.pdf
- Skiba, R. J., Amedondo, M. I., & Williams, N. T. (2014b). More than a metaphor: The contribution of exclusionary discipline to a school-to-prison pipeline. *Equity and Excellence in Education*, 47, 546–564.
- Skiba, R. J., Chung, C., Trachok, M., Baker, T. L., Sheya, A., & Hughes, R. L. (2014c). Parsing disciplinary disproportionality: Contributions of infraction, student, and school characteristics to out-of-school suspension and expulsion. *American Educational Research Journal*, 51(4), 640–670. <https://doi.org/10.3102/0002831214541670>.
- Skiba, R. J., Chung, C., Trachok, M., Baker, T., Sheya, A., & Hughes, R. (2015). Where should we intervene? Contributions of behavior, student, and school characteristics to out-of-school suspension. In D. J. Losen (Ed.), *Closing the school discipline gap: Equitable remedies for excessive exclusion* (pp. 132–146). New York: Teachers College Press.
- Spencer, M. J. (1999). *Corporal punishment and crime: A theoretical model and some empirical data*. Paper presented at the Department of Criminal Justice, Indiana University. Publication of the Family Violence Research Program of the Family Research Laboratory. Durham: University of New Hampshire.
- Spencer, M. B., Noll, E., Stoltzfus, J., & Harpalani, V. (2001). Identity and school adjustment: Revisiting the 'acting white' assumption. *Educational Psychologist*, 36, 21–30.
- Steinberg, M. P., Allensworth, E., & Johnson, D. W. (2015). What conditions support safety in urban schools? The influence of school organizational practices on student and teacher reports of safety in Chicago. In D. J. Losen (Ed.), *Closing the school gap: Equitable remedies for excessive*

- exclusion (pp. 118–131). New York: Teachers College Press.
- Strauss, M. A. (1989). *Corporal punishment and crime: A theoretical model and some empirical data*. Durham: Family Violence Research Program of the Family Research Laboratory, University of New Hampshire.
- Terriquez, V., Chlala, R., & Sacha, J. (2013). *The impact of punitive high school discipline practices on the post-secondary trajectories of young men*. Retrieved from http://pathways.gseis.ucla.edu/publications/Discipline_Report.pdf
- Theriot, M. T., Craun, S. W., & Dupper, D. R. (2010). Multilevel evaluation of factors predicting school exclusion among middle and high school students. *Children and Youth Services Review, 32*(1), 13–19.
- Tobin, T., Sugai, G., & Colvin, G. (1996). Patterns in middle school discipline records. *Journal of Emotional and Behavioral Disorders, 4*(2), 82–94.
- Toldson, I. A., McGee, T., & Lemmons, B. P. (2015). Reducing suspensions by improving academic engagement among school-age black males. In D. J. Losen (Ed.), *Closing the school discipline gap: Equitable remedies for excessive exclusion* (pp. 107–117). New York: Teachers College Press.
- Townsend, B. L. (2000). The disproportionate discipline of African American learners: Suspensions and expulsions. *Exceptional Children, 66*(3), 381–391.
- Tyack, D. B. (1974). *The one best system: A history of American urban education*. Cambridge, MA: Harvard University Press.
- U. S. Department of Education, National Center for Education Statistics. (2007). *The condition of education 2007 (NCES 2007–064)*. Washington, DC: U. S. Government Printing Office.
- United States Department of Education Office for Civil Rights. (2014). *Data snapshot: School discipline*. Retrieved from <http://ocrdata.ed.gov/Downloads/CRDC-School-Discipline-Snapshot.pdf>
- Welch, K., & Payne, A. A. (2010). Racial threat and punitive school discipline. *Social Problems, 57*(1), 25–48.
- Williams, J. (1979). In-school alternatives to suspension: Why bother? In A. M. Garibaldi (Ed.), *In-school alternatives to suspension: Conference report*. Washington, DC: U. S. Department of Health, Education, and Welfare.
- Wright, A. C. (2015). *Teachers' perceptions of students' disruptive behavior: The effect of racial congruence and consequences for school suspension*. Retrieved from https://c1bbe572-a-62cb3a1a-ssites.googlegroups.com/site/adamcwright1/Race%20Match%2C%20Disruptive%20Behavior%2C%20and%20School%20Suspension.pdf?attachauth=ANoY7cqiz9I30dLGrQxI dpOa kU58waVRkqtq0wCvHaXwkfzVIIJ79VLe5xT8tF4XphDI5DWRuTzNpjbA57B2GoJi8r1B7W_hHSTfW9QIVlqzSF8HwXe4Bnh8sEoKmBdNUjUWmtj_a33_E5y9sYNe5mkujpsbXa-Obqu53j_rHOpUQbJ7mq4a5WuQ2Dxs9OAXnniHzBGa14q7sf5c7R2BiLnSFXP8QGxxkR9alhbczLlKLTGKsDFq4Rg4NK8ulC CVAw81oO3WbG-oX5jJDJo-ZkPDBINzfnA%3D%3D&attredirects=2
- Wu, S. C., Pink, W. T., Crain, R. L., & Moles, O. (1982). Student suspension: A critical reappraisal. *The Urban Review, 14*, 245–303.

School Refusal Behavior and Absenteeism

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Overview

School absenteeism has grown nationally and internationally as a serious issue that affects the long-term functioning of adolescents. Researchers have grappled with the problem of school absenteeism for decades, and while much knowledge has been gained, a great disparity exists across professional fields. School absenteeism and school refusal behavior are associated with myriad behavior problems and contextual variables, though some researchers have developed effective clinical and systemic intervention strategies. A summary of key findings and issues in this area is presented in this entry.

Key Definitions

Problematic absenteeism refers to unexcused absences from school leading to detrimental effects for a youth. Problematic school absenteeism has no consensual definition but may involve school-aged youths who (1) have missed at least 25% of total school time for at least 2 weeks, (2) experience severe difficulty attending classes for at least 2 weeks with significant interference in a child's or family's daily routine, and/or (3) are absent for at least 10 days of school during any 15-week period while school is in session, with any daily absence defined as 25% or more of school time missed. Problematic school

School Refusal Behavior and Absenteeism, Table 1 Key terms associated with problematic school absenteeism in adolescents

| | |
|--------------------------------|---|
| <i>Absenteeism</i> | Legitimate or illegitimate absence from class or school |
| <i>School dropout</i> | Premature and permanent departure from school before graduation |
| <i>School phobia</i> | Fear-based absenteeism |
| <i>School refusal</i> | Anxiety-based absenteeism |
| <i>School refusal behavior</i> | Child-motivated refusal to attend school and/or difficulties remaining in classes for an entire day |
| <i>School withdrawal</i> | Parent-motivated absenteeism |
| <i>Truancy</i> | Illegal absence from school or unexcused absence without parental knowledge |

absenteeism may be an adolescent's primary behavior problem but may also be embedded within larger problems such as anxiety, mood, or disruptive behavior disorders as well as family, school, and community exigencies.

Problematic school absenteeism has been historically studied by researchers in psychology, education, criminal justice, social work, medicine, and other disciplines. As such, various terms have been used to describe youths with problematic absenteeism. These terms are listed and defined in Table 1. A common term utilized by clinical child psychologists is school refusal behavior, which refers to a child-motivated refusal to attend school and/or difficulties remaining in classes for an entire day. This includes youths who miss days or weeks of school, display partial absenteeism such as skipped classes, express morning misbehaviors in an attempt to miss school, demonstrate chronic tardiness, or show great duress when attending school. School withdrawal refers to parents who deliberately keep a youth home from school, but the focus of this entry will be on child-motivated school refusal behavior.

Populations Generally Studied

Clinical child psychologists generally focus on school refusal or anxiety-based absenteeism, whereas criminal justice and social work experts often focus on truancy or delinquency-based absenteeism. A distinction between school refusal and truancy is common among mental health professionals, but substantial overlap in symptomatology exists across the two groups. Both groups, for example, display frequent and

problematic absenteeism, a mixture of internalizing and externalizing behavior problems, academic and social difficulties at school, and short- and long-term negative consequences of absenteeism. Common internalizing symptoms in this population include general and social anxiety, depression, fear, somatic complaints, worry, fatigue, and self-consciousness. Common externalizing symptoms in this population include running away from home or school, tantrums, noncompliance, defiance, and verbal and physical aggression.

The prevalence of problematic school absenteeism is substantial. Chronic absenteeism, defined as 10+% days missed, affects 14–15% of American students. This figure does not include youths who skip certain classes, are chronically tardy to school, display morning misbehaviors in an attempt to refuse school, and have substantial distress while attending school that precipitated pleas for future nonattendance. Such youths are commonly seen by clinicians, meaning the overall rate of problematic school absenteeism may be as high as 28–35%. The national graduation rate is 81%. School dropout is particularly problematic in low-income countries, with a rate of 41%. Countries in sub-Saharan Africa are among the worst performers.

Key concomitants of problematic school absenteeism include dangerous or debilitating behaviors such as excessive substance use, violence, suicide attempt, risky sexual behavior, teenage pregnancy, delinquency-related behaviors, injury, illness, and school dropout. Common short-term consequences of absenteeism include academic decline, social alienation, family conflict, and legal ramifications. Longitudinal studies

reveal severe consequences of problematic school absenteeism into adulthood, including economic deprivation and social, occupational, marital, and psychiatric problems.

Measures and Measurement Issues

The evaluation of adolescents with problematic school absenteeism or school refusal behavior typically involves a behavioral assessment approach. This approach often includes structured diagnostic interviews, behavioral observation, review of academic and attendance records, formal testing, and child, parent, and teacher questionnaires regarding internalizing and externalizing behavior problems. Measures cover various forms and functions of school refusal behavior. School absenteeism is a fluid problem that involves frequent changes in attendance and symptom patterns. As such, daily monitoring of attendance and associated behavioral problems is a key aspect of the assessment process.

Several measurement issues are evident for this population. First, no standard protocol exists for assessing this population and little comparability across publications is evident. Part of this is due to use of varying terminology to define absenteeism and part is due to a lack of multidisciplinary work regarding this population. Psychologists, for example, commonly study anxiety-based school refusal idiographically, but criminal justice experts commonly study delinquent-based truancy nomothetically. Such disparity has led to considerable difficulty for researchers trying to compare findings and for clinicians trying to design an appropriate assessment and treatment plan for a particular adolescent.

Another key measurement issue is that many contextual risk factors impact problematic school absenteeism, among these parent, family, peer, school, and community factors. Cases of school refusal behavior commonly involve complex clinical pictures such as child psychopathology with extensive family dysfunction and school-related and other problems. As mentioned, problematic school absenteeism may be a primary problem or

one embedded within other exigencies. Furthermore, the etiology of many of these cases is not typically understood. Researchers are thus faced with the challenge of sorting through a myriad of contextual factors to develop conceptual models or taxonomies for this population, and clinicians are faced with the challenge of determining type and quantity of resources to devote to a particular case.

Intervention

Intervention for problematic school absenteeism and school refusal behavior involves clinical and systemic strategies often arranged in multitier fashion. Clinical strategies for emerging cases are typically cognitive-behavioral in nature and focus on adolescent-based anxiety management, gradual re-exposure to the school setting, cognitive restructuring to modify irrational thoughts, and problem-solving techniques to address obstacles to attendance. Parent-based contingency management techniques are also commonly employed to provide incentives and disincentives for attendance and nonattendance, respectively, as well as to provide effective commands, establish set morning routines, and extinguish inappropriate behavior. Adolescents with school refusal behavior often require a family-based approach, particularly one involving contingency contracting to provide tangible rewards for attendance and increase parental and school personnel supervision. Clinicians also recommend escorting an adolescent to class if necessary, helping an adolescent refuse offers from others to miss school, and using journals that require daily signatures from teachers to verify attendance.

Systemic strategies have also been designed to decrease school absenteeism in adolescents on a larger scale. These strategies may be preventative in nature or used to address severe and chronic cases of school refusal behavior. Key examples include restructuring the role of the homeroom teacher to identify and help address youths at risk for extended absenteeism, utilizing peers as monitoring and reinforcing agents to enhance

attendance, maintaining a student's peer group across classes to increase motivation to attend school, and providing quick feedback to parents about absences. Other examples include establishing school-based rewards for attendance, developing self-contained or alternative educational units to increase supervision of high-risk youth, implementing summer bridge and other academic programs to ease the transition between schools, customizing curriculum and instruction programs so they are tailored to a student's individual academic needs, providing intensive case management and wraparound services, and providing court referral and health-based services within the school building. Clinical and systemic interventions have been found effective for reducing absenteeism among adolescents, though many adolescents and their parents lack access to such services.

Gaps in Knowledge

Research regarding adolescents with school refusal behavior has burgeoned in the past 20 years, but many issues remain. A key issue is a wide disparity among researchers in different fields regarding the definition, conceptualization, assessment, and treatment of adolescents with problematic absenteeism. Little consensus has thus emerged about the best methods of addressing individual youths with school refusal behavior. Another key issue is that assessment and treatment protocols fail to address the many contextual factors associated with problematic absenteeism, including school- and community-related variables.

Finally, little work has been done regarding large-scale prevention of absenteeism on a systemic scale. Future work must focus on a triage system of care for this population that arranges services based on the severity and complexity of cases. Such a triage model would also allow for distribution of therapeutic resources given the scope of a particular case and may involve the degree to which teams of professionals are needed across psychology, education, criminal justice, and social work.

Major Theorists and Researchers

The research group authoring this entry has been active in studying youths with problematic school absenteeism and school refusal behavior (see "References"), but other researchers have been active as well in the United States, Australia, Canada, Netherlands, France, Japan, and India. Readers are referred to the work of Robert Balfanz, Gail Bernstein, Kim Henry, David Heyne, Neville King, Cynthia Last, Ken Reid, and others. Readers should also peruse literature from various fields (e.g., psychology, education, social work, criminal justice, medicine, nursing) to access contemporary findings regarding problematic school absenteeism.

References

- Balfanz, R., Bridgeland, J. M., Fox, J. H., DePaoli, J. L., Ingram, E. S., & Maushard, M. (2014). *Building a graduation: Progress and challenge in ending the high school dropout epidemic*. Retrieved from <http://www.americaspromise.org/building-grad-nation-report>
- Bernstein, G. A., Massie, E. D., Thuras, P. D., Perwien, A. R., Borchardt, C. M., & Crosby, R. D. (1997). Somatic symptoms in anxious-depressed school refusers. *Journal of the American Academy of Child and Adolescent Psychiatry*, *36*, 661–668.
- Bernstein, G. A., Borchardt, C. M., Perwien, A. R., Crosby, R. D., Kushner, M. G., Thuras, P. D., & Last, C. G. (2000). Imipramine plus cognitive-behavioral therapy in the treatment of school refusal. *Journal of the American Academy of Child and Adolescent Psychiatry*, *39*, 276–283.
- DeSocio, J., VanCura, M., Nelson, L. A., Hewitt, G., Kitzman, H., & Cole, R. (2007). Engaging truant adolescents: Results from a multifaceted intervention pilot. *Preventing School Failure*, *51*, 3–11.
- Egger, H. L., Costello, E. J., & Angold, A. (2003). School refusal and psychiatric disorders: A community study. *Journal of the American Academy of Child and Adolescent Psychiatry*, *42*, 797–807.
- Eisen, A. R., & Engler, L. B. (2006). *Helping your child overcome separation anxiety or school refusal: A step-by-step guide for parents*. Oakland: New Harbinger.
- EPE Research Center. (2008). *Closing the graduation gap: Educational and economic conditions in America's largest cities*. Bethesda: Editorial Projects in Education.
- Evans, L. D. (2000). Functional school refusal subtypes: Anxiety, avoidance, and malingering. *Psychology in the Schools*, *37*, 183–191.

- Fantuzzo, J., Grim, S., & Hazan, H. (2005). Project START: An evaluation of a community-wide school-based intervention to reduce truancy. *Psychology in the Schools, 42*, 657–667.
- Henry, K. L. (2007). Who's skipping school: Characteristics of truants in 8th and 10th grade. *Journal of School Health, 77*, 29–35.
- Henry, K. L., & Huizinga, D. H. (2007). Truancy's effect on the onset of drug use among urban adolescents placed at risk. *Journal of Adolescent Health, 40*, 358.e9–358.e17.
- Heyne, D., & Rollings, S. (2002). *School refusal*. Malden: BPS Blackwell.
- Heyne, D., King, N. J., Tonge, B. J., & Cooper, H. (2001). School refusal: Epidemiology and management. *Paediatric Drugs, 3*, 719–732.
- Heyne, D., King, N. J., Tonge, B. J., Rollings, S., Young, D., Pritchard, M., & Ollendick, T. H. (2002). Evaluation of child therapy and caregiver training in the treatment of school refusal. *Journal of the American Academy of Child and Adolescent Psychiatry, 41*, 687–695.
- Hibbett, A., & Fogelman, K. (1990). Future lives of truants: Family formation and health-related behaviour. *British Journal of Educational Psychology, 60*, 171–179.
- Hibbett, A., Fogelman, K., & Manor, O. (1990). Occupational outcomes of truancy. *British Journal of Educational Psychology, 60*, 23–36.
- Inoue, K., Tani, H., Nishimura, Y., Masaki, M., Nishida, A., Kajiki, N., Okazaki, Y., & Ono, Y. (2008). Current state of refusal to attend school in Japan. *Psychiatry and Clinical Neurosciences, 62*, 622.
- Johnson, A. M., Falstein, E., Szurek, S. A., & Svendsen, M. (1941). School phobia. *American Journal of Orthopsychiatry, 11*, 702–711.
- Kearney, C. A. (2001). *School refusal behavior in youth: A functional approach to assessment and treatment*. Washington, DC: American Psychological Association.
- Kearney, C. A. (2003). Bridging the gap among professionals who address youth with school absenteeism: Overview and suggestions for consensus. *Professional Psychology: Research and Practice, 34*, 57–65.
- Kearney, C. A. (2007a). *Getting your child to say "yes" to school: A guide for parents of youth with school refusal behavior*. New York: Oxford.
- Kearney, C. A. (2007b). Forms and functions of school refusal behavior in youth: An empirical analysis of absenteeism severity. *Journal of Child Psychology and Psychiatry, 48*, 53–61.
- Kearney, C. A. (2008a). An interdisciplinary model of school absenteeism in youth to inform professional practice and public policy. *Educational Psychology Review, 20*, 257–282.
- Kearney, C. A. (2008b). School absenteeism and school refusal behavior in youth: A contemporary review. *Clinical Psychology Review, 28*, 451–471.
- Kearney, C. A. (2008c). *Helping school refusing children and their parents: A guide for school-based professionals*. New York: Oxford.
- Kearney, C. A. (2016). *Managing school absenteeism at multiple tiers: An evidence-based and practical guide for professionals*. New York: Oxford.
- Kearney, C. A., & Albano, A. M. (2004). The functional profiles of school refusal behavior: Diagnostic aspects. *Behavior Modification, 28*, 147–161.
- Kearney, C. A., & Albano, A. M. (2007). *When children refuse school: A cognitive-behavioral therapy approach/Therapist guide*. New York: Oxford.
- Kearney, C. A., & Bates, M. (2005). Addressing school refusal behavior: Suggestions for frontline professionals. *Children and Schools, 27*, 207–216.
- Kearney, C. A., & Graczyk, P. A. (2014). A Response to Intervention model to promote school attendance and decrease school absenteeism. *Child and Youth Care Forum, 43*, 1–25.
- Kearney, C. A., & Silverman, W. K. (1999). Functionally-based prescriptive and nonprescriptive treatment for children and adolescents with school refusal behavior. *Behavior Therapy, 30*, 673–695.
- King, N. J., & Bernstein, G. A. (2001). School refusal in children and adolescents: A review of the past 10 years. *Journal of the American Academy of Child and Adolescent Psychiatry, 40*, 197–205.
- King, N. J., Tonge, B. J., Heyne, D., Pritchard, M., Rollings, S., Young, D., Myerson, N., & Ollendick, T. H. (1998). Cognitive-behavioral treatment of school-refusing children: A controlled evaluation. *Journal of the American Academy of Child and Adolescent Psychiatry, 37*, 395–403.
- Last, C. G., Hansen, C., & Franco, N. (1998). Cognitive-behavioral treatment of school phobia. *Journal of the American Academy of Child and Adolescent Psychiatry, 37*, 404–411.
- Layne, A. E., Bernstein, G. A., Egan, E. A., & Kushner, M. G. (2003). Predictors of treatment response in anxious-depressed adolescents with school refusal. *Journal of the American Academy of Child and Adolescent Psychiatry, 42*, 319–326.
- Lazarus, A. A., Davison, G. C., & Polefka, D. A. (1965). Classical and operant factors in the treatment of a school phobia. *Journal of Abnormal Psychology, 70*, 225–229.
- Lever, N., Sander, M. A., Lombardo, S., Randall, C., Axelrod, J., Rubenstein, M., & Weist, M. D. (2004). A drop-out prevention program for high-risk inner-city youth. *Behavior Modification, 28*, 513–527.
- Liang, H., Flisher, A. J., & Chalton, D. O. (2002). Mental and physical health of out of school children in a South African township. *European Child and Adolescent Psychiatry, 11*, 257–260.
- Lyon, A. R., & Cotler, S. (2007). Toward reduced bias and increased utility in the assessment of school refusal behavior: The case for divergent samples and evaluation of context. *Psychology in the Schools, 44*, 551–565.

- Lyon, A. R., & Cotler, S. (2009). Multi-systemic intervention for school refusal behavior: Integrating approaches across disciplines. *Advances in School Mental Health Promotion, 2*, 20–34.
- McCluskey, C. P., Bynum, T. S., & Patchin, J. W. (2004). Reducing chronic absenteeism: An assessment of an early truancy initiative. *Crime and Delinquency, 50*, 214–234.
- McShane, G., Walter, G., & Rey, J. M. (2001). Characteristics of adolescents with school refusal. *Australian and New Zealand Journal of Psychiatry, 35*, 822–826.
- Mogulescu, S., & Segal, H. (2002). *Approaches to truancy prevention*. New York: Vera Institute of Justice, Youth Justice Program.
- National Center for Education Statistics. (2006). *The condition of education 2006*. Washington, DC: US Department of Education.
- Pina, A. A., Zerr, A. A., Gonzales, N. A., & Ortiz, C. D. (2009). Psychosocial interventions for school refusal behavior in children and adolescents. *Child Development Perspectives, 3*, 11–20.
- Reid, K. (2003). A strategic approach for tackling school absenteeism and truancy: The PSCC scheme. *Educational Studies, 29*, 351–371.
- Reid, K. (2007). The views of learning mentors on the management of school attendance. *Mentoring and Tutoring, 15*, 39–55.
- Richtman, K. S. (2007). The truancy intervention program of the Ramsey County Attorney's Office: A collaborative approach to school success. *Family Court Review, 45*, 421–437.
- Shoenfelt, E. L., & Huddleston, M. R. (2006). The Truancy court diversion program of the family court, warren circuit court division III, Bowling Green, Kentucky: An evaluation of impact on attendance and academic performance. *Family Court Review, 44*, 683–695.
- Sinclair, M. F., Christenson, S. L., Evelo, D. L., & Hurley, C. M. (1998). Dropout prevention for youth with disabilities: Efficacy of a sustained school engagement procedure. *Exceptional Children, 65*, 7–22.
- Sutphen, R. D., Ford, J. P., & Flaherty, C. (2010). Truancy interventions: A review of the research literature. *Research on Social Work Practice, 20*, 161–171.
- Teasley, M. L. (2004). Absenteeism and truancy: Risk, protection, and best practice implications for school social workers. *Children and Schools, 26*, 117–128.
- Thambirajah, M. S., Grandison, K. J., & De-Hayes, L. (2008). *Understanding school refusal: A handbook for professionals in education, health and social care*. Philadelphia: Kingsley.
- Tolin, D. F., Whiting, S., Maltby, N., Diefenbach, G. J., Lothstein, M. A., Harcastle, S., Catalano, A., & Gray, K. (2009). Intensive (daily) behavior therapy for school refusal: A multiple baseline case series. *Cognitive and Behavioral Practice, 16*, 332–344.
- Tramontina, S., Martins, S., Michalowski, M. B., Ketzner, C. R., Eizirik, M., Biederman, J., & Rohde, L. A. (2001). School dropout and conduct disorder in Brazilian elementary school students. *Canadian Journal of Psychiatry, 46*, 941–947.
- US Census Bureau. (2005). *Educational attainment in the United States: 2004*. Washington, DC: Author.
- White, M. D., Fyfe, J. J., Campbell, S. P., & Goldkamp, J. S. (2001). The school-police partnership: Identifying at-risk youth through a truant recovery program. *Evaluation Review, 25*, 507–532.
- Zhang, M. (2004). Time to change the truancy laws? Compulsory education: Its origin and modern dilemma. *Pastoral Care in Education, 22*, 27–33.

School Size

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Introduction

School size has been an issue of interest to scholars, educators, and policymakers alike for decades, although the perceived costs and benefits have changed over time. On the one hand, larger schools have often been viewed favorably due to the benefits of economies of scale that come from large size, including enhanced diversity of course offerings, lower per-pupil costs with respect to staffing, and greater variety of extracurricular and social opportunities for students (Robertson 2007). On the other hand, the benefits of small schools primarily have been viewed as relating to the closer connection that students form with their teachers, school administrators, and peers. Various studies have offered evidence to support both sets of findings, leading to a complex assessment of whether and how school size “matters” for student outcomes. Taken together, the body of research on school size has not yielded clear, definitive conclusions about the effects of size. Rather, the estimated effects vary – at times substantially – by the outcomes examined, the school setting under study, the particular size of

the schooling unit, and the research design itself. This essay examines these issues, and concludes by highlighting that research supporting the emerging belief that smaller schools are more effective is not robust and rests on thin evidence. It also concludes that the adoption of policies based on studies of school size can be problematic given the wide variety of factors that contribute to studies' outcomes.

Leading Initiatives and Studies

The current research focus on school size, to a great extent, stems from research on the academic and social shortcomings of large, comprehensive, "shopping mall" high schools (Powell et al. 1985). The last two decades of school reform in the USA have seen the emergence of a number of initiatives advocating for the restructuring of secondary schools into smaller educational units, such as the creation of schools-within-schools, in order to foster engagement, and thereby better academic outcomes, among students and between teachers and students (e.g., Fine 1991). Examples of these efforts include the Coalition of Essential Schools and the Carnegie Foundation's initiative, which focused on more personalized teaching and learning (Breaking ranks: Changing an American institution 1996; Sizer 1992); the Annenberg Foundation's emphasis on reducing students' alienation in schools (Smart schools/Smart kids: A proposal to the Annenberg Foundation to create the Chicago school reform collaboratives 1994); the Child Development Project's focus on restructuring schools to promote caring communities (Bryk and Schneider 2002; The child development project: Summary of the project and findings from three evaluation studies 1998); and most recently the U.S. Department of Education's Smaller Learning Communities Grants program (Education 2006). Perhaps the most prominent among these recent initiatives is that of the Bill and Melinda Gates Foundation, which, as of 2005, had invested more than \$800 million to create 2,000 small high schools, particularly ones that focus on underserved children of color (Targeted literature review of major constructs

and their components: Evaluating the national school district and network grants program 2002).

In general, school size has been studied at the macro and micro level. However, there has been little exploration of populations larger than singular districts or smaller than a nationally representative sample. The majority of research on school size has been conducted on middle and junior high schools and high schools. The studies that focus on elementary schools predominantly examine classroom size as opposed to school size. Due to these foci of exploration, most school-size examinations are done on larger populations using quantitative datasets and statistical analyses.

Much of the existing theoretical understanding of school size has been generated from data from the 1980s such as the 1979 National Longitudinal Survey of Youth, a nationally representative sample of 12,686 adolescents who were 14–22 years old in the base year of the survey, and were interviewed annually through 1994 and biannually through the present, by the Bureau of Labor Statistics. Some of the most relevant research on the topic of school size (e.g., Lee and Smith 1997) uses the National Educational Longitudinal Study of 1988 (NELS:88), conducted by the National Center for Education Statistics (NCES). NELS:88 was initiated in 1988 with a nationally representative cohort of eighth graders from public and private schools and followed up with the students in their tenth grade and senior years of high school as well as sophomore year of college and at age 24 approximately (1990, 1992, 1994, and 2000). Students completed questionnaires on a range of topics and were administered achievement tests for the first three waves of data collection (while they were still in school).

Two more recent nationally representative longitudinal studies have also been very important in school size research: The Early Childhood Longitudinal Study, Kindergarten Class of 1998–1999 (ECLS-K) and the Educational Longitudinal Study of 2002 (ELS:02), both conducted by the NCES. The ECLS-K is used primarily in research on elementary schools (e.g., Ready and Lee 2006), and followed kindergarteners (1998–1999) from public and private schools through eighth grade, following up with them in

1999–2000, 2002, 2004, and 2007. The study collected information from parents, teachers, and schools in addition to the students. ELS:02 is a nationally representative sample of over 16,000 students in 750 high schools and provides detailed information about the nation's high schools and students, following these students from the time they were high school sophomores through their high school careers and beyond. Follow-ups were conducted in 2004 and 2006, and the third follow-up is scheduled for 2012. Weiss et al. (2009) used this publicly available data to test the relationship among high school size, school engagement, and achievement finding similar relationships for school size to those found in Lee and Smith's groundbreaking work (1997) using NELS.

In addition to these national surveys, there have been a few localized studies that have contributed to the literature on school size. One of these studies, the Consortium on Chicago School Research has collected data biannually since 1991, surveying a sample of students, and all teachers and principals in the school system. Lee and Loeb (2000) used the Consortium's data on sixth and eighth graders and their schools, finding that small schools (fewer than 400 students) have a direct and indirect positive influence on student achievement, as teachers in small schools have a more positive attitude about their responsibility in students' education.

Factors Related to School Size

Research on school size encompasses a great variety of studies, with variation in findings based on level of schooling studied. Generally speaking, research on elementary school size has focused on size of classroom (Finn and Achilles 1999), while research on secondary school size has focused on the size of the aggregate unit (either total school or school-within-school subunit) (Cotton 2002). Below, research focusing on different units of aggregation is summarized.

Class Size

Class size refers to the number of students in an individual classroom, usually with one teacher.

Studies that focus on size at a class level are predominantly studies of elementary schools (kindergarten to fifth or sixth grade), due to the difficulty of measuring the impact of class size in secondary schools, where students switch classes multiple times a day. In the last decade, several school districts and even states have adopted small class-size policies as a means to enhance achievement at the elementary level. Many of these initiatives trace their roots to the findings of one of the most prominent randomized control trials in education research: the Tennessee Student/Teacher Achievement Ratio (STAR) class-size experiment. Project STAR was a 4-year class-size study that randomly assigned over 7,000 kindergarteners in 79 schools to one of three differently sized classes in 1985, and directly collected student and school level data including descriptive characteristics for grades K-3. Additionally, they collected follow-up data including achievement test scores from grades 4 to 8, high school course enrollment, SAT/ACT participation and scores, and graduation/dropout information (Hanushek 1999a, b). One of the few truly randomized, and widely publicized, experiments in education literature, Project STAR found that classes of approximately 20 students or less were significantly more effective on reading and math outcomes than classes of larger sizes (Hanushek 2002). Results were found to be most important for young students in kindergarten and were less substantial as students aged through the fourth year of the experiment. Many local and state policies have translated these findings into smaller class-size policies for all grades within elementary schools, although the effect of smaller class-size for later grades was not explored.

The quick acceptance of the findings on class size and the reflecting policy adoptions has proven to be problematic. For example, the state of California spent several billion dollars adopting small class-size policies but failed to recognize the strict conditions within which the experiment's positive results were valid. California failed to take into consideration the lack of comparability between California and Tennessee school students, staff, union regulations, school-financing procedures, etc. As a result, the state-initiated reform resulted

in unintended consequences such as a dramatic rise in demand for teachers that could not be met, resulting in an increasing number of uncredentialed teachers in classrooms (Ready and Lee 2006). These consequences suggest caution in the adoption of policies based on studies of class size, and similarly school size, as all findings have limitations.

Cohort Size

Cohort size in this context is equivalent to the number of students in a student's particular grade, and is therefore directly related to total school size, and may even provide a more accurate look at the size of a student's school community. It provides a measure of community size at a level between class size and school size, which can be particularly significant for secondary school students. Weiss et al. (2009) focus on this unique construct for two reasons. Primarily, classroom size is a measure used with children, not adolescents, to measure engagement. There is little exploration into school size as it relates to young children, as scholars assume that what is important to children who spend all day in one group is the size of that group (or class). However, the group secondary school students spend their day with is much broader than the students of one classroom, and therefore a different measure of community must be used. Also, to move too quickly from classroom size to school size overlooks a potential confounding factor of cohort size. Specific sizes of cohorts, as compared to or in conjunction with total school population, may have a unique impact on student engagement and achievement.

Much of a student's experience is conditioned by course sequencing and its organization by grade-level cohorts (Stevenson et al. 1994). As noted above, much research supports the theory that grade-level groups are also significant with regard to academic relationships (as compared to class-level groups). For example, Hallinan and Sorensen (1985) find that though ability groups are significant in student friendship networks, over time these groups overlap into larger grade-level formations. Consequently, as groups of adolescents proceed through similar course experiences bounded by grade level, this mechanism

serves as the primary vehicle through which peer relations develop and endure (Monk and Haller 1993). Therefore, for those in nonclassroom, grade-based schooling this measure should more closely reflect actual school experience.

School Type

Within the literature on school size, one of the most prominent concepts discussed is the variation in grade configuration or school type (e.g., K-8 school and Middle School), because it is so often related to school size. The literature on school size and school type generally has focused on assessing particular configurations of grades, particularly in examining the middle grades, or in the transitions to middle and high school. For the former, there is research questioning the ability of traditional middle schools to meet early adolescent needs (Eccles and Midgley 1989; Gootman 2007). In response, many districts are eliminating their middle schools in favor of K-8 schools, which contain kindergarten through eighth grade in one school. However, the benefits of K-8 schools, relative to middle schools, have not been consistently demonstrated (Weiss and Kipnes 2006).

In response to criticism about some of these varieties of school type and class size, other types of schools have developed. One particular type, the schools-within-schools movement (Huebner 2005), is designed to address concerns about student and faculty engagement in large schools, and is modeled after the belief that smaller school communities encourage greater engagement. Schools-within-schools are smaller educational units with separate programs, budget, staff, and students within a larger school building. They are often charter schools, which are publicly funded schools that operate without some of the same restrictions as traditional public schools (Fine 1994). These schools-within-schools also may function as magnet schools using a particular curricular focus to guide the coursework across all subjects. There has been minimal research on schools-within-schools thus far, but the existing research shows that given the opportunity to select their own subunit based on academic interest, students tend to sort themselves into groups of similar racial and socioeconomic characteristics,

as well as by academic ability (Lee and Ready 2007; Ready and Lee 2004, 2006, 2008). Such sorting highlights important unintended consequences of small schools or schools-within-schools, which may replicate the sorting and tracking mechanisms of larger schools.

Demographic Variation

Another way in which schools commonly vary with regard to size is their geographic location. Much literature of late has begun to specifically take “urbanicity” into account as a control which absorbs some of the significant variation of school environments, including school size, resulting from the significant diversity of districts and schools across the country. More specifically, it is generally accepted that urban schools most often operate as large schools while rural schools often operate not only as small schools, but also as small districts (Iatarola et al. 2008; Tyack and Cuban 1995); larger districts often have more bureaucratic processes accompanied by institutional capacity to support reform, while smaller districts may see less support for innovation and reforms such as schools-within-schools (Elmore 2006; Lee et al. 2001). Suburbs of large metropolitan areas often fall somewhere in-between these two extremes with regard to size and are the average, or comparison category, with regard to other school-environment characteristics such as teacher quality, percent free and reduced lunch, aggregate parental education, etc. Urban schools generally fare poorly on school-environment assessments, while rural schools vary based on funding and community characteristics (Iatarola et al. 2008). Overall, there is a concern of endogeneity where many of the characteristics that impact a student’s success in school (such as poverty, race, and geographic location) may also be related to a school’s size.

Student Academic and Engagement Outcomes

Estimations of the impact of school size have varied significantly based upon the *outcomes* being examined. Most studies of school size

have focused on educational attainment or scores on standardized assessments as the primary outcome, as is the case in most recent educational research. A number of studies have examined the relationship between size of schooling unit and students’ academic performance. For the most part, these studies have found that students in smaller schools have higher performance, although the relationship is neither consistent nor linear (Leithwood and Jantzi 2009). This finding has held across numerous types and variations of schools: elementary (Archibald 2006; Kuziemko 2006; Lee and Loeb 2000) as well as secondary (Andrews et al. 2002; Schreiber 2002).

The most stable assessments of “achievement” with regard to school size are found using easily quantifiable scores, such as math scores on standardized tests. Measurements of school-size impacts on standardized outcomes such as math achievement have been found to be different on different groups of students (Weiss et al. 2009). Although the use of these scores provide a more reliable estimate of achievement across studies and overall, they also do not allow for understanding how school size may impact students along other outcomes academically, socially, and emotionally. Additional quantitative and qualitative work on various populations is needed to better understand the origins of these differences as they relate to school size.

Research on the effects of school size has not been limited to academic outcomes, however. Other dimensions of students’ well-being and connectedness in school have been examined, such as participation in extracurricular activities (McNeal 1995). Another commonly examined outcome is whether a student left school before completing his/her high school degree. Most studies of this relationship have found that students in larger schools are more likely to drop out prior to graduation, as compared with students in smaller schools (Lee and Burkam 2003; Rumberger 1995); however, other research has found that students in larger schools are *less* likely to drop out (Rumberger and Thomas 2000).

It is likely that the lack of consensus reflects the fact that school size may also hold differential impacts for different students (Weiss et al. 2009).

For example, several studies show that larger school size has a greater negative impact on students of low socioeconomic status (SES) (Leithwood and Jantzi 2009). Additionally, Weiss et al. (2009) find that the impact of SES on mathematics scores also varies by cohort size, with the greatest impact occurring in moderately small, though not the smallest, sized cohorts. However, consistent with previous research on small schools, the authors find that moderately large cohorts still appear to provide the greatest advantage for all students. The central findings, using the 2002 Educational Longitudinal Study, show that very small student groups tend to exacerbate already extant disadvantages among adolescents, particularly with regard to race. The authors support the general literature pointing to beneficial school sizes of approximately 600 students and additionally show that student-grade cohorts begin to exhibit negative effects when they grow beyond 400 students (or a school size of approximately 1,600).

Previous research has established a strong link between school engagement and student outcomes (Finn and Rock 1997; Fredricks et al. 2004; Jessor et al. 1998). Students who are better connected with aspects of their schooling perform better academically and have lower levels of problem behaviors (e.g., Bryk and Thum 1989; Gutman and Midgley 2000; Newman 1992). Engagement is dependent on feeling connected with academic subjects, school staff, and student peers, and all of these factors are impacted by the size and structure of the school (Bryk and Schneider 2002; Fine 1991). More recently, a publication by the National Research Council and Institute of Medicine (Medicine 2004) draws attention to how engagement with school can improve academic achievement as well as reduce student disaffection and dropout rates. There have been a small, but influential number of studies that examine the relationship between school size and student engagement, within which a few merit mention. For example, one study found that smaller high schools were more likely than larger ones to have the conditions that promote student engagement for students at risk

of dropping out (Wehlage and Rutter 1987). Similarly, in their groundbreaking study on school size, Lee and Smith (1997) found that students in smaller, more communally organized schools had higher levels of engagement. Additionally, recent confirmations of previous controversies with regard to school size have been aided largely with the retesting of hypotheses using various datasets that allow generalization to a larger population.

Optimum School Size: Conclusions and Controversies

Although there is significant disagreement on the optimum school size among existing research, in their review of 57 post-1990 empirical studies on school size, Leithwood and Jantzi (2009) concluded that smaller- to medium-sized schools are generally beneficial to the majority of students in both elementary and secondary schools. They analyzed a small number of studies showing a positive relationship between school size and school achievement in secondary schools, but determined that these results were most likely skewed by their omission of factoring in dropout rates which they found to be higher at large secondary schools, especially those greater than 2,000 students.

Similarly, Garbino (1980), echoing Barker and Gump (1964), described the advantages for high schools with more than 500 students, while Goodlad (1984) advocated for schools between 500 and 600 students (see Lee 2000 for a review of this literature). In a slight contrast, Lee and Smith (1997) concluded that, in high schools, learning was greatest in medium-sized schools (i.e., 600–900 students) compared with larger or smaller schools. They also found that learning was more equitably distributed in smaller schools, that school size has important effects on learning across sizes, that many high schools should be smaller than they currently are, and that high schools can also be too small. These findings generally highlight that particularly large schools are the least beneficial for students and that

students who are already at risk are often those most impacted by variations in size.

Although relations generally were more positive and intimate in the smaller schools studied by Lee and colleagues (2000), this situation did not always benefit all students, particularly those who preferred the anonymity of large schools due to the fact that their reputations or those of their families followed them at school. Additionally, small schools can be so small that they do not support a diversity of interests and experiences for faculty and students, while large schools often provide large numbers of options which result in a depersonalized bureaucratic system in which students lose direction. Even more importantly, large schools with large numbers of curricular options, or tracks, often promulgate social stratification through tracking (Lee and Ready 2007; Oakes 1985; Oakes and Guiton 1995). One of the dominant theories in support of larger schools is that they provide increased access to a variety of classes including electives and advanced academic classes, but (Monk and Haller 1993) concluded through their analysis of course offerings in secondary schools in New York State that schools as small as 400 students were able to offer a curriculum as varied and specialized as a large school. Additionally, they determined that large schools did not necessarily guarantee an expanded curriculum. Moreover, recent evidence suggests that constrained curricula with clear emphases on core academics promote greater academic achievement for all students (Angus and Mirel 1999; Lee and Smith 1997; Murphy and Alexander 2002).

Schools-within-schools have been a particularly popular policy reaction to concerns about the size of a student's academic peer group. This school type is particularly important as it confounds the understanding of school, class, and cohort size. Particularly notable in this policy arena has been the Gates Foundation and its support for the transformation of traditional public schools into schools-within-schools; schools within schools are a primary focus of the Foundation's agenda and it has supported over 2,000 transformations in 41 states (Lee and Ready

2007). The model used is designed to allow schools to establish their own conversions and curricular changes, capitalizing on the importance of school-driven change, but also resulting in few schools-within-schools that are comparable for comparison. Because of the complicated organizational structure of schools-within-schools, few scholars have explored these unique school types with empirical or in-depth evidence, though one such study provides a set of case studies by scholars who have founded the majority of the literature on the schools-within-schools field.

Lee and Ready (2007) find several things of note in their exploration of schools within schools. First, in previous work, Lee et al. (2001) discovered that the largest schools are not the schools most likely to adopt schools-within-schools programmatic change. Similarly, evidence of real differences between small and large schools with regard to curricular approaches is thin. Although schools within schools provide more directed curricular attention and thematic focus, they often do not significantly change the variation in course offerings or strongly support curricular focus. In other words, though the schools divide into separate units, the quality and quantity of course offerings in the subunit themes usually does not substantially change; students continue to take courses out of their subunit; and teachers generally do not receive additional training in their subject area or professional development for developing new and more directed courses. With these changes left undone, the transformation from one school to many is often simply a matter of enhancing the already existing stratification of subjects and courses. For schools-within-schools, a student's existing demographic and social characteristics heavily influence curricular decisions, thereby impacting his or her academic choices and success. These findings illuminate the danger found in schools large enough to offer multiple "tracks" where curricular selection may not be a reflection of student capacity or academic interest but of other influences such as peers, institutional practices, and social background (Lee and Ready 2007).

Conclusion

One of the underlying rationales for school-size reforms, whether creating small schools from scratch or through subdividing a large comprehensive school, is that the learning settings of smaller schools facilitate greater student engagement, which is associated with increases in achievement, rates of graduation, and likelihood of postsecondary attendance (National Research Council and Institute of Medicine 2004). However, there is concern that initiatives to improve students' achievement through engagement are based more on theory and anecdotal evidence (e.g., Theroux 2007), and actual empirical research evidence linking size to better outcomes is thin, with the majority included in this essay.

In sum, while some have offered specific recommendations for size, others (e.g., Meier 1998; Raywid and Osiyama 2000) have used qualitative criteria, such as sense of community, to define a "small school." Such authors prefer instead to describe size in relation to a school's ability to provide collaborative opportunity for faculty and possibility for personalization and safety for other actors within the school. As school size is only important insofar as it impacts the nature of learning, it is possible that a combination of quantitative and qualitative criteria should be used to assess the significance of school size with regard to student outcomes.

Cross-References

► Class Size

References

- Andrews, M., Duncombe, W., & Yinger, J. (2002). Revisiting economics of size in American education: Are we any closer to a consensus? *Economics of Education Review*, 21, 245–262.
- Angus, D. L., & Mirel, J. E. (1999). *The failed promise of the American high school 1890–1995*. New York: Teachers College Press.
- Archibald, S. (2006). Narrowing in on educational resources that do affect student achievement. *Peabody Journal of Education*, 81(4), 23–42.
- Barker, R., & Gump, P. (1964). *Big school, small school: High school size and student behavior*. Stanford: Stanford University Press.
- Breaking ranks: Changing an American institution. (1996). Reston: National Association of Secondary School Principals.
- Bryk, A., & Schneider, B. (2002). *Trust in schools: A core resource for improvement*. New York: Russell Sage Foundation.
- Bryk, A., & Thum, Y. M. (1989). The effects of high school organization on dropping out: An exploratory investigation. *American Educational Research Journal*, 26(3), 353–383.
- Cotton, K. (2002). *New small learning communities: Findings from recent literature*. Portland: Northwest Regional Educational Laboratory.
- Eccles, J. S., & Midgley, C. (1989). *Stage/environment fit: Developmentally appropriate classrooms for early adolescents* (Vol. 3). New York: Academic.
- Education, U. S. D. o. (2006). Smaller learning communities program. <http://www.ed.gov/programs/slcp/index.html>. Accessed 23 Oct 2006.
- Elmore, R. F. (2006). Large-scale improvement in urban public school systems: The next generation of reform. In J. Simmons (Ed.), *Breaking through: Transforming urban school districts*. New York: Teachers College Press.
- Fine, M. (1991). *Framing dropouts: Notes on the politics of an urban public high school*. Albany: State University of New York Press.
- Fine, M. (1994). Chartering urban school reform. In M. Fine (Ed.), *Chartering urban school reform* (pp. 5–30). New York: Teachers College Press.
- Finn, J., & Achilles, C. (1999). Tennessee's class size study: Findings, implications, and misconceptions. *Educational Evaluation and Policy Analysis*, 21, 97–109.
- Finn, J. D., & Rock, D. A. (1997). Academic success among students at risk for school failure. *The Journal of Applied Psychology*, 82(2), 221–234 [Article].
- Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, 74(1), 59–109 [Review].
- Garbino, J. (1980). Some thoughts on school size and its effects on adolescent development. *Journal of Youth and Adolescence*, 9(1), 19–31.
- Goodlad, J. I. (1984). *A place called school: Prospects for the future*. New York: McGraw-Hill.
- Gootman, E. (2007). Taking middle schoolers out of the middle. *New York Times*.
- Gutman, L. M., & Midgley, C. (2000). The role of protective factors in supporting the academic achievement of poor African American students during the middle school transition. *Journal of Youth and Adolescence*, 29(2), 223–248.
- Hallinan, M. T., & Sorensen, A. B. (1985). Class size, ability group size, and student achievement. *American Journal of Education*, 94(1), 71–89.

- Hanushek, E. A. (1999a). Some findings from an independent investigation of the Tennessee STAR experiment and from other investigations of class size effects. *Educational Evaluation and Policy Analysis*, 21(2), 143–163.
- Hanushek, E. A. (Ed.). (1999b). *The evidence on class size*. Washington, DC: Brookings Institution.
- Hanushek, E. A. (2002). *The failure of input-based schooling policies*. Cambridge: National Bureau of Economic Research.
- Huebner, T. A. (2005). *Rethinking high school: An introduction to New York City's experience*. San Francisco: West Ed for the Bill and Melinda Gates Foundation.
- Iatarola, P., Schwartz, A. E., Stiefel, L., & Chellman, C. C. (2008). Small schools, large districts: Small-school reform and New York City's students. *Teachers College Record*, 110(9), 1837–1878.
- Jessor, R., Turbin, M. S., & Costa, F. M. (1998). Protective factors in adolescent health behavior. *Journal of Personality and Social Psychology*, 75(3), 788–800 [Proceedings paper].
- Kuziemko, I. (2006). Using shocks to school enrollment to estimate the effect of school size on student achievement. *Economics of Education Review*, 25(1), 63–75 [Article].
- Lee, V. E. (2000). School size and the organization of secondary schools. In M. Hallinan (Ed.), *Handbook of the sociology of education* (pp. 327–344). New York: Kluwer/Plenum.
- Lee, V. E., & Burkam, D. T. (2003). Dropping out of high school: The role of school organization and structure. *American Educational Research Journal*, 40(2), 353–393 [Article].
- Lee, V., & Loeb, S. (2000). School size in Chicago elementary schools: Effects on teachers' attitudes and students' achievement. *American Educational Research Journal*, 37(1), 3–31.
- Lee, V. E., & Ready, D. D. (2007). *Schools within schools: Possibilities and pitfalls of high school reform*. New York: Teachers College Press.
- Lee, V., & Smith, J. (1997). High school size: Which works best and for whom? *Educational Evaluation and Policy Analysis*, 19(3), 205–227.
- Lee, V. E., Smerdon, B. A., Alfeld-Liro, C., & Brown, S. L. (2000). Inside small and large high schools: Curriculum and social relations. *Educational Evaluation and Policy Analysis*, 22(2), 147–171.
- Lee, V. E., Ready, D. D., & Johnson, D. J. (2001). The difficulty of identifying rare samples to study: The case of high schools divided into schools-within-schools. *Educational Evaluation and Policy Analysis*, 23(4), 365–379.
- Leithwood, K., & Jantzi, D. (2009). A review of empirical evidence about school size effects: A policy perspective. *Review of Educational Research*, 79(1), 464–490 [Review].
- McNeal, R. (1995). Extracurricular activities and high school dropout. *Sociology of Education*, 68, 62–81 (January).
- Meier, D. (1998). Can the odds be changed? In M. Fine & J. I. Somerville (Eds.), *Small schools, big imaginations: A creative look at urban public schools* (pp. 85–92). Chicago: Cross City Campaign for Urban School Reform.
- Monk, D. H., & Haller, E. J. (1993). Predictors of high school academic course offerings: The role of school size. *American Educational Research Journal*, 30(1), 3–21.
- Murphy, K., & Alexander, P. (2002). What counts: The predictive powers of subject matter knowledge, strategic processing, and interest in domain-specific performance. *Journal of Experimental Education*, 70(3), 197–214.
- National Research Council and Institute of Medicine. (2004). *Engaging schools: Fostering high school students' motivation to learn. Committee on increasing high school students' engagement and motivation to learn*. Washington, DC: The National Academies Press.
- Newman, F. (1992). *Student engagement and achievement in American secondary schools*. New York: Teachers College Press.
- Oakes, J. (1985). *Keeping track: How schools structure inequality*. New Haven: Yale University Press.
- Oakes, J., & Guiton, G. (1995). Matchmaking: The dynamics of high school tracking decisions. *American Educational Research Journal*, 32(1), 3–33.
- Powell, A. G., Farrar, E., & Cohen, D. K. (1985). *The shopping mall high school: Winners and losers in the educational marketplace*. Boston: Houghton Mifflin.
- Raywid, M. A., & Osiyama, L. (2000). Musings in the wake of Columbine. *Phi Delta Kappan*, 81(6), 444–449.
- Ready, D. D., & Lee, V. (2004). Educational equity and school structure: School size, overcrowding, and schools-within-schools. *Teachers College Record*, 106(10), 1989–2014.
- Ready, D. D., & Lee, V. (2006). Optimal context size in elementary schools: Disentangling the effects of class size and school size. In *Brookings papers on education policy – 2006/2007* (pp. 99–135). Washington, DC: Brookings Institution Press.
- Ready, D. D., & Lee, V. (2008). Choice, equity, and the schools-within-schools reform. *Teachers College Record*, 110(9), 1930–1958.
- Robertson, F. W. (2007). Economies of scale for large school districts: A national study with local implications. *Social Science Journal*, 44(4), 620–629 [Proceedings paper].
- Rumberger, R. W. (1995). Dropping out of middle school – A multilevel analysis of students and schools. *American Educational Research Journal*, 32(3), 583–625 [Proceedings paper].
- Rumberger, R. W., & Thomas, S. L. (2000). The distribution of dropout and turnover rates among urban and suburban high schools. *Sociology of Education*, 73(1), 39–67.

- Schreiber, J. B. (2002). Institutional and student factors and their influence on advanced mathematics achievement. *Journal of Educational Research, 95*(5), 274–286 [Article].
- Sizer, T. R. (1992). *Horace's school: Redesigning the American high school*. Boston: Houghton Mifflin.
- Smart schools/Smart kids: A proposal to the Annenberg Foundation to create the Chicago school reform collaboratives. (1994). Chicago: Chicago Annenberg Challenge.
- Stevenson, D. L., Schiller, K. S., & Schneider, B. (1994). Sequences of opportunities for learning. *Sociology of Education, 67*(3), 184–198.
- Targeted literature review of major constructs and their components: Evaluating the national school district and network grants program. (2002). Palo Alto/Menlo Park: SRI International and American Institutes for Research.
- The child development project: Summary of the project and findings from three evaluation studies. (1998). Oakland: Developmental Studies Center.
- Theroux, K. (2007). Small schools in the big city: Promising results validate reform efforts in New York City high schools. *Carnegie Reporter, 4*(3). New York: Carnegie Corporation of New York.
- Tyack, D., & Cuban, L. (1995). *Tinkering toward utopia*. Cambridge: Harvard University Press.
- Wehlage, G., & Rutter, R. (1987). Dropping out: How much do schools contribute to the problem? In G. Natriello (Ed.), *School dropouts: Patterns & policies*. New York: Teachers College Press.
- Weiss, C. C., & Kipnes, L. (2006). Reexamining middle school effects: A comparison of middle grades students in middle schools and K-8 schools. *American Journal of Education, 112*(2), 239–272.
- Weiss, C. C., Carolan, B., & Baker-Smith, E. C. (2009). Big school, small school: (Re)Testing assumptions about high school size, school engagement and mathematics achievement. *Journal of Youth and Adolescence, 39*(2), 163–176.

School Transitions and Risks

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Overview

This essay reviews the literature on changes in behavioral risks across the transition from high school to college. Whereas some of these behaviors increase dramatically (e.g., substance use,

risky sexual activities) others do not change or even decrease (e.g., property crime). Models of the transition to college must also account for variation beyond these mean-level changes, and a theoretical integration of selection and socialization influences has demonstrated great utility in explaining trajectories of binge drinking. As detailed in this essay, however, less is known about the factors underlying change in other behavioral risks. Whereas some follow similar trajectories to that of binge drinking, others do not. Areas for future research are discussed. Importantly, the influence of alcohol intoxication as a proximal contributor to behavioral risks should be considered. The transition to college represents a major step in the progress from adolescence to adulthood, and an understanding of how and why behavioral risks change during this period is vital to enabling students to transition successfully.

School Transitions

The transition from high school to college is a major turning point in adolescent development. For the 85% of US adolescents who do so, graduating from high school results in dramatic changes in peer, familial, and residential systems (Bachman et al. 1997). Further, the roughly 60% of adolescents who matriculate to college experience an additional set of social environmental transitions (Arnett 2000; Johnston et al. 2009). Attending college often involves departing the parental home, and for many adolescents, it coincides with decreased – though not extinguished – influence from parents (Turrissi et al. 2001; Wetherill and Fromme 2007; Wood et al. 2004). Following matriculation, college students find themselves with increased responsibility and increased freedoms (Arnett 2000). Simultaneously, they enter a novel social environment, with unique behavioral norms and powerful peer influences. By entering college, students take a major step toward a variety of positive life outcomes. They can meet lifelong friends, increase their leadership skills and earning potential, and open a wide range of career opportunities. College

graduation is increasingly recognized as the key to middle-class social and economic success.

As they enter college, however, students also experience changes in their drinking and other behavioral risks. Because of developmental increases in the propensity to take risks, in addition to increased susceptibility to peer influence, adolescence is the life period in which behavioral risks are most prevalent (Steinberg 2008). Moreover, upon entering college, adolescents have fewer restrictions on their behaviors but greater access to the antecedents of risky behaviors. Alcohol in particular is more readily available in the college environment than it is in most high schools, and 1825 college students died in 2005 as a consequence of alcohol-related accidents (Hingson et al. 2009). Other behavioral risks, including notably risky sexual behavior, increase during the college transition as well. This essay reviews the literature on changes in alcohol use and a selection of other behavioral risks (i.e., illicit substance use, risky sex, aggression, and property crime) during the transition to college. The first section of this essay summarizes descriptive studies of the college transition. It includes a review of both the methods used to explore changing behavioral risks and the findings they have generated. Because collegiate drinking is the most studied and well-understood of the behavioral risks, the second section reviews the individual and social variables that contribute to changes in alcohol use in the transition to college and presents a theoretical integration of these factors. Finally, the third section details the ways in which the other behavioral risks might follow or differ from this model and describes areas in which further theoretical and empirical work is needed.

Changes in Behavioral Risks Across the Transition to College

A common methodology for examining changes in the prevalence of behavioral risks across the transition to college is the prospective, longitudinal survey design. One major panel study, *Monitoring the Future*, has followed national samples of graduating high school seniors from the

1976–2008 graduating classes with continuing biannual survey assessments of alcohol and other substance use (Bachman et al. 1997; Johnston et al. 2009). Data from *Monitoring the Future* demonstrate clear changes in substance use across the transition to college. Perhaps the most alarming results concern binge drinking. While still in high school, college-attending high school students drink less than do their peers who will not attend college. This trend reverses, however, following graduation. The prevalence of binge drinking increases by more than 25% in both male and female college students, with more than 50% of male students and 40% of female students reporting having binge drunk in the past 2 weeks.

Monitoring the Future reveals effects of the college transition on other substance use as well. Although college-bound high school students are less likely to use marijuana than their noncollege-bound peers, students catch up once in college. Roughly 40% of men and 30% of women report past-month marijuana use during the early college years. Moreover, monthly cocaine usage among college students doubles following matriculation, with approximately 5% of male students and 3% of female students reporting cocaine use in the first 2 years of college. Finally, whereas 14% of adolescents have already begun smoking during high school, approximately 12% begin smoking following high school graduation. These increases are common to those who attend college and those who do not, although smoking is more prevalent among noncollege-attending adolescents. In sum, use of alcohol, marijuana, cocaine, and tobacco becomes more prevalent in the transition to college, and increases in alcohol and marijuana use are greater among college students than among those not attending college.

A major advantage of *Monitoring the Future*'s panel design is its ability to identify trends in collegiate substance use across time (Johnston et al. 2009). Recent evidence suggests that binge drinking, along with some illicit substance use, has remained relatively constant among college students across the past decade. In contrast, reflecting similar decreases in high school students' cigarette use, college students' monthly

smoking prevalence has decreased to 18% since peaking at 31% in 1999.

There are changes in other behavioral risks across the transition to college as well. One recent effort to describe these changes is the UT Experience! project, a longitudinal study of over 2000 students in the incoming class of 2004 at The University of Texas at Austin (e.g., Fromme et al. 2008). Beyond demonstrating increases in the prevalence of binge drinking and marijuana use that parallel those found in *Monitoring the Future* (i.e., a 25% increase in binge drinking and a 20% increase in marijuana use), results from the UT Experience! show that some other behavioral risks, such as risky sexual activity, increase across the transition to college. The prevalence of having multiple sexual partners increased from 7% to 11% between the final semester of high school and the first semester of college. Interestingly, however, not all behavioral risks show the same increase. The prevalence of driving after drinking decreased from 26% to 17%, aggressive behavior decreased from 88% to 62%, and property crimes decreased from 14% to 11% across the same time period. In sum, whereas binge drinking, illicit substance use, and risky sex increase in the transition to college, other behavioral risks may actually become less prevalent once adolescents enter the college environment.

Beyond the mean-level patterns detailed above, there is a great deal of variability in trajectories of behavioral risks across the college transition. Indeed, as Baer and colleagues (2001) demonstrated, only one third of incoming college students increase their alcohol use. The remaining students either continue drinking at the same rate or even decrease their drinking. An important research question, then, has been to identify the distinct trajectories of behavioral risks across the college transition. Growth mixture modeling, an application of latent growth curve modeling, has been used to distinguish among the trajectories of binge drinkers in adolescence and young adulthood. Although these models have typically included both college students and their peers who do not attend college, they nevertheless provide insight into trajectory variability.

Schulenberg and colleagues' (1996) analysis of *Monitoring the Future* data identified six distinct trajectories of binge drinking. Of these trajectories, only two increased following high school graduation: approximately 10% of adolescents increased their drinking steadily through age 24, and an additional 10% increased their drinking for a brief period before decreasing again. Another two trajectories both included participants who already binge drank 1–2 times per week but were distinct in that 7% continued to binge drink frequently whereas 12% decreased until age 24. Importantly, the final two trajectories, comprising a total of 53% of participants, either never or rarely binge drank. Another attempt at identifying trajectories of binge drinking across adolescence and young adulthood identified four distinct patterns (Chassin et al. 2002). Of these participants, 21% began binge drinking in early adolescence, 30% increased their binge drinking as they transitioned out of high school, and 10% binge drank infrequently. The remaining 40% of young adults did not binge drink.

Although these and other trajectory analyzes have produced differing numbers of patterns, a few trends have emerged (Sher and Gotham 1999). Notably, among adolescents who binge drink, there appears to be a distinction between those who experience an early onset and continue to increase their drinking through adolescence and those who begin drinking heavily as they transition out of high school and – for some – into college. This second pattern is developmentally limited. That is, following the college years, these adolescents typically do not continue to drink heavily. In sum, results from trajectory analyzes indicate that there are two distinct cohorts of problem drinkers in the transition to college: one that has already begun drinking heavily in high school and one that increases during the transition.

Personal and Social Predictors of Increased Alcohol Use in the Transition to College

Of the behavioral risks reviewed in this essay, the most readily identifiable and most commonly

studied is heavy alcohol use. Because relatively few studies have tested specific predictors of changes in other behavioral risks across the transition to college, this section reviews the individual and social factors that contribute to increases in drinking specifically. As reviewed by Borsari and colleagues (2007), a key distinction should be made between moderators and mediators of increased drinking in the transition to college. Moderator variables distinguish which students are more likely to increase their alcohol use, whereas mediators explain why those increases occur. Both personal and social moderators have been identified. The personality traits grouped under the term behavioral undercontrol are most often linked to heavy drinking. Individuals higher in sensation seeking, for example, increase their alcohol use in the transition from high school to college (White et al. 2006). Gender also moderates the effect of the transition to college on drinking, with men experiencing larger increases than women (Ham and Hope 2003). Finally, precollege alcohol use also predicts change in drinking. Drinking is relatively stable for some individuals, but those who drink more during senior year of high school are more likely to subsequently increase their drinking (Fromme et al. 2008; Weitzman et al. 2003).

Of the potential social moderators of alcohol use in the transition to college, parenting has recently received the most attention. Greater monitoring and perceived awareness and caring from parents during high school are associated with smaller increases in drinking in the college transition (Wetherill and Fromme 2007; White et al. 2006). Moreover, protective parental influences following high school graduation are also associated with lower levels of drinking (Wood et al. 2004), and parenting interventions limit the effect of the college transition on students' drinking (Turrisi et al. 2001). Whereas peers become more salient to adolescents, particularly as they transition into college, parenting continues to influence drinking behaviors.

Once adolescents enter the collegiate environment, they encounter strong social influences that help account for increases in drinking among some students (Borsari et al. 2007). Social

drinking norms, or beliefs about how much fellow students drink (i.e., descriptive drinking norms) and how much they approve of drinking (i.e., injunctive drinking norms), are among the strongest social environmental influences on collegiate drinking. College students overestimate both how much their fellow students drink and how much they approve of drinking (Borsari and Carey 2003). These normative misperceptions are associated with heavier collegiate drinking, and, moreover, misperceptions held prior to matriculation predict greater increases in drinking across the transition to college (Baer et al. 1991; Read et al. 2005; Stappenbeck et al. 2010). Whereas much of the literature on social norms has focused on norms at the campus level (i.e., beliefs about the behaviors and attitudes of typical students), recent evidence suggests that misperceptions of drinking among more proximal groups, such as friends or same-gendered peers, may be even stronger predictors of alcohol use (Read et al. 2005). Thus, peers with whom students associate or identify may influence their drinking behavior more strongly. In sum, perceived drinking norms appear to help explain why alcohol use increases in the transition to college.

Theoretical Models of Change in Heavy Drinking in the Transition to College

Given ample evidence that increased drinking across the college transition is a function of both precollege individual factors and social influences in the college environment, adequate theoretical models must take into account both these selection and socialization processes. Recent models have relied upon Social Learning Theory (Bandura 1969), articulating how individuals engage in transactional relationships with their environments. In the case of drinking in the college transition, students select into collegiate social groups and organizations on the basis of individual differences and subsequently become socialized to the attitudes and behaviors of those groups. Several studies have found support for this reciprocal pattern of influence (e.g., Read et al. 2005). For example, precollege heavy

drinkers select into collegiate social groups they perceive as drinking more heavily. In turn, students further increase their drinking. A more complete account of these processes, however, requires the inclusion of the other individual differences, including traits related to behavioral undercontrol. One such attempt explored the selection and socialization influences specific to Greek organizations (Park et al. 2009). Students who reported greater impulsivity drank more prior to college matriculation. Because of their drinking, more impulsive students joined Greek organizations, in which they experienced easier access to alcohol and greater perceived norms. Reciprocally, these environmental factors associated with Greek membership predicted greater drinking during college. Thus, those students who are at risk upon entering college increase their drinking in large part because they become socialized to the peer groups into which they select.

Applying the Social Learning framework to alcohol use in the transition to college generates the prediction that, as a function of selection on precollege characteristics, those who drink more in high school should experience the greatest increases. A challenge for this prediction, however, is the distinction between early- and college-age-onset trajectories of heavy drinking reviewed above. That is, it is difficult to reconcile the developmentally limited drinking trajectory, in which lighter drinking adolescents experience steep increases in drinking during the transition to college, with the notion that the heaviest drinkers prior to college will select into heavier drinking social groups. The resolution to this apparent conflict may come from incorporating further transactions between individuals and their environments. Whereas adolescents high in facets of behavioral undercontrol tend to drink more, this relation may be diminished among those with protective environmental influences, such as supportive and attentive parents. In the transition to college, as they depart the parental home and enter a more permissive environment, however, this subset of students experiences the greatest increases in drinking (Quinn and Fromme 2010). In sum, it is vital to include interactions between personal and environmental factors in an

account of the transactional nature of increases in drinking during the transition to college.

Models of Change in Other Behavioral Risks

Given the relatively limited research on patterns of change in behavioral risks beyond alcohol, an important goal for future research will be to develop models of these behaviors across the transition to college. One approach to model development would involve a test of the possibility that other behavioral risks result from similar processes to those underlying heavy drinking. Evidence from growth mixture modeling demonstrates that adolescent and young adult trajectories of smoking and illicit drug use are highly concordant with binge drinking trajectories (Jackson et al. 2008), suggesting that increases in substance use in the transition to college may all follow similar patterns. Two questions remain. First, do these patterns also generalize to other behaviors, such as risky sex, delinquency, or aggression? Second, do these behavioral risks follow similar trajectories because similar factors underlie them? Cooper et al. (2003) showed that in adolescence and young adulthood, a highly stable general factor accounts for more than half the variance in several problem behaviors, including substance use, delinquency, risky sexual behavior, and poor academic performance. Moreover, trait-level impulsivity and avoidance coping are general risk factors for all four categories of behavior. Thus, it is possible that some behavioral risks result from the same risk factors identified in the literature on alcohol use in the transition to college.

It is crucial to acknowledge, however, the fundamentally important role of alcohol use in the etiology of other behavioral risks. Even beyond typical drinking, greater alcohol intoxication is linked at the event level to college students' greater likelihood of aggression, vandalism, unsafe sex, and sexual coercion both as a victim and a perpetrator (Neal and Fromme 2007). Moreover, increased alcohol use across the college transition is associated with increased physical

and sexual victimization among women (Parks et al. 2008). As proposed by Alcohol Myopia or Attention Allocation Theory, alcohol intoxication reduces an individual's controlled processing capacity, increasing the influence of salient cues over behavior (Steele and Josephs 1990). In situations in which strong cues to engage in behavioral risks are present, alcohol intoxication may reduce perceptions of negative consequences and increase the likelihood of engaging in behaviors such as risky sexual activity (Cooper 2006; Fromme et al. 1997). The increase in alcohol use that occurs in the transition to college is therefore etiologically relevant to changes in other behavioral risks. Among those adolescents who drink and binge drink more often, intoxication itself may contribute to increases in behavioral risks.

Conclusions

The transition to college can represent a major step in adolescents' journey toward adulthood. Increases in life choices and autonomy, however, can also coincide with dramatic changes in social environments. College students actively seek out new social groups that match their own personal characteristics, and among heavy drinkers, these new groups socialize students into even heavier drinking. Although less research has tested models explaining changes in other behavioral risks, there is reason to believe that other substance use may follow similar trajectories to those of heavy drinking. Additionally, alcohol intoxication can lead adolescents to negative consequences, notably including risky sexual behaviors, so increases in drinking rates may contribute to increases in at least some other behavioral risks. These two conceptual approaches can serve as the basis for further research on increases in behavioral risks across the transition to college. Importantly, however, not all problem behaviors correspond to changes in drinking. Driving after drinking and property crime, for example, become less prevalent during the initial college transition. Future research would do well to examine the social and maturational underpinnings of these trends.

Finally, the transition to college is only one in a series of potential developmental turning points. When students reach the minimum legal drinking age, for example, they may begin going to bars and clubs rather than on-campus parties, and may therefore be more likely to drive after drinking (Fromme and Wetherill 2010). As this essay has demonstrated, college matriculation is an important transition in adolescents' maturation and their trajectories of behavioral risks, but it is far from the final step toward adulthood.

References

- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *The American Psychologist*, *55*, 469–480.
- Bachman, J. G., Wadsworth, K. N., O'Malley, P. M., & Johnston, L. D. (1997). *Smoking, drinking, and drug use in young adulthood: The impacts of new freedoms and new responsibilities*. Hillsdale: Lawrence Erlbaum Associates.
- Baer, J. S., Stacy, A., & Larimer, M. (1991). Biases in the perception of drinking norms among college students. *Journal of Studies on Alcohol*, *52*, 580–586.
- Baer, J. S., Kivlahan, D. R., Blume, A. W., McKnight, P., & Marlatt, G. A. (2001). Brief intervention for heavy-drinking college students: 4-year follow-up and natural history. *American Journal of Public Health*, *91*, 1310–1316.
- Bandura, A. (1969). Social learning of moral judgments. *Journal of Personality and Social Psychology*, *11*, 275–279.
- Borsari, B., & Carey, K. B. (2003). Descriptive and injunctive norms in college drinking: A meta-analytic integration. *Journal of Studies on Alcohol*, *64*, 331–341.
- Borsari, B., Murphy, J. G., & Barnett, N. P. (2007). Predictors of alcohol use during the first year of college: Implications for prevention. *Addictive Behaviors*, *32*, 2062–2086.
- Chassin, L., Pitts, S. C., & Prost, J. (2002). Binge drinking trajectories from adolescence to emerging adulthood in a high-risk sample: Predictors and substance abuse outcomes. *Journal of Consulting and Clinical Psychology*, *70*, 67–78.
- Cooper, M. L. (2006). Does drinking promote risky sexual behavior? A complex answer to a simple question. *Current Directions in Psychological Science*, *15*, 19–23.
- Cooper, M. L., Wood, P. K., Orcutt, H. K., & Albino, A. (2003). Personality and the predisposition to engage in risky or problem behaviors during adolescence. *Journal of Personality and Social Psychology*, *84*, 390–410.
- Fromme, K., & Wetherill, R. R. (2010). *Turning 21 and the associated drinking and driving after drinking among college students*. Unpublished manuscript.

- Fromme, K., Katz, E., & D'Amico, E. (1997). Effects of alcohol intoxication on the perceived consequences of risk taking. *Experimental and Clinical Psychopharmacology*, *5*, 14–23.
- Fromme, K., Corbin, W. R., & Kruse, M. I. (2008). Behavioral risks during the transition from high school to college. *Developmental Psychology*, *44*, 1497–1504.
- Ham, L. S., & Hope, D. A. (2003). College students and problematic drinking: A review of the literature. *Clinical Psychology Review*, *23*, 719–759.
- Hingson, R., Zha, W., & Weitzman, E. R. (2009). Magnitude of and trends in alcohol-related mortality and morbidity among U.S. college students ages 18–24, 1998–2005. *Journal of Studies on Alcohol and Drugs* (Suppl. 16), 12–20.
- Jackson, K. M., Sher, K. J., & Schulenberg, J. E. (2008). Conjoint developmental trajectories of young adult substance use. *Alcoholism, Clinical and Experimental Research*, *32*, 723–737.
- Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. (2009). *Monitoring the future: National survey results on drug use, 1975–2008* (Vol. 2). Bethesda: National Institute on Drug Abuse.
- Neal, D. J., & Fromme, K. (2007). Event-level covariation of alcohol intoxication and behavioral risks during the first year of college. *Journal of Consulting and Clinical Psychology*, *75*, 294–306.
- Park, A., Sher, K. J., Wood, P. K., & Krull, J. L. (2009). Dual mechanisms underlying accentuation of risky drinking via fraternity/sorority affiliation: The role of personality, peer norms, and alcohol availability. *Journal of Abnormal Psychology*, *118*, 241–255.
- Parks, K. A., Romosz, A. M., Bradizza, C. M., & Hsieh, Y.-P. (2008). A dangerous transition: women's drinking and related victimization from high school to the first year at college. *Journal of Studies on Alcohol and Drugs*, *69*, 65–74.
- Quinn, P. D., & Fromme, K. (2010). *The role of person-environment interactions in increased alcohol use in the transition to college*. Unpublished manuscript.
- Read, J. P., Wood, M. D., & Capone, C. (2005). A prospective investigation of relations between social influences and alcohol involvement during the transition into college. *Journal of Studies on Alcohol*, *66*, 23–34.
- Schulenberg, J. E., O'Malley, P. M., Bachman, J. G., Wadsworth, K. N., & Johnston, L. D. (1996). Getting drunk and growing up: Trajectories of frequent binge drinking during the transition to young adulthood. *Journal of Studies on Alcohol*, *57*, 289–304.
- Sher, K. J., & Gotham, H. J. (1999). Pathological alcohol involvement: A developmental disorder of young adulthood. *Development and Psychopathology*, *11*, 933–956.
- Stappenbeck, C. S., Quinn, P. D., Wetherill, R. R., & Fromme, K. (2010). *Perceived norms for drinking in the transition from high school to college and beyond*. Unpublished manuscript.
- Steele, C. M., & Josephs, R. A. (1990). Alcohol myopia: Its prized and dangerous effects. *The American Psychologist*, *45*, 921–933.
- Steinberg, L. (2008). A social neuroscience perspective on adolescent risk-taking. *Developmental Review*, *28*, 78–106.
- Turrisi, R., Jaccard, J., Taki, R., Dunnam, H., & Grimes, J. (2001). Examination of the short-term efficacy of a parent intervention to reduce college student drinking tendencies. *Psychology of Addictive Behaviors*, *15*, 366–372.
- Weitzman, E. R., Nelson, T. F., & Wechsler, H. (2003). Taking up binge drinking in college: The influences of person, social group, and environment. *The Journal of Adolescent Health*, *32*, 26–35.
- Wetherill, R. R., & Fromme, K. (2007). Perceived awareness and caring influences alcohol use by high school and college students. *Psychology of Addictive Behaviors*, *21*, 147–154.
- White, H. R., McMorris, B. J., Catalano, R. F., Fleming, C. B., Haggerty, K. P., & Abbott, R. D. (2006). Increases in alcohol and marijuana use during the transition out of high school into emerging adulthood: The effects of leaving home, going to college, and high school protective factors. *Journal of Studies on Alcohol*, *67*, 810–822.
- Wood, M. D., Read, J. P., Mitchell, R. E., & Brand, N. H. (2004). Do parents still matter? Parent and peer influences on alcohol involvement among recent high school graduates. *Psychology of Addictive Behaviors*, *18*, 19–30.

School-Based Health Centers

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Overview

The school serves as the most accessible point of entry for delivering health and preventive care services to adolescents (Meyers and Swerdlik 2003). Physical and mental health needs are primary barriers to school learning for adolescents (Adelman 1998; Gall et al. 2000). School-based health centers (SBHCs) emerged in the late 1960s as a response to meeting the health care needs of underserved adolescents who could not access the

traditional health care system. SBHCs provide basic primary health care services such as health screenings and assessments, acute care, and treatment for common chronic diseases such as asthma and diabetes (Brown and Bolen 2003). School-based health centers are quickly becoming a part of the mainstream health care system and are an important resource for primary care services for children and adolescents (Weinstein 2006).

School-Based Health Centers and Adolescent Care

Epidemiological research estimates that 14–20% of American children meet the criteria of a diagnosable mental disorder (United States Public Health Service 1999). Furthermore, almost 18% of school-age children have one or more chronic health conditions and 7% of those have significant functional limitations as a result (Farmer et al. 2003). Low-income and minority children are especially vulnerable, are at significantly greater risk of poor health, and less likely to have a regular source of health care. Children of color, in particular, stand to benefit from enhanced access to health care (Clauss-Ehlers 2003).

School-based health centers (SBHCs) emerged in the late 1960s as a response to meeting the health care needs of children and adolescents. SBHCs initially focused on the delivery of primary health care services and the prevention of teen pregnancy (Dryfoos 1998). Established as a service targeting inner-city high schools, the centers have expanded to serve schools in rural, urban, and suburban locations. Slightly over half of SBHCs are housed in high schools, about one-third serve elementary grades, and slightly less than one-third include middle grades (National Assembly for School-Based Health Care 2000). The total number of SBHCs in the USA has increased 147% since 1994, with 1,500 such centers established in 43 states and the District of Columbia (The Center for Health and Health Care in Schools 2002).

SBHCs provide basic primary health care services such as health screenings and assessments, acute care, and treatment for common chronic

diseases such as asthma and diabetes (Brown and Bolen 2003). Most provide at least mental health assessment and referral and offer reproductive health services that include treatment of sexually transmitted diseases. Health promotion and preventive services are emphasized by some but all centers. Staffing may include some combination of a nurse practitioner or physician's assistant, physician, registered nurse, dietician, a mental health provider, social worker, and health educator, depending on the Center's mission and financial resources. A few SBHCs serve as clinical internship training sites for medical, nursing, psychology, and social work students (Davis et al. 2005).

SBHC Services and Their Impact on Adolescents

Gustafson (2005) provides a cogent argument for why the use of SBHCs by adolescents is important. She notes that adolescents are the least likely group to seek care at a health provider's office, and that access to a health care provider frequently does not impact their adverse health behaviors. Many adolescents need a comprehensive range of services (such as mental health education or treatment) that are not generally available in traditional health care settings. Adolescents also may engage in a variety of potentially risky behaviors (violence, unprotected sex, and substance use) that they may not feel comfortable talking about with a health care provider.

SBHCs have an established history of providing continuity of physical and mental health services and many are expanding services to include areas such as management of chronic disease (e.g., asthma), multidisciplinary interventions for overweight adolescents, and medication oversight (Brown and Bolen 2003; Mears et al. 2006; Weinstein 2006). Primary health care services such as routine health screening, immunizations, acute care for common conditions, behavioral risk assessments, and health education are now commonly provided (Perkins and Montford 2005). The SBHC is often the primary health care resource for students and their families who are

uninsured or lack access to other health professionals that provide health care services. The provision of well-child and acute care services results in a positive effect on health care utilization and access for adolescents who use these services. There is a growing body of research that supports the effectiveness of SBHCs that provide well-child and acute health care services for children and adolescents.

Access to Care

School-based health centers provide a unique setting in which to deliver risk-reduction and resilience-building services to adolescents (Davis 2005). School-based health centers address many of the obstacles that prevent children and adolescents from accessing health care. Most SBHCs (76%) are open full-time and therefore can provide services with care available on a daily basis for adolescents who attend schools with SBHC coverage (The Center for Health and Health Care in Schools 2002; Santelli et al. 2003). The convenience and accessibility of services through SBHCs allow for students to access timely medical and mental health services; this is particularly an important factor for high-risk adolescents (Jepson et al. 1998). Parents are not required to take time off from work to take their children to a health care provider that can avoid an economic hardship resulting from missed work. SBHCs can address significant physical, mental, and perhaps dental health issues of the adolescent during the school day, allowing them to remain in school (Gustafson 2005).

Preventive Services

SBHCs meet a critical need for preventive care (such as well-child care) for underserved and underinsured children and provide general health and health education, psychosocial health, and reproductive health (Brown and Bolen 2008; Crespo and Shaler 2000; Summers et al. 2003). Most centers have a primary care orientation and include physical examinations, acute care treatment for illnesses and minor injuries, and screening for sexually transmitted diseases (Allensworth et al. 1997). Because of easy accessibility SBHCs are well-suited to provide screening and treatment

for adolescents with sexually transmitted infections (Pastore et al. 2001). Indeed, reproductive health services are commonly offered by centers in middle and high schools and are likely to include treatment for sexually transmitted diseases, HIV/AIDS counseling, and diagnostic services (National Assembly for School-Based Health Care 2000).

School-based dental services are increasingly seen as a critical service and about half of the centers now provide preventive dental services (Albert et al. 2005; Allensworth et al. 1997). Although SBHCs seek to provide a broad range of prevention and health promotion services that complement their physical and mental health intervention services, more than one-half of the centers do not participate in classroom-based health education or health promotion and risk-reduction activities (Brindis et al. 2003). This is primarily due to financial limitations.

Mental Health Services

School-based health centers generally provide some form of mental health services to students (National Assembly for School-Based Health Care 2000). The reported percentage of visits for emotional or mental health reasons range from 25% to more than 50% of all visits to the centers (Adelman 1998; Davis et al. 2005; Santor et al. 2006). Personal or family substance abuse problems are also frequent complaints of students seeking treatment in SBHCs (Jepson et al. 1998; Mason and Wood 2000). Routine psychosocial screening is often offered as a part of primary care services (Gall et al. 2000) along with crisis intervention, case management, evaluation and treatment, and substance abuse treatment services. School-based health centers may also provide peer support groups, grief counseling, assistance with classroom behavior modification, and substance abuse prevention programs.

Reproductive Health

Teen pregnancy is a risk factor for both the teen mother and her baby. Reproductive health services are commonly offered by centers in middle and high schools and frequently include treatment for sexually transmitted diseases, HIV/AIDS

counseling, and diagnostic services (National Assembly for School-Based Health Care 2000). Fifteen percent of adolescents visiting school-based health centers received sexuality-related care (Pastore et al. 1998). School-based health centers are recognized as particularly well-suited to treat adolescents with sexually transmitted infections (Pastore et al. 2001) because of ease of accessibility and confidentiality of services.

Family planning services provided by SBHCs most often consist of birth control counseling and follow-up. Fothergill and Feijoo (2000) found that almost two-thirds of SBHCs had restrictions on the provision of contraceptive services, with school district policy the most common source of this restriction. Only about one-quarter of the centers provided birth control on-site; condoms were the most commonly dispensed contraceptive.

Barnet et al. (2003) examined access to care, comprehensiveness of care, and birth outcomes for teenagers receiving prenatal care in a comprehensive adolescent pregnancy programs in school-based and hospital-based settings. School-based prenatal care was associated with higher birth weight compared to hospital-based prenatal care. Teens receiving care in the school based setting were significantly younger and more likely to be in school than those receiving services through the hospital-based setting. The use of prenatal care in SBHCs was also associated with reduced absenteeism and dropout rates for low-income African American mothers in an alternative school (Barnet et al. 2004).

Violence Prevention

SBHCs that have adopted violence prevention programming have made significant inroads in reducing school violence (Brown and Bolen 2008). Fiester et al. (1996) examined three different SBHCs specially funded to establish health and violence prevention services that provided an array of preventive, referral health care services to students. SBHC staff assisted school staff in developing disciplinary strategies that allowed students to remain in school as long as they are involved in mental health counseling. They also taught citizenship skills, assisted in resolving

crises, and helped at risk students to deal with stress that interferes with learning. These centers reported improved students attitude and behavior, fewer suicide attempts, fewer fights on-campus, and increased student visits to SBHCs for mental health services.

The Positive Behavioral Support program, a nationally validated program with an emphasis on changing the school environment, was successfully implemented in a SBHC in Baton Rouge, LA (Witt et al. 1999). PBS teaches students and others in the school environment to behave in ways that help get the students' needs met appropriately and without resort to violence or aggression. Skill training is also aimed at helping adults in the adolescents' environment learn and practice the steps necessary to successfully manage these types of problems in the future. Adaptive/prosocial behaviors are reinforced while inappropriate behaviors result in consistent negative consequences. The program resulted in a substantial decrease in aggressive behaviors over a 2-year evaluation period.

Substance Abuse Prevention

Substance abuse prevention services are aimed at reducing students' use of alcohol, tobacco, and other drugs. One large study of SBHCs serving low-income, inner-city African American adolescents found that prevention programming had a positive effect on substance use behaviors of (Robinson et al. 2003). A survey of 2,114 9th- and 11th-grade students from seven inner-city public high schools (three with SBHCs and four without SBHCs) identified 598 SBHC students and 598 non-SBHC students who were matched using ethnicity, grade, gender, and propensity scores. Tobacco and marijuana use, but not alcohol use, decreased in schools with SBHCs while the same behaviors increased in schools without these centers.

Consumer Satisfaction and Acceptability of Services

Acceptability of services is critically important to assuring adolescents' utilization of SBHC services. The results of several studies indicate that adolescents are satisfied with the services that they

receive from SBHCs. Santelli et al. (1996) found that 86% of students enrolled in a school-based health center rated the quality of care as satisfactory to excellent and 79% rated privacy in the SBHC as satisfactory to excellent. Pastore et al. (1998) found that 92% of students using the SBHC were satisfied with the services received there, 79% were comfortable being seen in the center, and 74% believed visits were kept confidential.

Adolescents may experience some initial reticence in utilizing the services of a SBHC, particularly if they already have a satisfactory primary care provider (Rickert et al. 1997). Some adolescents may not understand the comprehensive nature of SBHC services and therefore not use the SBHC when appropriate services exist. Students, however, tend to support school-based health centers and students with the greatest exposure to SBHCs (attending or enrolling in a school with a center or using services at the health center) had the most favorable attitudes toward the school-based health center (Santelli et al. 1996).

Impact on Academic Performance, Graduation, and Dropout Rates

Although there have not been a large number of studies of the academic benefits of SBHCs, there is some evidence that the use of SBHC services is associated with improvements in academic performance and graduation rates and a reduction in dropout rates. Because academic performance has multiple influences, it is not easy to directly relate SBHC services to improvements in academic performance. Center services may, however, address intermediate outcomes, such as improving emotional and health status or reducing smoking or other drug use, that will improve learning (Geierstanger et al. 2004).

A number of studies demonstrated a positive effect of SBHCs on academic progression. One study found that students' involvement in SBHC services had a positive effect on the number of credits completed and the students' academic aspirations (Warren and Fancsali 2000). Students in a large urban school district who received

school-based mental health services had a 95% decrease in disciplinary referrals and a 31% decrease in failing course grades (Jennings et al. 2000). Students who received services through a SBHC dropout prevention program had a decrease in disciplinary referrals (Witt et al. 1999). Alternative school students who used the services of a SBHC were twice as likely to stay in school and graduate as were students who did not use the center (McCord et al. 1993).

The Challenge of Funding

Funding from two major philanthropic organizations had a tremendous impact on the initial growth and development of SBHCs (Weist and Schlitt 1998). The Robert Wood Johnson Foundation has provided a significant amount of financial support to establish SBHCs and to develop a model standard of care for school-based health care practice. The Foundation provided support for the Making the Grade project to assist states nationwide to establish SBHCs. The W. K. Kellogg Foundation also funded school-based health care projects throughout the country. This foundation provided an infrastructure grant to the National Assembly for School-Based Health Care to build the organization's membership and enable the development of technical assistance capabilities for local SBHCs.

Although SBHCs often relied on grant funding for start-up, ongoing funding for most SBHCs typically consists of resources from a combination of sources (Balassone et al. 1991; Brindis et al. 2003). State funding, in-kind resources from schools or community agencies, and, later, third party revenues became the primary means of funding services. Federal government support has come from a number of agencies including Bureau of Primary Health Care and the Bureau of Maternal and Child Health of the Health Resources and Services Administration and the Centers for Disease Control. Many states provide funding to help establish and operate the SBHCs, typically through funneling block grant funds or through allocation of general revenue funds. Some states also provide technical assistance or

staffing through the resources of another state-funded agency (such as the Public Health Department).

Support from private institutions figures prominently in funding the centers. Hospitals are one of the most common cosponsors of SBHCs providing both funding and staffing resources for their operation (Classroom Care Catches On 1998). SBHCs routinely seek reimbursement for services from third party payers, including both Medicaid and private insurers (Koppelman and Lear 1998). Some managed care providers have recognized SBHCs as a cost-effective way to provide primary care and have allotted a portion of the primary care capitation to support them (Gadomski et al. 1998). Third party revenues, however, have been much lower than has been projected due to a variety of factors (Brindis et al. 2003).

The Future of SBHCs for Adolescent Health Care

The provision of adequate health care for all Americans is one of the most controversial issues facing the nation. School-based health centers are quickly becoming a part of the mainstream health care system and are an important resource for primary care services for children and adolescents (Weinstein 2006). SBHCs are well positioned to provide physical and mental health services that ensure adequate access to care for adolescents in a timely and cost-effective manner. For adolescents the strategic location of SBHCs in schools provides the unique opportunity to meet their physical and mental health needs in a convenient setting.

Despite the widespread acceptability of services provided by SBHCs, only about 2% of all school-age children and adolescents are in schools that offer school-based health care (Brindis et al. 2003). Funding is often a problem for both establishing and continuing SBHC services and current funding models and resource allocations vary widely across SBHCs. The challenge in the future is to develop a consistent and reliable funding base that consists of private and public resources as well as expanding third party health

coverage programs. It is hoped that SBHCs will be included in the discussion surrounding health care reform in the USA.

References

- Adelman, H. S. (1998). School counseling, psychological and social services. In E. Marx & S. Wooley (Eds.), *Health is academic: A guide to coordinated school health programs* (pp. 142–168). New York: Teachers College Press.
- Albert, D. A., McManus, J. M., & Mitchell, D. A. (2005). Models for delivering school-based dental care. *The Journal of School Health, 75*, 157–161.
- Allensworth, D. D., Lawson, E., Nicholson, L., & Wyche, J. (1997). *Schools and health: Our nation's investment*. Washington, DC: National Academy Press.
- Balassone, M. L., Bell, M., & Peterfreund, N. (1991). School-based clinics: An update for social workers. *Social Work in Education, 13*, 162–176.
- Barnet, B., Duggan, A., & Devoe, M. (2003). Reduced low birth weight for teenagers receiving prenatal care at a school-based health center: Effect of access and comprehensive care. *The Journal of Adolescent Health, 33*, 349–358.
- Barnet, B., Arroyo, C., Devoe, M., & Duggan, A. (2004). Reduced school dropout rates among adolescent mothers receiving school-based prenatal care. *Archives of Pediatric and Adolescent Medicine, 158*, 262–268.
- Brindis, C. D., Klein, J., Schlitt, J., Santelli, J., Juszczak, L., & Nystrom, R. J. (2003). School-based health centers: Accessibility and accountability. *The Journal of Adolescent Health, 32*, 98–107.
- Brown, M. B., & Bolen, L. M. (2003). School-based health centers: Strategies for meeting the physical and mental health needs of children and families. *Psychology in the Schools, 40*, 279–287.
- Brown, M. B., & Bolen, L. M. (2008). The school-based health center as a resource for prevention and health promotion. *Psychology in the Schools, 45*, 28–38.
- Classroom care catches on. (1998). *Modern Healthcare, 28*(45), 54.
- Clauss-Ehlers, C. S. (2003). Promoting ecologic health resilience for minority youth: Enhancing health care access through the school health center. *Psychology in the Schools, 40*, 265–278.
- Crespo, R. D., & Shaler, G. A. (2000). Assessment of school-based health centers in a rural state: The West Virginia experience. *The Journal of Adolescent Health, 26*, 187–193.
- Davis, T. K. (2005). Beyond the physical examination: The nurse practitioner's role in adolescent risk reduction and resiliency building in a school-based health center. *The Nursing Clinics of North America, 40*, 649–660.
- Davis, T. K., Montford, C. R., & Read, C. (2005). Interdisciplinary teamwork in a school-based health center. *The Nursing Clinics of North America, 40*, 699–709.

- Dryfoos, J. G. (1998). School-based health centers and education reform. *The Journal of School Health, 68*, 404–408.
- Farmer, J. E., Clark, M. J., & Marien, W. E. (2003). Building systems of care for children with chronic health conditions. *Rehabilitation Psychology, 48*, 242–249.
- Fiester, L., Nathanson, S. P., Visser, L., & Martin, J. (1996). Lessons learned from three violence prevention projects. *The Journal of School Health, 66*, 344–346.
- Fothergill, K., & Feijoo, A. (2000). Family planning services at school-based health centers: Findings from a national survey. *The Journal of Adolescent Health, 27*, 166–169.
- Gadomski, A., McLaud, B., Lewis, C., & Kjolhede, C. (1998). Assessing rural community viewpoints to implement a school-based health center. *The Journal of School Health, 68*, 304–307.
- Gall, G., Pagano, M. E., Desmond, M. S., Perrin, J. M., & Murphy, J. M. (2000). Utility of psychosocial screening in a school-based health center. *The Journal of School Health, 70*, 292–299.
- Geierstanger, S. P., Amaral, G., Mansour, M., & Walters, S. R. (2004). School-based health centers and academic performance: Research, challenges, and recommendations. *The Journal of School Health, 74*, 347–352.
- Gustafson, E. M. (2005). History and overview of school-based health centers in the US. *Nursing Clinics of America, 40*, 595–606.
- Jennings, J., Pearson, G., & Harris, M. (2000). Implementing and maintaining school-based mental health services in a large, urban school district. *The Journal of School Health, 70*, 201–206.
- Jepson, L., Juszczak, L., & Fisher, M. (1998). Mental health care in a high school based health service. *Adolescence, 33*, 1–16.
- Koppelman, J., & Lear, J. G. (1998). The new child health insurance expansions: How will school-based health centers fit in? *The Journal of School Health, 68*, 441–446.
- Mason, M. J., & Wood, T. A. (2000). Clinical mental health training within a multidisciplinary school-based health clinic. *Journal of Health & Social Policy, 11*, 45–65.
- McCord, M. D., Klein, J. D., Foy, J. M., & Fothergill, K. (1993). School-based clinic use and school performance. *The Journal of Adolescent Health, 14*, 91–98.
- Mears, C. J., Charlebois, N. M., & Holl, J. L. (2006). Medication adherence among adolescents in a school-based health center. *The Journal of School Health, 76*, 52–56.
- Meyers, A. B., & Swerdlik, M. E. (2003). School-based health centers: Opportunities and challenges for school psychologists. *Psychology in the Schools, 40*, 253–264.
- National Assembly for School-Based Health Care. (2000). *School-based health centers play increasingly important role in children's health, national survey shows*. Retrieved 2 Aug 2002, from <http://www.nasbhc.org/censusnews.html>.
- Pastore, D. R., Juszczak, L., Fisher, M. M., & Friedman, S. B. (1998). School-based health center utilization: A survey of user and nonusers. *Archives of Pediatric Adolescent Medicine, 152*, 763–767.
- Pastore, D. R., Murray, P. J., & Juszczak, L. (2001). School-based health centers: Position paper of the Society for Adolescent Medicine. *The Journal of Adolescent Health, 29*, 448–450.
- Perkins, H. J., & Montford, C. R. (2005). The impact of violence on adolescents in schools: A case study on the role of school-based health centers. *The Nursing Clinics of North America, 40*, 671–679.
- Rickert, V. I., Davis, S. O., Riley, A. W., et al. (1997). Rural school-based clinics: Are adolescents willing to use them and what services do they want? *The Journal of School Health, 67*, 144–148.
- Robinson, W. L., Harper, G. W., & Schoeny, M. E. (2003). Reducing substance use among African American adolescents: Effectiveness of school-based health centers. *Clinical Psychology: Science and Practice, 10*, 491–504.
- Santelli, J., Kouzis, A., & Newcomer, S. (1996). Student attitudes toward school-based health centers. *The Journal of Adolescent Health, 18*, 349–356.
- Santelli, J. S., Nystrom, M. A., Brindis, C., Juszczak, L., Klein, J. D., Bearss, N., et al. (2003). Reproductive health in school-based health centers: Findings from the 1998–99 census of school-based health centers. *The Journal of Adolescent Health, 32*, 443–451.
- Santor, D. A., Poulin, C., LeBlanc, J. C., & Kusumakar, V. (2006). Examining school health center utilization as a function of mood disturbance and mental health difficulties. *The Journal of Adolescent Health, 39*, 729–735.
- Summers, L. C., Williams, J., Borges, W., Ortiz, M., Schaefer, S., & Liehr, P. (2003). School-based health center viability: Application of the COPC model. *Issues in Comprehensive Pediatric Nursing, 26*, 231–251.
- The Center for Health and Health Care in Schools. (2002). *2002 state survey of school-based health center initiatives*. Retrieved 5 Aug 2006 from <http://www.healthinschools.org/sbhcs/2002rpt.asp>.
- United States Public Health Service. (1999). *Mental health: A report of the surgeon general*. Washington, DC: National Institute of Mental Health.
- Warren, C., & Fancsali, C. (2000). *New Jersey school-based youth services program: Final report*. New York: Academy for Educational Development.
- Weinstein, J. (2006). School-based health centers and the primary care physician: An opportunity for collaborative care. *Primary Care, 33*, 305–315.
- Weist, M. D., & Schlitt, J. (1998). Alliances and school-based health care. *The Journal of School Health, 68*, 401–403.
- Witt, J. C., Vanderheyden, A., & Penton, C. (1999). Prevention of common mental health problems among adolescents: National and local best practices in school-based health centers. *The Journal of the Louisiana State Medical Society, 151*, 631–638.

Searches and Seizures in Schools

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Overview

Citizens enjoy rights against inappropriate intrusions by the government. Adolescents, however, have reduced protections. Those reductions are exemplified in public school contexts, as highlighted by the ability of school officials to infringe on students' rights to privacy in ways that the government could not if it were dealing with adults in other contexts. This article examines the foundation of those differences by focusing on the leading Supreme Court case in this area, and it highlights the implications that the differences hold for adolescents.

Searching and Seizing Students

One of the most important protections retained by citizens is the right to protection against arbitrary invasions by government officials through the legal system's recognition of the right to reasonable expectations of privacy (Levesque 2006, 2016). For example, in the United States, the Fourth Amendment to the Constitution protects individuals from unreasonable searches and seizures, a protection enforceable against the states through the due process clause of the Fourteenth Amendment. Given that the Constitution was meant to protect individuals from their governments, the framers of the Constitution intended that the Amendment apply only to searches conducted by agents of the government and not to acts by private individuals. Although the focus on protecting individuals from the government is no longer controversial, exactly what that protection means has been the subject of a considerable number of commentaries and Supreme Court cases.

This essay focuses on searches in schools, the context in which adolescents likely encounter the

most searches by individuals who are deemed "state actors." The analysis necessarily starts with a brief synopsis of the Constitution's mandates and turns to a leading case that has laid the foundation for "administrative searches" (searches conducted outside of the law enforcement context). But, it is important to note that the focus on public schools (essentially those directly supported by the government) leaves generally unprotected students who are in private schools. In many ways, students in private school have the protection that schools and parents want to grant them; the Constitution generally does not reach them.

Constitutional Mandates

Regardless of the contexts in which searches and seizures occur, they are controlled by the Fourth Amendment when the searches and seizures are conducted by state officials. The Amendment contains two clauses. The first is the "reasonable clause" mandate stating that the right of the people to be secure in their persons and effects, against unreasonable searches and seizures, shall not be violated. The second is the "warrant clause," which provides that no warrants shall issue but upon probable cause. Much controversy has resulted from efforts to determine the relationships between these two clauses, and the resulting jurisprudence in this area is often viewed as strikingly complicated, especially given that it has so many exceptions. Among the most important exceptions is the "special needs doctrine." The doctrine permits a departure from the constitutional requirement of probable cause when exceptional circumstances in which special needs, beyond the normal need for law enforcement, make the probable cause requirement impracticable. In these instances, a court balances the interests of the government against the individual's privacy interests to determine the reasonableness of a search. If the search is deemed reasonable, then the evidence found against an individual can be used against them. That doctrine came to be applied to adolescents in schools in the case of *New Jersey v. T.L.O.* (1985).

New Jersey v. T.L.O.

In the *New Jersey v. T.L.O.* case, a New Jersey high school teacher discovered a 14-year-old freshman smoking in a lavatory, which was in violation of a school rule, and brought her to the principal's office. When questioned by an assistant vice principal, the student denied that she had been smoking and claimed that she did not smoke at all. The assistant vice principal then demanded to see her purse, opened it, found a pack of cigarettes, and, upon removing the cigarettes, noticed a pack of cigarette rolling papers, which he associated with the use of marijuana. The assistant vice principal proceeded to search the purse thoroughly and found a small amount of marijuana, a pipe, a number of empty plastic bags, a substantial quantity of money in one-dollar bills, an index card containing a list of those students who owed the student money, and two letters that implicated the student in marijuana dealing. The evidence was turned over to law enforcement. A New Jersey juvenile court admitted the evidence discovered in delinquency proceedings against the student, holding that a school official may properly conduct a search of a student's person if the official has a reasonable suspicion that a crime has been or is in the process of being committed, or reasonable cause to believe that the search is necessary to maintain school discipline or enforce school policy, and that the search in this case was a reasonable one under this standard. The court found the student to be a delinquent and sentenced her to a year's probation. An appellate court affirmed the trial court's finding that there had been no Fourth Amendment violation, but vacated the adjudication of delinquency on other grounds and remanded for a determination whether the student had willingly and voluntarily waived her Fifth Amendment rights before confessing. Addressing the Fourth Amendment claim, the Supreme Court of New Jersey reversed the judgment of the appeals court and ordered the suppression of the evidence found in the purse, holding that the search of the purse was not reasonable.

The United States Supreme Court reversed. The Court held that the Fourth Amendment's prohibition on unreasonable searches and seizures

applies to searches conducted by public school officials. The Court continued and found, however, that school officials need not obtain a warrant before searching a student who is under their authority. It further held that school officials need not strictly adhere to the requirement that searches be based on probable cause to believe that the subject of the search has violated or is violating the law and that the legality of their search of a student should depend simply on the reasonableness, under all the circumstances, of the search. In adopting the reasonable grounds standard, the Court reasoned that the standard will spare teachers and school officials the necessity of schooling themselves in the niceties of probable cause and permit them to regulate their conduct according to the dictates of reason and common sense. It concluded that the search in this case was not unreasonable under the Fourth Amendment.

Two important concurrences elaborated on the Court's position. The first expressed the opinion that greater emphasis should be placed on the special characteristics of elementary and secondary schools that make it unnecessary to afford students the same constitutional protections granted adults and juveniles in a nonschool setting. The second expressed the view that the special need for an immediate response to behavior that threatens either the safety of schoolchildren and teachers or the educational process itself justifies the court in excepting school searches from the warrant and probable cause requirements and in applying a standard determined by balancing the relevant interests.

Two dissenting opinions would have held that the search in question had violated the student's Fourth Amendment rights. The first dissent expressed the view that teachers, like all other government officials, must conform their conduct to the Fourth Amendment's protections of personal privacy and personal security, that the Fourth Amendment's language compels that school searches like that conducted in this case are valid only if supported by probable cause, and that the search in this case failed to meet the probable cause standard. The second dissent expressed the view that the court has misapplied the standard of reasonableness embodied in the Fourth Amendment; that a standard better attuned

to the concern for violence and unlawful behavior in the schools would permit teachers and school administrators to search a student when they have reason to believe that the search will uncover evidence that the student is violating the law or engaging in conduct that is seriously disruptive of school order, or the educational process; and that the search in this case failed to meet this standard.

New Jersey v. T.L.O. is of significance in that it marked the first time that the Supreme Court attempted to reconcile the privacy rights of students against the government's interest in maintaining an environment conducive to learning. Although the Court held that the Fourth Amendment's prohibition on unreasonable searches and seizures applied to searches conducted by public school officials, it held that the legality of searches by school officials should be assessed against a standard lower than that of probable cause because schools have a "special need," for example, to maintain control in the classroom. The reasonable suspicion replaced probable cause as the level of evidence necessary to pass constitutional muster, and this would open the door to permitting a considerable amount of searches in schools.

Despite broad discretion granted schools, it is important to note that the Supreme Court has recently set limits. It did so in the context of strip searches of students. In that case, *Safford Unified School District v. Redding* (2009), the Court ruled on school officials' strip-searching a 13-year-old girl in a fruitless hunt for ibuprofen. The Court found that an overzealous investigation based on scant evidence violated the Fourth Amendment ban on unreasonable searches and seizures. Although the rule that emerged remains complicated, the Court did recognize that searches that are exceeding intrusive would require the school to have more compelling reasons to infringe on students' rights (see Levesque 2016). It remains to be seen how that case will influence the law in this area.

Conclusion

Adolescents have been recognized as having fundamental rights. However, the government has

long established that those rights can be reduced. A major context in which adolescents spend their lives, schools, reveals the important reasons for reducing those rights. Those reductions fundamentally deal with the need to provide the government with the flexibility to raise adolescents in ways that will inculcate desired values. Although some have objected to the broad discretion granted schools, it is clear that public schools retain that discretion. It also is clear that schools, which could enhance protections, pervasively seek to keep that broad power.

References

- Levesque, R. J. R. (2006). *The psychology and law of criminal justice processes*. Hauppauge: Nova Science.
- Levesque, R. J. (2016). *Adolescence, privacy, and the law: A developmental science perspective*. New York: Oxford University Press.
- New Jersey v. T.L.O.* (1985). 469 U.S. 325.
- Safford Unified School District v. Redding*. (2009). 557 U.S. 364.

Segregation and Desegregation

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Segregation can have several meanings, but in law it refers to formalized or institutionalized discrimination on the basis of a legally impermissible characteristic, such as race, gender, or disability, that separates individuals from each other. The separation may take many forms. Most notably, segregation involves geographical distancing and receives support from services that are provided through separate institutions and through similar legal and social structures. For example, segregation can take the form of placing students into schools predominantly separated by the race of the student and supported by the same school system. Although this area of law has involved many types of disputes (e.g., in the selection of juries and in other aspects of criminal

prosecutions, see Levesque 2006), it arguably is in the area of education that it has garnered the most legislative, judicial, and even public attention. Given that it also is that area of law that has the most direct influence on the adolescent experience, this essay first highlights the nature of segregation as it relates to legal systems and then focuses on how it relates to public education.

Segregation can result from official laws or policies (de jure segregation) or private citizen choices (de facto segregation). These distinctions are of significance. De facto segregation involves an imbalance in the relevant category (e.g., race or gender) but that imbalance is not supported or was not brought about by discriminatory actions by state officials. Given the lack of governmental actions, the imbalance typically is deemed permissible. That is, if segregation is determined to be de facto, the government had no role in it, and the legal system cannot require the segregated system to desegregate. On the other hand, de jure segregation is segregation according to a law or policy, it involves a governmental policy or law that deliberately operates to segregate based on an impermissible factor such as race. Since the state is directly involved, this form of segregation is deemed unconstitutional under the Equal Protection Clause of the Fourteenth Amendment of the U.S. Constitution (see *Parents Involved in Community Schools v. Seattle School Dist. No. 1*, 2007). The governmental policy or law will be found unconstitutional if courts find an intent to segregate. If the intent is found, then a court can order a desegregation plan, such as has been the practice involving public schools that were deemed segregated due to governmental actions. When dealing with the legal system's role in segregation and desegregation, then, much depends on the legal system's role in the creation and support of segregation.

Although there have been numerous cases involving segregation, the most important in US law likely is *Brown v. Board of Education* (1954). *Brown* made unconstitutional public school segregation based solely on race. By doing so, *Brown* forcefully rejected government-sponsored, racially segregated, separate-but-equal facilities in elementary and secondary

schools. The way it did so was by declaring that government-sponsored racial discrimination had no place in public schools. *Brown*, finding de jure segregation, laid the foundation for desegregation to follow, which is the government-sponsored removal of segregation. Importantly, eliminating the vestiges of segregation in a de jure system not only permits but also essentially requires the government to use race-based policies; it requires governments to take an affirmative duty to use race-based policies to end segregation. As the Court also later would find, the converse also is true: If there is no de jure segregation, then states cannot use race-based policies to end segregation; and that was the ultimate ruling in *Parents Involved in Community Schools v. Seattle School Dist. No. 1* (2007). That is, because segregation that is unintentional or de facto does not violate the Constitution, courts cannot require a de facto system to implement a desegregation plan. Equally importantly, if a community wishes to address de facto systems that segregate based on a protected category such as race, the Court in *Parents Involved* unambiguously established strict scrutiny as the relevant constitutional test for evaluating policies that used race in remedial plans. These legal developments translate into the notion that the Equal Protection Clause can be used to force a school system to use race-based policies to undo the effects of de jure segregation, but once the school system no longer is under court order to do so (no longer under a mandatory plan), the same Equal Protection Clause forbids school systems from using the same race-based policies to address the effects of de facto segregation. In *Parents Involved*, all of the justices agreed that the Constitution does not impose a duty to desegregate schools if the districts have not practiced racial discrimination; but all dissenters (unlike the ruling opinion) argued that the Constitution nevertheless still permitted it.

Recent developments in this area can be viewed as reflecting a significant turning point. The Supreme Court reveals a movement toward approaching desegregation efforts, such as those seeking to address problems of educational inequality that differentially relate to race, by

creating a system of legal responses that is colorblind. As *Parents Involved* reveals in the context of public schools (but not professional or graduate education), unless the state was under a court mandate to desegregate, efforts to desegregate may not be based on race. Remedial policies aimed to address de facto segregation cannot seek to remedy segregation by racial balancing; but they can be based on other factors, such as socio-economic status or simply increasing funding for certain programs. This approach adopts as its core value a principle of nondiscrimination and suggests a fundamental change in approaches to eliminating inequality, particularly as it appears to limit what would qualify as de jure segregation that warrants intervention. In a real sense, the latest case in this area permits what *Brown* had moved against. *Brown* had been part of a movement against the “separate but equal” doctrine that had allowed separation by race on the condition that the quality of each group’s public services was to remain equal. The Court’s recent interpretation likely permits more instances in which people are segregated.

Rather than viewing the current direction as a turning point, it could be argued that it simply reflects a clarification and further establishment of well-accepted principles relating to the place of the state in segregation. This view would suggest that the recent movement simply clarifies what the doctrine stood for; as long as the state is not formally involved (as it would be in de jure segregation), the segregation is permissible and the legal system cannot use racial categories to address it. This view puts considerable emphasis on *Brown’s* (1954, p. 495) language noting that segregation “solely on the basis of race” was what had denied minority youth the equal protection of the laws guaranteed by the Fourteenth Amendment, even though the physical facilities and other tangible factors might have been equal. *Brown* saw the use of race, by itself, as an impermissible factor in the creation of separate opportunities. As the leading opinion in *Parents Involved* (2007, pp. 747–748) forcefully held, “The way to stop discrimination on the basis of race is to stop discriminating on the basis of race.” *Parents Involved* would seek to not use race at all

and permits its use only as a remedy for past abuses and in a very narrow set of cases.

This area of law seeks to ensure equal treatment. The most recent interpretations of Constitutional mandates seek to ensure equal treatment to the extent that the law should not consider in desegregation efforts the factors that were used to segregate. Before these cases, there was a sense that the impermissible factors used for segregation (e.g., race) could be considered in remedying segregation. That still may be the case, but the legal system now considerably limits the use of the impermissible factors even to desegregate. In addition, and like before, recent cases continue to leave alone people’s private decisions to segregate or otherwise treat people differently based on factors that the law could not itself use in its legislative and judicial mandates. Discrimination law likely will continue to have more twists and turns, and those are likely to have a profound effect on the lives of adolescents, their opportunities, and the very nature of the society in which they live.

Cross-References

- ▶ [Discrimination](#)
- ▶ [Fundamental Rights](#)

References

- Brown v. Board of Education. (1954). 347 U.S. 483.
 Levesque, R. J. R. (2006). *The psychology and law of criminal justice processes*. Hauppauge: Nova Science.
 Parents Involved in Community Schools v. Seattle School Dist. No. 1. (2007). 551 U.S. 701.

Self-Actualization

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Self-actualization typically involves both a process that a person goes through to reach

their self-defined fullest potential or the actual outcome or realization of that potential. The study of adolescence has tended to focus on the types of conditions that should be in place for adolescents to concern themselves with self-actualization. Despite an increasing focus on positive youth development and thriving during adolescence, the actual state of being self-actualized tends to be assumed to occur during adulthood. This assumption has meant, with some notable exceptions, that research on self-actualization has tended to ignore adolescents (see Lerner 2004).

Theory and research relating to self-actualization has many important roots. The most notable ones come from humanistic psychology, especially from the work of Abraham Maslow (1943, 1970). Maslow described self-actualization as a need for self-fulfillment. People who are self-actualized are deemed to be basically satisfied people, that is, individuals who have had their other more basic needs met and who do not feel discontent or restlessness given that they feel that they are doing what they are fitted for. Maslow had postulated the existence of a hierarchy of needs, with actualization being the highest. According to Maslow, self-actualization could be met best once other needs had been met, such as physiological needs (shelter and warmth), safety (freedom from fear), belonging (feeling loved by families and friends) and self-esteem (respect for oneself and from others). Although he proposed a hierarchy of needs, the hierarchy was not intended to be rigid. However, he did argue that self-actualization would require individuals to address their other needs otherwise they would not have a sense that they have accomplished their potentials and become what they feel like they were supposed to be.

Although this concept has tended to not gain much attention from those who study the adolescent period, it is not difficult to discern its significance. Being content and fulfilled certainly remains an important goal, and the ground work for those goals may well be set during adolescence as well as earlier in life. Still, it is yet to examine

closely enough, for example, how self-actualization goals are set, how they influence social and psychological development, how they may vary across different individuals (especially in terms of gender and ethnicity), and how society can be structured to enhance the chances of reaching self-actualization. The positive youth development movement has begun to address some of these issues, and, in some ways, educational research always has considered some of these matters, at least tangentially by focusing on adolescents' aspirations and their sources (see Garg et al. 2007). But these efforts, especially those of the positive youth development movement, still tend to adopt a narrow view of actualization (such as life satisfaction, often equated with happiness) and often tend to not even use the term actualization (see Gilman et al. 2009). The positive youth development movement, like most fields that center on the adolescent period, generally assumes that the adolescent period is one of transition toward potential actualization rather than one that can involve the experience of actualization itself.

References

- Garg, R., Melanson, S., & Levin, E. (2007). Educational aspirations of male and female adolescents from single-parent and two biological parent families: A comparison of influential factors. *Journal of Youth and Adolescence*, 36, 1010–1023.
- Gilman, R., Huebner, E. S., & Furlong, M. J. (Eds.). (2009). *Handbook of positive psychology in the schools*. New York: Routledge.
- Lerner, R. M. (2004). *Liberty: Thriving and civic engagement among America's youth*. Thousand Oaks: Sage.
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50, 370–396.
- Maslow, A. (1970). *Motivation and personality* (2nd ed.). New York: Harper and Row.

Self-Competence

► Self-Perception

Self-Concept

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Overview

Adolescence is a time of significant physical and emotional change. One of the key themes of research into adolescence is how self-identity and social relationships change during this period and how parents, peers, and significant others influence the identity, actions, behaviors, and outcomes for adolescents (Carroll et al. 2009; Moni and Hay 2014). With the onset of puberty comes cognitive, physical, and sexual maturity that can produce psychosocial tensions and uncertainties. These are reflected in all aspects of the young person's life including relationships with parents, authority figures, teachers, and same- and opposite-sex peers. All of these factors can create and nurture changes and at times doubts about one's self-identity and how one is perceived by others and how one perceives one's self. This essay focuses on adolescents' self-concept and its development within a theoretical framework that argues that a positive self-identify during adolescence is an important protective and emotional resilience factor that can help moderate risk factors in adolescents' homes, schools, and communities. Although self-concept is a relatively stable variable it can be modified through feedback, reflective thinking, cognitive reframing, and positive therapeutic relationships (Carr 2015).

The Construct and Relevance of Self-Concept

It is generally accepted that self-concept is a multidimensional construct (Cole et al. 2001;

Hattie 2009, 2014), with Marsh (Marsh 1990) suggesting that it has three main developing components: the cognitive self, the social self, and the physical self. Although self-concept has its origins in the earlier years of life, it becomes increasingly differentiated across the transitional years between childhood and adulthood, such that the person's profile across different self-concept dimensions can vary depending on experiences, perceived feedback, frame-of-reference comparison group, and perceived attributes across different self-dimensions (Hattie 2014). From childhood through to late adolescence an individual's cognitive component is influenced by factors, such as school and academic performance, the social component is influenced by relationships and popularity with peers and friends, and the person's physical component is affected by factors, such as appearance, physical, and athletic prowess. Harter (1996) included a fourth dimension. She suggested that the cognitive, social, and physical self-dimensions contribute to an individual's sense of self-worth, although Marsh (Marsh and O'Mara 2009) provided contrary evidence to suggest that general self-worth might be a separate dimension. Self-concept emerges over time as individuals observe and then categorize and rank themselves, their performance and attributes in relative to others, based on their perceptions, and goals, and their acceptance of the feedback from others and their own self-evaluations (Stets and Burke 2005).

The identification of the factors that influence the development of adolescent males' and females' sense of self-concept and self-identity should enable educators, psychologists, and others to understand and assist young people through the sometimes tumultuous period of adolescence. This is a time when there is an increased risk of emotional highs and low and instability that can lead to depression, anxiety, and even suicide attempts. The consequences of these negative occurrences can persist into adulthood (Riesch et al. 2008; Walsh and Eggert 2008). Thus, individual differences in self-concept are thought to be an important

construct in psychology and education because of the interactions between the students' affective development and their cognitive, psychological, and social development. There is, for example, evidence of a reciprocal relationship between students' academic self-concepts and academic achievement (Hay et al. 1997; Marsh and Craven 2006; Marsh and O'Mara 2009). Self-concept is thought to influence achievement and behavior through students' motivation and self-regulatory processes (Marsh et al. 2005; Wentzel and Miele 2016).

Individuals with low self-concept have been shown to have less positive characteristics in the domains of cooperation, persistence, leadership, anxiety, expectations for future education, and peer interactions when compared to their peers with high self-concept (Hay et al. 1998a). Low self-concepts, low educational aspirations, external locus of control, and negative attitudes toward school are also considered to be interrelated (Hay et al. 2000b; Marsh et al. 2005) such that students with a positive academic self-concepts have reduced test anxiety, long-term educational goals, and high school retention (Marsh and O'Mara 2009). The links between students' level of self-efficacy, self-concept, and academic achievement have also been linked to their teachers' level of classroom competencies. For example, teachers' higher in terms of their pedagogical content knowledge and interest in teaching mathematics had a significant positive influence on their students' level of motivation, self-efficacy and mathematical achievement (Hay et al. 2015).

An adolescent's ability to communicate effectively with parents, other adults, and with peers and to seek help and support is linked to one's perception of self. Flook et al. (2005) argued that there is a reciprocal relationship between internalizing symptoms (such as low self-concept) and low coping skills, and lack of social support. The ability of early adolescents to cope with stressful situations is significantly correlated with social friendship patterns. For example, several writers have emphasized the importance of friends and friendship networks for adolescents as they act as a protective factor in situations that prove to be

stressful in and outside of the family home (Black 2000; Carr 2015; Rubin et al. 2004), and within the school's social and educational context (Juvonen and Knifsend 2016; Simmons and Hay 2010). Certainly, the transition from elementary (primary) school to high school is associated with a reduction in students' academic self-concept (Hattie 2014; Hopwood et al. 2016), in part because the secondary school context becomes more demanding in the secondary school but also because the comparison reference group becomes the whole grade and a number of teachers so it is larger and more complex than in the elementary (primary) school where the feedback is often received from one teacher and the one classroom of children is the reference group.

Parents and Peers

There is broad agreement that parents, peers, and significant others (e.g., teachers) provide information, feedback, and reactions that shape adolescents' self-concept and life satisfaction (Harter 1996; Hay et al. 1997; Lee et al. 2006). In particular, Lee et al. found that different parenting practices and styles were associated with different self-concept profiles. For example, they found that an authoritative parenting style typically was associated with children's positive self-concepts when compared to authoritarian or indifferent parenting styles. In addition, parents who were less engaged with their children or who were inconsistent in their parenting practices seemed to raise children with a less positive self-concept profile. This self-concept profile appears to derive from the parents' lack of engagement in their children's decision-making and lack of structure and monitoring of their children's behavior. Adolescents with high levels of perceived support from both parents had low levels of depressive feelings and high levels of social and academic self-efficacy (Graziano et al. 2009). In addition to family and home support, the claim is a more open communication pattern between the child and the parent has a positive influence on the students' social, cognitive, and psychological development

and wellbeing (Galvin et al. 2015). In addition, when home and school are connected, when they share common values, when they mutually support each other, and when the students are connected to the home and to the school, there is a greater likelihood of a long-term positive educational and social and psychological outcome for the students (Hay et al. 2016; Wilkinson-Lee et al. 2011). Importantly, Hay et al. (2016) found that parent-child connectedness was independent of the family's socioeconomic status and was an independent psychosocial variable affecting the child's school and personal development. Furthermore, adolescents who have a strong connectedness to their parents reported high life satisfaction, higher self-concept scores, and higher levels of self-worth and self-confidence and lower levels of depression (see e.g., Hay et al. 1998b; Ma and Huebner 2008; O'Koon 1997; Shochet et al. 2008). Positive adolescent-parent relationships have also been shown to exert a positive influence on teenagers' self-concept formation and well into adulthood (Roberts and Bengston 1996; Noller and Atkin 2014).

Research on the development of children's self-concept from a cross-cultural perspective has produced mixed results. On the one hand, Tashakkori (1993) identified no differences between African American and Caucasian American youth on global measures of self-esteem; while on the other hand, Osborne (1995) found that Caucasian American youth scored higher than African Americans on social and academic self-concept measures. There is, however, some evidence that students from lower socioeconomic status (SES) communities have a greater prevalence of low academic self-concept (Hattie 2014). This association is believed to be an indirect affect, because students in these communities have more on going academic and literacy difficulties (Beitchman et al. 2001; Boetsch et al. 1996; Hay et al. 2007; Hay and Fielding-Barnsley 2009), such that low SES is a risk factor in terms of students' initial and ongoing schooling and academic and social development (Cashmore 2001; Snow and Powell 2008). Parents' educational expectations of their children are also considered to have an indirect influence on

students' academic achievement and academic self-concept (Neuenschwander et al. 2007).

There are also differing views about the roles that parents and peers play in adolescents' socialization. One opinion emphasizes the dominance of youth culture with its own values, norms, and expectations that is distinct from, and at times in competition with, the parental culture (Johansson 2016). Kaplan (1996), for example, maintained that during adolescence, peers become the dominant influence on individuals' self-concept development. The second opinion holds that parents and peers can be partners in the adolescents' socialization process. From this latter perspective, adolescents increasingly transfer their emotional attachment from parents to peers in a process called individuation (Hay and Ashman 2003; Noller and Atkin 2014). In this process, adolescents typically remain emotionally connected to their parents but progressively use peers to support their independence and autonomy and engage in adventurous behavior away from their parents. During this individuation stage, parents remain a source of advice and economic and emotional support, where adolescents perceive their parents as significant reference points to validate their behaviors and self-concept. Consequently, there appears to be some support for the view that parent relationships play a ongoing and important role than peer relationships in the development of adolescents' self-concept (Dekovic and Meeus 1997; Hay et al. 2015; Ma and Huebner 2008).

Sex Differences

Reviews of the research outcomes on self-concept test scores and the differences between males and females report equivocal results (Crain 1996; Gentile et al. 2009). At times, sex differences have appeared in cognitive and physical aspects of self-concept and at other times there is a lack of differences within the same domains (Crocker et al. 2000). A recent trend in the investigation of sex difference and self-concept has been the generation of large-scale meta-analyses research studies. Using this approach, Babic et al. (2014)

noted that boys placed importance on physical activity and general physical self-concept, and Hattie (2014) reported that boys achieved higher scores generally than girls, slightly higher scores for academic and social domains, but similar scores to girls for behavior conduct self-concept. In a meta-analysis of the sex and self-concept dimensions, Gentile et al. (2009) focused on adult studies and noted that males scored highly in the self-concept domains of physical appearance, athletic, personal self, and self-satisfaction, while women had higher scores than men in domains associated with behavior and moral-ethical dimensions. Although such meta-analyses are helpful and bring together a wide range of sex and self-concept test results that have been generated over the years, the limitation is the tabulation of data from a range of self-concept instruments, some of which have been criticized for their questionable design and theoretical rigor as well as their psychometric and developmental quality (see Byrne 1996, for review).

Much of the contemporary school self-concept research has concentrated on the differences between males' and females' academic achievement and their self-concept scores (Byrne 1996; Hay et al. 1998c). For example, Hay et al. reported that preadolescent girls had high academic abilities in reading, spelling, and mathematics but they only achieved high reading self-concept scores. The indications are that sex difference in reading self-concept and achievement is also influenced by sex differences in students' goal orientation. Hyde and Durik (2005), for example, maintained that in the domain of reading and English, than girls used more of a mastery goal orientation. They wanted to understand the detail while boys were outcome and performance orientated, wanting to finish the reading and the activity.

What has been of particular interest in the research conducted by the authors of this essay (i.e., Hay et al. 1998c) is the lack of conversion of girls' high mathematics abilities into high mathematical self-concept scores, and the underlying factors that influence the formation of males' and females' general self, the domain that Hattie (2014) identified as being highly related to students' confidence in self and emotional well-

being. It is thought that girls' general self-attributes are satisfied at the expense of their academic achievement. This is particularly apparent in girls who reach late adolescents and do not perceive school variables as relevant in the formation of their self-identity as adults (Baran 1987; Hay et al. 1998c). Gender stereotyping is, thus, thought to decrease adolescent girls' achievement motivation and encourage them to set low school aspirations (Eccles et al. 1993; Watt 2004).

Even when sex differences are found in the self-concept data, such findings do not address the question as to which factors have the greatest influence on the individuals' psychological adjustment in relation to gender, or the relative influence that parents and peers have on adolescents' psychological adjustment. In terms of the formation of an individual's psychological adjustment, there is a substantial literature on the role and impact of self-concept on internalizing problem behaviors. This leads to pessimism, self-blame, and depression (Cohen et al. 2014) and/or externalizing problem behaviors leading to displays of aggression and delinquency (Carroll et al. 2009; Donellan et al. 2005; Youngstrom et al. 2003).

Some differences have been reported between boys' and girls' internalizing and externalizing problems, with girls showing a tendency toward internalizing problems and boys toward externalizing problems (Räty et al. 2005; Ybrandt 2008). Ybrandt, for example, argued that self-autonomy and self-control were strongly related to externalizing problems for boys. She also emphasized the importance of a positive self-concept for both sexes but more so for adolescent girls' mental health than boys. She maintained that because girls are more interpersonally oriented than boys, they are more vulnerable to negative parental and family influences. Following this line of argument, Margolin et al. (1988) reported that males' self-concepts were more affected by authoritarian parental control dimensions, while females' self-concepts were more positively affected by intimacy with fathers. It has been argued that parents and others give different messages and feedback to males than to females (Blickenstaff 2005). For example, parents are reported to have higher

expectations of their son's academic progress and achievement than their daughter's (Butler-Por 1987), and that girls become more self-critical of their abilities because teachers give less positive and more negative feedback to girls in their class than they do to boys (Blickenstaff 2005; Sadker and Sadker 1994). Adolescent boys have reported higher levels of striving for success in school (Eccles et al. 1993; Hyde and Durik 2005) and stronger social and parental pressures to succeed in school than girls (Skaalvik 1983). On this point adolescent males report higher levels of self-concept clarity and self-concept stability but lower levels of prosociality self-concept than their females peers (Crogetti et al. 2016). Moreover, Hattie (2014) argued that adolescent boys placed value on being intelligent and under greater pressure from their families and significant others to adhere to stereotypical male role models, such as being the family "breadwinner," than girls to the stereotypical female roles (Eccles et al. 1993). In contrast, girls were family focused, sure of themselves, and generally liked by their classmates.

Some researchers who have studied the impact that peer relationships have on individuals' self-concept and emotional stability have claimed that girls demonstrate higher levels of attachments to their peers than boys, who have greater attachment to their parents (O'Koon 1997). Carroll et al. (2009) have offered an alternative point of view. They argued that the development of a boy's masculine self-image is established through group and reputational enhancement activities with male peers, particularly for boys involved in antisocial behavior.

Self-Concept and Emotional Stability

In their research, this essay's authors have attempted to deal with a number of the difficulties one faces when synthesizing the previous research on the influence of parent and peer influences on adolescents' self-concept and emotional stability. Although it is relatively easy to generate global statements about factors that affect the development of self-concept from childhood and into late

adolescence, there are many issues that affect individuals including age, disability, family background and dynamics, culture, same-sex and opposite-sex peer attachments, delinquency, and mental health, to name just a few. Researchers have addressed these issues individually but in no comprehensive multifactor way. For example, students' at risk of failing in their schooling responded to alternative programs that initially focused more on the students' self-concept, and their emotional, affective and behavioral dimensions rather than making the academic dimension the priority (Thomas et al. 2016). That is, students benefited from an educational intervention that was "wrapped" within an emotional support program that encouraged the students' ability to self-reflect on choices and consequences and to work on their attribution "retaining" that encouraged ownership of problems, choices, relationships, and reflective thinking.

This connection between the self-identify and leaning is also illustrated in the finding that the emotional setting of the classroom influenced adolescents' learning, and assisted adolescent students to like the content, such as mathematics (Carmichael et al. 2017; Hay et al. 2015). That is, the adolescent students liked mathematics more, and they enhanced their perceptions about mathematics and their performance in mathematics if they were encouraged by their teachers to discuss and self-reflect on the mathematical content and the teachers' related the content to what was interested and motivating to the students.

Researching the formation of general self-concept (confidence and self-worth) and emotional stability (calmness, freedom from anxiety, and depression) with adolescents aged 14.5 years, Hay et al. (2000a) and Hay et al. (1998c) identified parent relationships as a significant influence on males' but not females' emotional stability. Both males' and females' sense of self-worth was, however, influenced by their parental relationships. For females, opposite-sex peer relationships affected emotional stability, but for boys (and not girls) there was significant impact from same-sex peer relationships on emotional stability for this age group. Selman (1981) and Juvonen and Knifsend (2016) hypothesized that there is a

shift during adolescence, with peer relationships changing from a group intimacy stage to a stage of greater individual accountability for one's own actions and behaviors. Brown et al. (1986) also proposed that at about age 15 years, adolescents become less susceptible to group peer pressure.

An Illustrative Study of 16-Year-Olds' Self-Concept

An illustrative study conducted by the authors of this essay was based on a sample of 275 girls and 380 boys all attending Year (Grade) 10 in two government and three nongovernment schools in two Australian states. The schools were located in both urban and rural settings and across a range of socioeconomic areas. The mean age of the cohort was 16.0 years ($SD = 4.3$ months). The Self-Description Questionnaire-II (SDQ-II; Marsh 1990) was used to measure self-concept. The test includes three academic subtests (Mathematics, Verbal, and General School) and seven nonacademic subtests (Physical Ability, Physical Appearance, Opposite-Sex Relations, Same-Sex Relations, Parent Relations, Honesty-Trustworthiness, and Emotional Stability). The SDQ-II also provides a measure of General Self-concept. The focus of this research was on items in the SDQ-II self-concept test that investigated general self-concept (confidence and self-worth) and emotional stability (calmness, freedom from anxiety, and depression).

Multiple regression analyses were used to examine the relationships between general self and emotional stability and the academic and non-academic areas. Standardized beta values were calculated and produced significant t -values ($p < .01$) indicating the relevant beta values importance to the analyses undertaken using the boys' and the girls' SDQ-II ratings. Self-perceptions of mathematics ability, physical appearance, honesty and trustworthiness, emotional stability, and general school self-concept were important for both boys and girls. In other words, there were no sex differences on these SDQ-II subscales. Boys and girls differed on three subscales. The data revealed the importance

of boys' relationships with parents and with same-sex peers. These were not significant for girls. For the girls but not boys, self-perceptions of verbal ability were significant. These findings suggest that although there were some common variables that influenced the formation of adolescents' general self-concept and emotional stability, the variable pattern for each sex is slightly different. In a related study, Tarrant et al. (2006) also noted that adolescent boys reported higher levels of self-esteem than girls in the domain of emotional stability.

The above findings are important for four reasons. First, they challenge some previous views about boys' inability to articulate their personal thoughts and feelings (Lightfoot et al. 2012). Second, they suggest a reciprocal relationship between general self-concept and emotional stability, with confidence and self-worth both an influence on, and being influenced by, calmness, freedom from anxiety, and depression. Third, they challenge the belief that adolescent males are more concerned with establishing independence from parents than females. Fourth, they suggest that females develop emotional stability from parents earlier than males, which may be linked to their earlier onset of puberty compared to males (Natsuaki et al. 2009). On this last point, Natsuaki et al. claimed that early maturing girls had higher levels of internalizing problems, such as anxiety and depression, and these were partially attributed to girls' heightened self-sensitivity to their own general interpersonal stress.

In reviewing the self-concept literature, it is hard to know how much evidence is needed before one could confidently accept a relationship between variables as having been established. Certainly, there will always be variations within groups and individuals who do not conform to accepted patterns of behavior, for which the unique backgrounds cause disparity with empirical research. Overall, it appears to be somewhat contrary to expectations that the parent relationships are more important for 16-year-old boys' emotional stability, than for same-age girls', unless it is interpreted within a psychological and developmental framework. In other words, this process is part of normal human development

and adolescents increasingly transfer their emotional attachment from parents to peers in a process called individuation (Plunkett et al. 2016). An expected finding in the Hay and Ashman (2003) research was the influential nature of same-sex and opposite-sex friendships on adolescents' emotional stability. This is consistent with the belief that as adolescents develop and form their identity, they transfer their emotional attachment from parents to peers and others as they mature physically, intellectually, and emotionally.

Although Hay's longitudinal research (Hay et al. 1998b, c, 2000; Hay and Ashman 2003) was conducted using large-scale survey instruments, neuroimaging research by Sebastian et al. (2008) has demonstrated that activity in the brain regions associated with self-processing, including the medial prefrontal cortex, changes between early adolescence and adulthood. These studies indicate that neurocognitive development might contribute to behavioral phenomena characteristic of adolescence, such as heightened self-consciousness and susceptibility to peer influence. This research integrates well with this authors' own findings generated using developmental and social psychology research procedures. Again, there is evidence to suggest that girls may start this neurocognitive development earlier and so begin the process of developing their emotional stability away from their parents earlier, as the Hay and Ashman (2003) and the Natsuaki et al. (2009) research suggested.

One of the findings from the Hay et al. research is that during adolescence, networks of relationships outside of the family unit widen and take on greater importance in terms of the development of individuals' self-identity, coping strategies, and emotional stability (see Hay 2000; Hay et al. 1999; Hay and Ashman 2003; Hay et al. 1998c). Such widening acts as an early marker of adolescents' quest for self-autonomy and self-identity which in turn encourages their ability to select their own social relationships and advice. Both a positive self-identify and positive social relationships during adolescence are important protective and resilience factors that can help moderate against risk factors, such as poverty or disadvantage in the home and community, a claim that is

also made by Berger and Archer (2016) and Rutter (1979) from his seminal research on protective factors, children, and disadvantage.

Self-Identity and Social Context

At a basic level, adolescent self-identity can involve the adoption of dress conventions and ingroup behavior that reflect conduct standards of a circle of friends with whom one seeks affiliation. Put another way, seeking identity involves the conscious use of strategies that enhance personal and social power (Lindholm 2007). Establishing identity causes tensions between perceptions of self (e.g., self-sufficiency and independence) and the support and feedback that are garnered from others. During childhood and early adulthood, the family provides the foundations that are adjusted as young people develop friendship networks during and outside the school hours (Noller and Atkin 2014).

Of importance to all adolescents is the blurring of the positive, normative ways that encourage young people to develop a sense of belonging, self-reliance, autonomy, and connection with their peer group. Self-assurance develops through social interactions and peer support networks and also from young people's successes in formal and informal learning situations and in the adolescent years, through romantic relationships. Not surprisingly, for many teenagers there is a shift of influence from the family (parents) to one's peer group. The evidence is young people who see their friends as being supportive compared with those who do not report fewer school-related and psychological problems, greater confidence in their social acceptance by peers, and less loneliness (Bagwell et al. 1998; Simmons and Hay 2010). There is a further matter that might explain some of the inconsistencies that appear in the literature, namely, the change in sociocultural standards that have occurred over the past 40 years.

Those who were born between 1960 and roughly 1980 are referred to as Generation X (see Coupland 2015). Typically, in the Western world, this generation grew up in relatively stable

social circumstances in which previously held traditional family values were reconfirmed. There were, however, sociocultural changes developing that influenced their children's social and psychological development, such as greater migration from the rural to the urban environments, more transnational migration, greater media exposure through the internet and television of national and global tensions and events, the relatively rapid expansion of cities through housing developments, and economic growth generating new methods, industries, and services.

Today's adolescents are Generation Z, and the term implies the transition from Generations X and Y. Generally, these individuals in Generation Z are born into the Information Age, a period of rapid change and compared to their parents', a social world where there is greater cultural diversity and less focus on gender stereotypical values, expectations, and roles (Lightfoot et al. 2012).

Today's adolescents are said to be more technology dependent and use social networking and mobile devices to receive real time information and feedback from a range of sources that influences their self-identity and behaviors (Terras and Ramsay 2016). Information technology and social media devices are considered to influence adolescents' self-identity through the ability of adolescents to selectively seek out their own information on the internet, to communicate with others and to express their thoughts and feelings to an array of often like-minded people in different places who thus indirectly confirm a specific perspective on a topic (Carter and Grover 2015). The critical issue here is teachers and others need to inform adolescents of the necessary to be discerning when considering the information they access from the internet and to encourage adolescents to manage and balance the amount of time they spend online so there is time and opportunities for other aspects of the adolescents' multidimensional self-concept to develop. The evidence concerning information technology is problematic as internet use and computer-related addiction is a growing concern during adolescence (as it is for all other periods) and it can have a negative influence on the adolescents' social, physical, and academic

development (Yu et al. 2013). Given the evidence that social identity and social connectedness are keys to better understand the development and resolution of clinical adolescent depression (Cruwys et al. 2014), we are not arguing against adolescents' use of the internet and social media to maintain connectedness with peer, extended family members, and others but social connectedness also involves interacting with people within the wider social environment and at the face-to-face level.

Conclusion

Hattie (2009, 2014) used a metaphor for self-concept where, like rope, it contains many fibers that are intertwined with no single thread predominating. The strength of the rope depends upon not one fiber or strand, but the overlapping of fibers. This conceptualization is similar to one proposed by Cohen et al. (2014) and Koch and Shepperd (2004) in relation to self-complexity, the notion that the self is multifaceted rather than unitary. They argued that complexity comes from differences in the definition and confusion over how research is conducted and how the findings might be interpreted.

In the review of the self-concept literature and from work undertaken by the authors over the years, Hattie's metaphor makes sense. He makes a distinction between self-estimates of ability and self-concept of ability, the latter being what the researchers intend to measure while the former are the data actually collected. The field is hardly simplified by the plethora of research that draws individual bodies (fiber-specific) of research together showing interactive relationship between self and many variables with strong effects separating sex differences in some, although not all domains (Gentile et al. 2009).

It is highly unlikely that researchers will ever separate the threads to determine specifically their individual effects, but perhaps this is not the issue. In Hattie's (2009, 2014) model, the rope is a dynamic mix of variables involving affective, cognitive, and physiological strands. The suggestion is that the self-concept strand interacts with

the other variables but also influences how adolescents filter, select, and interpret the information they receive and act upon. Thus, this makes self-concept an important agent for maintaining or changing how individuals react to their life's events. The evidence is from research indicating that social connectedness with parents, peers, and school personnel play an important role in the formation of preadolescents and adolescents' general self-concept (confidence and self-worth) and emotional stability (calmness, freedom from anxiety, and depression). Consequently, it makes sense that there is a need to incorporate into the regular school curriculum, programs that assist children and adolescents to achieve a more secure sense of personal identity, and opportunities to develop positive levels of social connectedness and where necessary to provide individuals and their parents access to community and school-based support and counseling services that can facilitate the development of a positive self-identify formation, emotional stability, and coping skills. Although self-concept is a relatively stable variable, the evidence is a negative self-concept can be modified by feedback, reflective thinking, cognitive reframing, and positive therapeutic relationships such that a positive self-concept can be a protective factor against the challenges of adolescents and adulthood.

Cross-References

► Self-Perception

References

- Babic, M. J., Morgan, P. J., Plotnikoff, R. C., Lonsdale, C., White, R. L., & Lubans, D. R. (2014). Physical activity and physical self-concept in youth: Systematic review and meta-analysis. *Sports Medicine, 44*(11), 1589–1601.
- Bagwell, C. L., Newcomb, A. F., & Bukowski, W. M. (1998). Preadolescent friendship and peer rejection as predictors of adult adjustment. *Child Development, 69*, 140–153.
- Baran, G. (1987). Teaching girls science. In M. McNeil (Ed.), *Gender and expertise* (pp. 87–102). London: Free Association Books.
- Beitchman, J. H., Wilson, B., Johnson, C. J., Atkinson, L., Young, A., Adlaf, E., et al. (2001). Fourteen-year follow-up of speech/language-impairment and control children: Psychiatric outcomes. *Journal of the American Academy of Child and Adolescent Psychiatry, 40*, 75–82.
- Berger, N., & Archer, J. (2016). School socio-economic status and student socio-academic achievement goals in upper secondary contexts. *Social Psychology of Education, 19*(1), 175–194.
- Black, K. A. (2000). Gender differences in adolescents' behavior during conflict resolution tasks with best friends. *Adolescence, 35*, 499–512.
- Blickenstaff, J. C. (2005). Women and science careers: Leaky pipeline or gender filter? *Gender and Education, 17*, 369–386.
- Boetsch, E. A., Green, P. A., & Pennington, B. F. (1996). Psychosocial correlates of dyslexia across the life span. *Development and Psychopathology, 8*, 539–562.
- Brown, B. B., Clasen, D. R., & Eicher, S. A. (1986). Perception of peer pressure, peer conformity dispositions, and self reported behavior among adolescents. *Developmental Psychology, 22*, 521–530.
- Butler-Por, N. (1987). *Underachievers in school: Issues and intervention*. Chichester: Wiley.
- Byrne, B. M. (1996). *Measuring self-concept across the life span: Issues and instrumentation. Measurement and instrumentation in psychology*. Washington: American Psychological Association.
- Carr, A. (2015). *The handbook of child and adolescent clinical psychology: A contextual approach*. New York: Routledge.
- Carroll, A., Houghton, S., Durkin, K., & Hattie, J. (2009). *Adolescent reputations and risk: Developmental trajectories to delinquency*. New York: Springer.
- Carmichael, C., Callingham, R., & Watt, H. M. (2017). Classroom motivational environment influences on emotional and cognitive dimensions of student interest in mathematics. *ZDM, 1*–12.
- Carter, M., & Grover, V. (2015). Me, myself, and I (T): Conceptualizing information technology identity and its implications. *Mis Quarterly, 39*(4), 931–957.
- Cashmore, J. (2001). Family, early development and life course: Common risk and protective factors in pathways to prevention. In R. Eckersley, J. Dixon, & B. Douglas (Eds.), *The social origins of health and well-being* (pp. 216–224). Cambridge: Cambridge University Press.
- Cohen, J. R., Spiegler, K. M., Young, J. F., Hankin, B. L., & Abela, J. R. (2014). Self-structures, negative events, and adolescent depression: Clarifying the role of self-complexity in a prospective, multiwave study. *The Journal of Early Adolescence, 34*(6), 736–759.
- Cole, D. A., Maxwell, S. E., Martin, J. M., Peeke, L. G., Seroczynski, A. D., Tram, J. M., et al. (2001). The development of multiple domains of child and adolescent self-concept: A cohort sequential longitudinal design. *Child Development, 72*, 1723–1746.

- Coupland, D. (2015). *Generation X: Tales for an accelerated culture*. New York: Abacus.
- Crain, R. M. (1996). The influence of age, race, and gender on child and adolescent multidimensional self-concept. In B. A. Bracken (Ed.), *Handbook of self-concept: Developmental, social and clinical considerations* (pp. 395–420). New York: Wiley.
- Crocetti, E., Moscatelli, S., Van der Graaff, J., Rubini, M., Meeus, W., & Branje, S. (2016). The interplay of self-certainty and prosocial development in the transition from late adolescence to emerging adulthood. *European Journal of Personality, 30*(6), 594–607.
- Crocker, P. R. E., Eklund, R. C., & Kowalski, K. C. (2000). Children's physical activity and physical self-perceptions. *Journal of Sport Sciences, 18*, 383–394.
- Cruwys, T., Haslam, S. A., Dingle, G. A., Haslam, C., & Jetten, J. (2014). Depression and social identity: An integrative review. *Personality and Social Psychology Review, 18*(3), 215–238.
- Dekovic, M., & Meeus, W. (1997). Peer relations in adolescence: Effects of parenting and adolescents' self-concept. *Journal of Adolescence, 20*, 163–176.
- Donellan, M. B., Trzesniewski, K. H., Robins, R. W., Moffitt, T. E., & Caspi, A. (2005). Low self-esteem is related to aggression, antisocial behavior, and delinquency. *Psychological Science, 16*, 328–335.
- Eccles, J., Wigfield, A., Harold, R. D., & Blumenfeld, P. (1993). Age and gender differences in children's self and task perceptions during elementary school. *Child Development, 64*, 830–847.
- Flook, L., Repetti, R. L., & Ullman, J. B. (2005). Classroom social experiences as predictors of academic performance. *Developmental Psychology, 41*, 310–327.
- Galvin, K. M., Braithwaite, D. O., & Bylund, C. L. (2015). *Family communication: Cohesion and change*. Abingdon: Routledge.
- Gentile, B., Crabe, S., Dolan-Pascoe, B., Wells, B. E., & Maitino, A. (2009). Gender differences in domain specific self-esteem: A meta-analysis. *Review of General Psychology, 13*, 34–45.
- Graziano, F., Bonino, S., & Cattellino, E. (2009). Links between maternal and paternal support, depressive feelings and social and academic self-efficacy in adolescence. *European Journal of Developmental Psychology, 6*, 241–257.
- Harter, S. (1996). Historical roots of contemporary issues involving self-concept. In B. A. Bracken (Ed.), *Handbook of self-concept: Developmental, social, and clinical considerations* (pp. 1–37). New York: Wiley.
- Hattie, J. A. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. Abingdon: Routledge.
- Hattie, J. A. (2014). *Self-concept*. New York: Psychology Press.
- Hay, I. (2000). Gender self-concept profiles of students suspended from high school. *Journal of Child Psychology and Psychiatry, 41*, 345–352.
- Hay, I., & Ashman, A. F. (2003). The development of adolescents' emotional stability and general self-concept: The interplay of parents, peers and gender. *International Journal of Disability, Development and Education, 50*, 79–93.
- Hay, I., Ashman, A. F., & Ballinger, M. (2000a). Investigating the factors that influence the formation of adolescents' emotional stability and general self-concept. In H. Marsh & R. Craven (Eds.), *Self-concept theory, research and practice: Advances from the new millennium* (pp. 263–270). Sydney: University of Western Sydney.
- Hay, I., Ashman, A. F., & van Kraayenoord, C. (1997). Investigating the influence of achievement on self-concept using an intra-class design and a comparison of the PASS and the SDQ-1 self-concept tests. *The British Journal of Educational Psychology, 67*, 311–321.
- Hay, I., Ashman, A. F., & van Kraayenoord, C. (1998a). The educational characteristics of students with high or low self-concept. *Psychology in the Schools, 35*, 391–400.
- Hay, I., Ashman, A., & van Kraayenoord, C. (1998b). Self-concept test generalisability: Self-description questionnaire-1 and the perception of ability scale for students. *The Australian Educational and Developmental Psychologist, 15*, 70–80.
- Hay, I., Ashman, A., & van Kraayenoord, C. (1998c). The influence of gender, academic achievement and non-school factors upon pre-adolescent self-concept. *Educational Psychology, 18*, 461–470.
- Hay, I., Ashman, A., van Kraayenoord, C., & Stewart, A. (1999). The impact of self-verification on the formation of children's academic self-concept. *Journal of Educational Psychology, 91*, 225–229.
- Hay, I., Byrne, M., & Butler, C. (2000b). Evaluation of a reflective thinking, problem solving program to enhance adolescents' self-concept. *British Journal of Guidance and Counselling, 28*, 101–113.
- Hay, I., Callingham, R., & Carmichael, C. (2015). Interest, self-efficacy, and academic achievement in a statistics lesson. In K. A. Renninger, M. Nieswandt, & S. Hidi (Eds.), *Interest in mathematics and science learning and related activity* (pp. 173–188). Washington, DC: American Educational Research Association.
- Hay, I., Elias, G., Fielding-Barnsley, R., Homel, R., & Frieberg, K. (2007). Language delays, reading delays and learning difficulties: Interactive elements requiring multidimensional programming. *Journal of Learning Disabilities, 40*, 400–409.
- Hay, I., & Fielding-Barnsley, R. (2009). Competencies that underpin children's transition into early literacy. *Australian Journal of Language and Literacy, 32*, 148–162.
- Hay, I., Wright, S. E., Watson, J. M., Allen, J. M., Beswick, K., & Cranston, N. C. (2016). Parent-child connectedness for schooling and students' performance and aspirations: An exploratory investigation. *International Journal of Educational Research, 77*, 50.61.
- Hopwood, B., Hay, I., & Dymont, J. (2016). The transition from primary to secondary school: Teachers'

- perspectives. *The Australian Educational Researcher*, 43(3), 289–307.
- Hyde, J. S., & Durik, A. M. (2005). Gender, competence, and motivation. In A. J. Elliot & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 375–391). New York: Guilford Press.
- Juvonen, J., & Knifsend, C. (2016). School-based peer relationships and achievement motivation. In K. R. Wentzel & D. B. Miele (Eds.), *Handbook of motivation at school* (pp. 231–250). New York: Routledge.
- Johansson, T. (2016). *The transformation of sexuality: Gender and identity in contemporary youth culture*. New York: Routledge.
- Kaplan, H. B. (1996). Psychosocial stress from the perspective of self-theory. In H. B. Kaplan (Ed.), *Psychosocial stress: Perspectives on structure, theory, life-course, and methods* (pp. 175–244). San Diego: Academic.
- Koch, E. J., & Shepperd, J. A. (2004). Is self-complexity linked to better coping? A review of the literature. *Journal of Personality*, 72, 727–760.
- Lee, S. M., Daniels, M. H., & Kissingner, D. B. (2006). Parental influences on adolescent adjustment: Parenting styles versus parenting. *The Family Journal*, 14, 253–259.
- Lightfoot, C., Cole, M., & Cole, S. R. (2012). *The development of children* (7th ed.). New York: Worth.
- Lindholm, C. (2007). *Culture and identity*. Oxford: One World.
- Ma, C. Q., & Huebner, E. S. (2008). Attachment relationships and adolescents' life satisfaction: Some relationships matter more to girls than boys. *Psychology in the Schools*, 45, 177–190.
- Margolin, L., Blyth, D. A., & Carbone, D. (1988). The family as a looking glass: Interpreting family influences on adolescent self-esteem from a symbolic interaction perspective. *Journal of Early Adolescence*, 8, 211–224.
- Marsh, H. W. (1990). *Self-description questionnaire-II: Manual*. San Antonio: Psychological Corporation.
- Marsh, H. W., & Craven, R. G. (2006). Reciprocal effects of self-concept and performance from a multidimensional perspective: Beyond seductive pleasure and unidimensional perspectives. *Perspectives on Psychological Science*, 1, 133–163.
- Marsh, H. W., & O'Mara, A. (2009). Reciprocal effects between academic self-concept, self-esteem, achievement, and attainment over seven adolescent years: Unidimensional and multidimensional perspectives of self-concept. *Personality and Social Psychology Bulletin*, 34, 542–552.
- Marsh, H. W., Trautwein, U., Ludtke, O., Köller, O., & Baumert, J. (2005). Academic self-concept, interest, grades, and standardized test scores: Reciprocal effects models of causal ordering. *Child Development*, 76, 397–416.
- Moni, K. B., & Hay, I. (2014). Secondary school and beyond. In A. Ashman (Ed.), *Education for inclusion and diversity* (5th ed., pp. 333–364). Melbourne: Pearson.
- Natsuaki, M. N., Klimes-Dougan, B., Ge, X., Shirtcliff, E. A., Hastings, P. D., & Zahn-Waxler, C. (2009). Early pubertal maturation and internalizing problems in adolescence: Sex differences in the role of cortisol reactivity to interpersonal stress. *Journal of Clinical Child and Adolescent Psychology*, 38, 513–524.
- Neuenschwander, M. P., Vida, M., Garrett, J. L., & Eccles, J. S. (2007). Parents' expectations and students' achievement in two western nations. *International Journal of Behavioral Development*, 31, 594–602.
- Noller, P., & Atkin, S. (2014). *Family life in adolescence*. Berlin: Walter de Gruyter GmbH & Co KG.
- O'Koon, J. (1997). Attachment to parents and peers in late adolescence and their relationship with self-image. *Adolescence*, 32, 471–482.
- Osborne, J. W. (1995). Academic self-esteem and race: A look at the underlying assumptions of the disidentification hypothesis. *Personality and Social Psychology Quarterly*, 21, 449–455.
- Plunkett, S. W., White, T. R., Carter, D. B., & Horner, M. E. F. (2016). Parental support and psychological control in relation to African American college students' self-esteem. *Journal of Pan African Studies*, 9(4), 199–219.
- Räty, L. K. A., Larsson, G., Söderfelt, B. A., & Wilde Larsson, B. H. (2005). Psychosocial aspects of health in adolescence: The influence of gender, and general self-concept. *The Journal of Adolescent Health*, 36, 22–28.
- Riesch, S. K., Jacobson, G., Sawdey, L., Anderson, J., & Henriques, J. (2008). Suicide ideation among later elementary school-aged youth. *Journal of Psychiatric and Mental Health Nursing*, 15, 263–277.
- Roberts, R. E. L., & Bengston, V. L. (1996). Affective ties to parents in early adulthood and self-esteem across 20 years. *Social Psychology Quarterly*, 59, 96–106.
- Rubin, K. H., Dwyer, K. M., Booth-LaForce, C., Kim, A. H., Burgess, K. B., & Rose-Krasnor, L. (2004). Attachment, friendship, and psychosocial functioning in early adolescence. *Journal of Early Adolescence*, 24, 326–356.
- Rutter, M. (1979). Protective factors in children's responses to stress and disadvantage. In M. W. Kent & J. E. Rolf (Eds.), *Primary prevention of psychopathology: Social competence in children* (pp. 49–74). Oxford: Blackwell.
- Sadker, M., & Sadker, D. (1994). *Failing at fairness: How our schools cheat girls*. New York: Simon & Schuster.
- Sebastian, C., Burnett, S., & Blakemore, S. J. (2008). Development of the self-concept during adolescence. *Trends in Cognitive Sciences*, 12, 441–446.
- Selman, R. L. (1981). The child as a friendship philosopher. In S. R. Asher & J. M. Gottman (Eds.), *The development of children's friendships* (pp. 242–272). Cambridge: Cambridge University Press.
- Shochet, I. M., Homel, R., Cockshaw, W. D., & Montgomery, D. T. (2008). How do school connectedness and attachment to parents interrelate in predicting adolescent depressive symptoms? *Journal of Clinical Child and Adolescent Psychology*, 37(3), 676–681.

- Simmons, N., & Hay, I. (2010). Early adolescents' friendship patterns in middle school: Social-emotional and academic implications. *Australian Journal of Educational and Developmental Psychology*, 22, 59–69.
- Skaalvik, E. M. (1983). Academic achievement, self-esteem and valuing of the school—some sex differences. *The British Journal of Educational Psychology*, 53, 299–306.
- Snow, P. C., & Powell, M. B. (2008). Oral language competence, social skills and high-risk boys: What are juvenile offenders trying to tell us? *Children and Society*, 22, 16–28.
- Stets, J. E., & Burke, P. J. (2005). A sociological approach to self and identity. In M. R. Leary & J. P. Tangney (Eds.), *Handbook of self and identity* (pp. 128–152). New York: Guilford.
- Tarrant, M., MacKenzie, L., & Hewitt, L. A. (2006). Friendship group identification, multidimensional self-concept, and experience of developmental tasks in adolescence. *Journal of Adolescence*, 29, 627–640.
- Tashakkori, A. (1993). Race, gender and pre-adolescent self-structure: A test of construct-specificity hypothesis. *Journal of Personality and Individual Differences*, 4, 591–598.
- Terras, M. M., & Ramsay, J. (2016). Family digital literacy practices and children's mobile phone use. *Frontiers in Psychology*, 7. <https://doi.org/10.3389/fpsyg.2016.01957>
- Thomas, J., Dymont, J., Moltow, D., & Hay, I. (2016). 'It is my decision, and it's really up to me. But they wanted me to do it': An exploration of choice in enrolling in a reengagement programme. *International Journal of Inclusive Education*, 20(11), 1172–1187.
- Walsh, E., & Eggert, L. L. (2008). Preventing youth suicide: Issues for law enforcement personnel. *International Journal of Law and Psychiatry*, 31, 347–358.
- Watt, H. M. G. (2004). Development of adolescents' self-perceptions, values, and task perceptions according to gender and domain in 7th through 11th grade Australian students. *Child Development*, 75, 1556–1574.
- Wentzel, K. R., & Miele, D. B. (Eds.). (2016). *Handbook of motivation at school*. New York: Routledge.
- Wilkinson-Lee, A. M., Zhang, Q., Nuno, V. L., & Wilhelm, M. S. (2011). Adolescent emotional distress: The role of family obligations and school connectedness. *Journal of Youth and Adolescence*, 40(2), 221–230.
- Ybrandt, H. (2008). The relation between self-concept and social functioning in adolescence. *Journal of Adolescence*, 31, 1–16.
- Youngstrom, E. A., Findling, R. L., & Calabrese, J. R. (2003). Who are the comorbid adolescents? Agreement between psychiatric diagnosis, youth, parent, and teacher report. *Journal of Abnormal Child Psychology*, 31, 231–245.
- Yu, J. J., Hyeonyee, K., & Hay, I. (2013). Understanding adolescents' problematic internet use from a social/cognitive and addiction research framework. *Computers in Human Behavior*, 29, 2683–2689.

Self-Concept Clarity

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Self-concept clarity indicates the extent to which beliefs about the self are clearly and confidently defined, internally consistent, and stable over time (Campbell et al. 1996). Self-concept clarity belongs to a class of constructs that focus on the structural aspects of the self-concept. This class is related to, but distinct from, content dimensions of the self-concept that include knowledge of individual characteristics, commitments, and values, and purposes and evaluation of this knowledge (e.g., Campbell 1990; Campbell et al. 1996, 2003).

Self-concept clarity provides a clear indication of self-certainty. In fact, self-concept clarity is positively related to enactment of meaningful identity choices, whereas it is negatively related to identity crises driven by reconsidering and discarding current commitments (Crocetti et al. 2008, 2010; Morsünbül et al. 2014, 2015; Schwartz et al. 2011). Thus, self-concept clarity is intertwined with healthy identity development (Campbell et al. 1996; Schwartz et al. 2011). More specifically, identity could be seen as representing how the self-concept is formed, while self-concept clarity might indicate how well the process of developing an own identity is going (Schwartz et al. 2012).

Stability and Change in Self-Concept Clarity

Self-concept clarity gauges the stability of the self-concept, as it comprises how consistently an individual perceives himself or herself (Campbell 1990). However, the clarity and stability of the self-concept are changeable, and adolescence is a key period for investigating patterns of change and stability in self-concept

clarity. Indeed, it is during adolescence that the search for an enduring sense of “self” turns into a core developmental task (Erikson 1950, 1968), stimulated by the biological (i.e., puberty), cognitive (i.e., the acquisition of the formal-abstract reasoning), and social (i.e., the starting of new social interactions with peers and modifications in parent-adolescent relationships) changes that characterize this period of the life span (Lerner and Steinberg 2009). Thus, during adolescence, individuals may rethink their previous sense of self and experiment with new roles and life plans to find a set of goals and values that fit their aspirations and potentials.

Longitudinal studies highlighted small increases in self-concept clarity mean scores over the course of adolescence (Schwartz et al. 2011; Wu et al. 2010). Furthermore, they documented that self-concept clarity is characterized by high levels of rank-order stability (Crocetti et al. 2015; Schwartz et al. 2011, 2012; Wu et al. 2010; Van Dijk et al. 2014) that refers to the relative placement of individuals within a group and indicates whether people retain the same rank-ordering on a certain dimension over time (Roberts and DelVecchio 2000). Levels of rank-order stability of adolescent self-concept clarity were comparable to those found for other core personality characteristics, for instance the Big Five personality traits of agreeableness, extraversion, conscientiousness, emotional stability, and openness to experience (Klimstra et al. 2009). Moreover, indices of rank-order stability increased during adolescence (Crocetti et al. 2015; Schwartz et al. 2012), suggesting that individual differences in self-concept clarity become increasingly set with age. Thus, in adolescence, slight progressive changes in the absolute levels of self-concept clarity go together with high levels of relative stability, suggesting that in formative periods young people increase in their self-certainty.

Furthermore, Crocetti et al. (2015) found significant gender differences for mean-level changes in self-concept clarity and rank-order stability in a six-wave longitudinal study with adolescents. Specifically, initial levels of self-concept clarity of males were higher than those

of females, whereas mean rates of change were comparable (self-concept clarity of girls was stable over the course of adolescence, while self-concept clarity of boys slightly increased but then returned to the initial level) and rank-order stability of girls was significantly higher than rank-order stability of boys. Taken together, this evidence suggests the importance of paying attention to gender differences when studying patterns of self-concept clarity change and stability.

Self-Concept Clarity and Psychosocial Adjustment

The extent to which people hold stable and consistent views of themselves is related to their levels of adjustment and well-being (Bleidorn and Koedding 2013; Campbell et al. 2003). In this respect, high levels of self-concept clarity have been found to be positively related to self-esteem (Belon et al. 2011; Campbell et al. 1996; Smith et al. 1996; Wu et al. 2010), perception of meaning in life (Bigler et al. 2001; Blazek and Besta 2012), and affect balance (Bigler et al. 2001). Thus, gaining higher self-concept clarity seems to be an essential indicator of healthy development during adolescence.

Furthermore, individuals with higher self-concept clarity are expected to be less affected by (negative) external cues that are not consistent with their self-concept and are thought to be more flexible in responding to the social environment (Campbell 1990). Indeed, high self-concept clarity is related to relationship satisfaction and commitment (Lewandowski et al. 2010), whereas low self-concept clarity is associated with interpersonal problems (Constantino et al. 2006) and loneliness (Frijns and Finkenauer 2009). Therefore, self-concept clarity is highly relevant also for social development.

Notably, self-concept clarity is also associated with psychological problems. In fact, low self-concept clarity has been related to body dissatisfaction (Vartanian and Dey 2013), eating disturbances (Perry et al. 2008), and internalizing problems (Bigler et al. 2001; Smith et al. 1996). Importantly,

longitudinal studies highlighted that, over the course of adolescence, lower self-concept clarity is intertwined with higher anxiety and depressive symptoms (Schwartz et al. 2012; Van Dijk et al. 2014). Overall, this evidence points to the importance of self-concept clarity for adaptive adolescent development and has strong clinical implications for interventions aimed at enhancing youth well-being.

Family Influences on Adolescent Self-Concept Clarity

Individuals form their self-concept in interaction with significant others (e.g., Cooley 1908; James 1890). In adolescence, family represents a main social context that can influence self-concept clarity. This influence can be further understood considering intergenerational transmission of self-concept clarity from parents to adolescents and associations between parent-adolescent relationship quality and self-concept clarity.

Intergenerational Transmission of Self-Concept Clarity

Intergenerational transmission of self-concept clarity in families with adolescents was found to be a unidirectional process, with fathers' and mothers' self-concept clarity having a similar positive effect on adolescents' self-concept clarity over the course of adolescence (from age 13 to age 18; Crocetti et al. 2015). Specifically, rates of change in adolescents' self-concept clarity were associated with initial level of fathers' and mothers' self-concept clarity. Importantly, the unidirectional influence of fathers' and mothers' self-concept clarity on adolescents' self-concept clarity applied equally to adolescent boys and girls. Furthermore, the sizes of these effects were comparable for fathers and mothers. So, the pattern of influence in same-sex dyads (i.e., father-son, mother-daughter) was similar to the pattern of influence in opposite-sex dyads (i.e., father-daughter, mother-son). Thus, when adolescents of both genders can count on parents with high

levels of self-certainty, they are more likely to increase their self-concept clarity over the course of adolescence.

This is consistent with intergenerational processes occurring in other domains of adolescent development. For instance, transmissions of cultural orientations (Vollebergh et al. 2001) and conflict resolution styles (Van Doorn et al. 2007) are also unidirectional processes, from parents to adolescents, while the reverse paths, from adolescents to parents, do not occur. This suggests a parental dominance in intergenerational transmission processes that can be explained by the higher stability reported by parents. In fact, parental self-concept clarity is more stable, or time-invariant, than adolescent self-concept clarity. So, the impact of parental self-concept clarity on adolescent self-concept clarity is an example of the impact that time-invariant processes have on more time-varying processes.

Furthermore, this unidirectional transmission process is consistent with the perspective of the social learning theory (Bandura 1977), suggesting that parents with higher self-certainty are more likely to represent models for their children and, doing so, affecting in a positive way their self-concept. In fact, although in adolescence parents' influence may somehow decline (De Goede et al. 2009) since other socialization agents gain increasing relevance (e.g., peers; Brown 2004), parents continue to play a central role in children's life (Helsen et al. 2000).

Associations Between Parent-Adolescent Relationship Quality and Self-Concept Clarity

A wide literature has empirically examined how parental practices and styles impact adolescent self-concept (cf. Dusek and McIntyre 2003). Theoretically, when parents show acceptance toward the adolescents' views and ideas, this can give the adolescents the confidence and skills necessary to explore away from the family to develop their own selves, as suggested by attachment theory (Bowlby 1988). In fact, empirical studies showed that adolescents' warm relationships with their

parents contributed in positive ways to respondents' self-concept clarity (Davis 2013; Perry et al. 2008; Wu 2009).

More specifically, communication with parents can be a key factor to foster adolescents' self-concept clarity. Talking about one's experiences, feelings, and thoughts can enhance adolescent self-understanding by forming links between elements of one's life and the self (Grotevant 2001; Habermas and Bluck 2000; McLean et al. 2007). In particular, adolescents' disclosure to parents is related to higher self-concept clarity later on, while keeping secrets had detrimental effects for self-concept clarity (Frijns and Finkenauer 2009). Similarly, open parent-adolescent communication is positively related, both concurrently and over time, to middle adolescents' self-concept clarity (Van Dijk et al. 2014). Thus, open communication in which parents are supportive of the adolescents' viewpoints and are active listeners seems to promote their children's self-understanding (Grotevant and Cooper 1985; McLean et al. 2007).

Conclusion

Summing up, in adolescence, small mean increases in self-concept clarity go together with high levels of increasing rank-order stability, suggesting that young people increase their self-certainty in this formative period. Parents seem to have an influence on the level of their adolescents' self-concept clarity, since their own level of self-concept clarity is positively associated to their children's level of self-concept clarity (Crocetti et al. 2015), and also the relationship quality and level of open communication positively relates to the adolescents' level of self-certainty (Davis 2013; Perry et al. 2008; Van Dijk et al. 2014; Wu 2009).

Importantly, self-concept clarity turns out to be a core indicator of healthy self-development and is closely interrelated to adolescent psychosocial adjustment. Self-concept clarity can be seen as an essential focus area for interventions to promote positive youth development. Therefore, for adolescents who are unsure of who they are, and who

have an unstable self-concept, intervention may be needed in order to prevent or minimize psychological problems (Schwartz et al. 2012; Van Dijk et al. 2014).

References

- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs: Prentice Hall.
- Belon, K. E., Smith, J. E., Bryan, A. D., Lash, D. N., Winn, J. L., & Gianini, L. M. (2011). Measurement invariance of the Eating Attitudes Test-26 in Caucasian and Hispanic women. *Eating Behaviors, 12*, 317–320.
- Bigler, M., Neimeyer, G. J., & Brown, E. (2001). The divided self revisited: Effects of self-concept clarity and self-concept differentiation on psychological adjustment. *Journal of Social and Clinical Psychology, 20*, 396–415.
- Blazek, M., & Besta, T. (2012). Self-concept clarity and religious orientations: Prediction of purpose in life and self-esteem. *Journal of Religion & Health, 51*, 947–960.
- Bleidorn, W., & Koedding, C. (2013). The divided self and psychological (mal)adjustment – A meta-analytic review. *Journal of Research in Personality, 47*, 547–552.
- Bowlby, J. (1988). *A secure base: Parent-child attachment and healthy human development*. New York: Basic Books.
- Brown, B. B. (2004). Adolescents' relationships with peers. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (pp. 363–394). Hoboken: Wiley.
- Campbell, J. D. (1990). Self-esteem and clarity of the self-concept. *Journal of Personality and Social Psychology, 59*, 538–549.
- Campbell, J. D., Assanand, S., & Di Paula, A. (2003). The structure of the self-concept and its relation to psychological adjustment. *Journal of Personality, 71*, 115–140.
- Campbell, J. D., Trapnell, P. D., Heine, S. J., Katz, I. M., Lavallee, L. F., & Lehman, D. R. (1996). Self-concept clarity: Measurement, personality correlates, and cultural boundaries. *Journal of Personality and Social Psychology, 70*, 141–156.
- Constantino, M. J., Wilson, K. R., Horowitz, L. M., & Pinel, E. C. (2006). Measures of self-organization and their association with psychological adjustment. *Journal of Social and Clinical Psychology, 25*, 333–360.
- Cooley, C. H. (1908). *Human nature and the social order*. New York: Scribner.
- Crocetti, E., Rubini, M., Branje, S., Koot, H. M., & Meeus, W. (2015). Self-concept clarity in adolescents and parents: A six-wave longitudinal and multi-informant study on developmental and intergenerational transmission. *Journal of Personality, 1*–14.

- Crocetti, E., Rubini, M., & Meeus, W. (2008). Capturing the dynamics of identity formation in various ethnic groups: Development and validation of a three-dimensional model. *Journal of Adolescence, 31*, 207–222.
- Crocetti, E., Schwartz, S., Fermani, A., & Meeus, W. (2010). The Utrecht Management of Identity Commitments Scale (U-MICS): Italian validation and cross-national comparisons. *European Journal of Psychological Assessment, 26*, 169–183.
- Davis, K. (2013). Young people's digital lives: The impact of interpersonal relationships and digital media use on adolescents' sense of identity. *Computers in Human Behavior, 29*, 2281–2293.
- De Goede, I. H. A., Branje, S. J. T., Delsing, M. J. M. H., & Meeus, W. H. J. (2009). Linkages over time between adolescents' relationships with parents and friends. *Journal of Youth and Adolescence, 38*, 1304–1315.
- Dusek, J. B., & McIntyre, J. G. (2003). Self-concept and self-esteem development. In G. R. Adams & M. D. Berzonsky (Eds.), *Handbook of adolescence* (pp. 290–309). Oxford, UK: Blackwell.
- Erikson, E. (1950). *Childhood and society*. New York: Norton.
- Erikson, E. H. (1968). *Identity, youth and crisis*. New York: Norton.
- Frijns, T., & Finkenauer, C. (2009). Longitudinal associations between keeping a secret and psychosocial adjustment in adolescence. *International Journal of Behavioral Development, 33*, 145–154.
- Grotevant, H. D. (2001). Developing new insights from a process approach to adolescent development. *Human Development, 44*, 55–58.
- Grotevant, H. D., & Cooper, C. R. (1985). Patterns of interaction in family relationships and the development of identity exploration in adolescence. *Child Development, 56*, 415–428.
- Habermas, T., & Bluck, S. (2000). Getting a life: The emergence of the life story in adolescence. *Psychological Bulletin, 126*, 748–769.
- Helsen, M., Vollebergh, W., & Meeus, W. (2000). Social support from parents and friends and emotional problems in adolescence. *Journal of Youth and Adolescence, 29*, 319–335.
- James, W. (1890). *The principles of psychology*. Cambridge, MA: Harvard University Press.
- Klimstra, T. A., Hale III, W. W., Raaijmakers, Q. A. W., Branje, S. J. T., & Meeus, W. H. J. (2009). Maturation of personality in adolescence. *Journal of Personality and Social Psychology, 96*, 898–912.
- Lerner, R. M., & Steinberg, L. (Eds.). (2009). *Handbook of adolescent psychology* (3rd ed.). Hoboken: Wiley.
- Lewandowski, G. W., Jr., Nardone, N., & Raines, A. J. (2010). The role of self-concept clarity in relationship quality. *Self and Identity, 9*, 416–433.
- McLean, K. C., Pasupathi, M., & Pals, J. L. (2007). Selves creating stories creating selves: A process model of self-development. *Personality and Social Psychology Review, 11*, 262–278.
- Morsünbül, Ü., Crocetti, E., Cok, F., & Meeus, W. (2014). Brief report: The Utrecht-management of identity commitments scale (U-MICS): Gender and age measurement invariance and convergent validity of the Turkish version. *Journal of Adolescence, 37*, 799–805.
- Morsünbül, Ü., Crocetti, E., Cok, F., & Meeus, W. (2015). Identity statuses and psychosocial functioning in Turkish youth: A person-centered approach. *Journal of Adolescence, 47*, 145–55.
- Perry, J. A., Silvera, D. H., Neilands, T. B., Rosenvinge, J. H., & Hanssen, T. (2008). A study of the relationship between parental bonding, self-concept and eating disturbances in Norwegian and American college populations. *Eating Behaviors, 9*, 13–24.
- Roberts, B. W., & DelVecchio, W. F. (2000). The rank-order consistency of personality traits from childhood to old age: A quantitative review of longitudinal studies. *Psychological Bulletin, 126*, 3–25.
- Schwartz, S. J., Klimstra, T. A., Luyckx, K., Hale III, W. W., Frijns, T., Oosterwegel, A., ... Meeus, W. H. J. (2011). Daily dynamics of personal identity and self-concept clarity. *European Journal of Personality, 25*, 373–385.
- Schwartz, S. J., Klimstra, T. A., Luyckx, K., Hale III, W. W., & Meeus, W. H. J. (2012). Characterizing the self-system over time in adolescence: Internal structure and associations with internalizing symptoms. *Journal of Youth and Adolescence, 41*, 1208–1225.
- Smith, M., Wethington, E., & Zhan, G. (1996). Self-concept clarity and preferred coping styles. *Journal of Personality, 64*, 407–434.
- Van Dijk, M. P. A., Branje, S., Keijsers, L., Hawk, S. T., Hale III, W. W., & Meeus, W. (2014). Self-concept clarity across adolescence: Longitudinal associations with open communication with parents and internalizing symptoms. *Journal of Youth and Adolescence, 43*, 1861–1876.
- Van Doorn, M. D., Branje, S., & Meeus, W. (2007). Longitudinal transmission of conflict resolution styles from marital relationships to adolescent-parent relationships. *Journal of Family Psychology, 21*, 426–434.
- Vartanian, L. R., & Dey, S. (2013). Self-concept clarity, thin-ideal internalization, and appearance-related social comparison as predictors of body dissatisfaction. *Body Image, 10*, 495–500.
- Vollebergh, W. A. M., Iedema, J., & Raaijmakers, Q. A. W. (2001). Intergenerational transmission and the formation of cultural orientations in adolescence and young adulthood. *Journal of Marriage and the Family, 63*, 1185–1198.
- Wu, C. H. (2009). The relationship between attachment style and self-concept clarity: The mediation effect of self-esteem. *Personality and Individual Differences, 47*, 42–46.
- Wu, J., Watkins, D., & Hattie, J. (2010). Self-concept clarity: A longitudinal study of Hong Kong adolescents. *Personality and Individual Differences, 48*, 277–282.

Self-Concept of Adolescents with Physical Disabilities

► Physical Disability and Self-Esteem

Self-Consciousness

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Overview of Self-Consciousness

Self-consciousness (SC), or the *dispositional tendency to attend to aspects of the self, such as emotions and public image* (Fenigstein et al. 1975; Panayiotou 2004), begins to develop in preadolescent children and is especially salient during early adolescence. Adolescence is a period characterized by significant neurobiological and hormonal changes, social-emotional development, and cognitive maturation. There are increasing social demands, pressures from peers, romantic interests, and a greater independence from parents and other adults. Cognitively, adolescents are developing Piagetian formal operations (the ability to think abstractly). They engage in metacognition (thinking about their own thoughts) and can also consider the thoughts of others. Adolescents begin to place greater importance on the opinions and perceptions of their peers as they begin to become more aware of themselves as individuals and as social objects. It appears that SC develops in early adolescence and continues to develop through early adulthood where it becomes a stable personality trait. This chapter examines the facets of SC, the relationship between SC and the imaginary audience phenomenon, the relationship of SC to mental health problems such as anxiety and depression, age

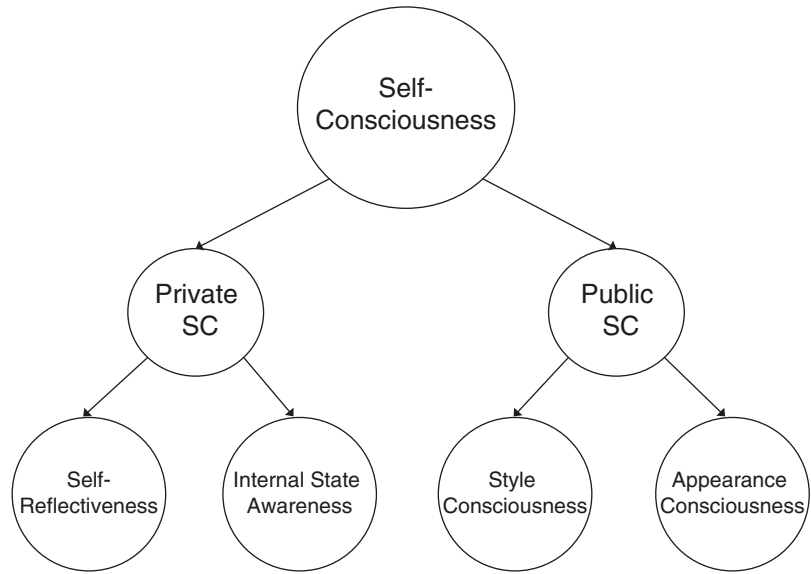
and gender differences in SC, and the measurement of SC.

The Facets of Self-Consciousness

Self-consciousness does not appear to be a unitary construct. Rather, it appears to be made up of at least two and as many as four different related constructs (see Fig. 1). There is significant support for two major facets of SC: private self-consciousness and public self-consciousness (Fenigstein et al. 1975). Private SC refers to attention directed to covert or personal aspects of the self, such as feelings and beliefs, whereas public SC describes attention to public aspects of the self, such as appearance and manners. Private SC is associated with awareness of internal sensations (Scheier et al. 1979), attitude consistency over time (Scheier 1980), and higher correlations between self-report and behavior (Scheier et al. 1978). In contrast, public SC is associated with conformity, low self-esteem, low risk taking (Tunnell 1984), and a tendency to temper privately expressed attitudes in public (Scheier 1980). Although private SC and public SC are related, they repeatedly emerge as separate factors (e.g., Fenigstein et al. 1975; Scheier and Carver 1985; Higa et al. 2008; Takishima-Lacasa et al. 2014), and they distinguish disparate self-regulatory processes, one representing evaluation of self without reference to others and the other indicative of evaluation of the self in a social context (Carver and Scheier 1987; Fenigstein 1979; Froming and Carver 1981; Froming et al. 1982).

To complicate the matter, a number of researchers have demonstrated that rather than two factors of SC, there may actually be four factors with private SC and public SC each being further divided into two separate but related constructs. According to some researchers, private SC is the combination of two factors, self-reflectiveness and internal state awareness (Anderson et al. 1996; Burnkrant and Page 1984; Cramer 2000; Nystedt and Ljungberg 2002; Piliavin and Charng 1988). Researchers

Self-Consciousness,
Fig. 1 Facets of self-consciousness



have described self-reflectiveness as being characterized by ruminative self-preoccupation (Anderson et al. 1996), whereas internal state awareness appears to represent a more neutral and even mildly positive style of self-interest and is associated with higher self-awareness, positive affect, and positive mental health (Anderson et al. 1996; Higa et al. 2008; Watson et al. 1996).

In addition, some have suggested that public SC is also the combination of two separate constructs, style consciousness and appearance consciousness (Higa et al. 2008; Mittal and Balasubramanian 1987; Watson et al. 1996). Style consciousness represents awareness of behaviors observed by others, while appearance consciousness represents awareness of how one looks to others. Although less research has supported the distinction between style consciousness and appearance consciousness than self-reflectiveness and internal state awareness, some argue that this distinction helps explain some of the differences observed in patients with different kinds of psychopathology. For example, Ruipérez and Belloch (2003) found that individuals with social phobia scored significantly higher on style consciousness and individuals with depression scored significantly lower on appearance consciousness than individuals with other anxiety disorders and control subjects.

Imaginary Audience Phenomenon

Related to public self-consciousness is the normal developmental phenomenon termed the *imaginary audience* (Elkind 1967). The imaginary audience (IA) phenomenon is an enhanced public self-awareness or the perception that other people are as concerned with their behaviors and appearance as adolescents are themselves. According to Elkind (1967, 1978), IA may account for many different adolescent behaviors, including the tendency to conform, desire for privacy, and feelings of shame. IA is one manifestation of Piagetian adolescent egocentrism (i.e., an inability to differentiate others' points of view from one's own), which is theorized to peak during the development of formal operations when the adolescent begins to consider abstract possibilities.

Subsequent research failed to confirm this link between the development of egocentrism and formal operations, however (Kelly et al. 2002; Vartanian 2000). As a result of an earlier study conducted by Lapsley et al. (1986, study 1) and these more recent findings, some researchers suggested a "new look" at adolescent egocentrism. Lapsley and his colleagues theorized that IA is linked to the psychoanalytic ego developmental process of separation-individuation (Blos 1962) and asserted that it

functions to express anxiety associated with the decreased dependence on their parents (Lapsley 1993; Lapsley et al. 1989; Lapsley and Murphy 1985). Specifically, the “push and pull” of being attached to their parents while concurrently moving toward independence is manifested in IA and allows the adolescent to avoid overwhelming separation anxiety (Kroger 1998). Lapsley et al. (1989) administered measures of IA to a sample of 6th through 12th graders and found that IA was negatively correlated with separation anxiety and positively correlated with narcissism, development of object relations, and self-centeredness.

In more recent years, researchers have sought to identify and understand the link between adolescent development and social media use. More specifically, some research has examined social media use as it relates to IA in adolescents. For example, Cingel and Krcmar (2014) found that Facebook use was positively related to IA ideation among adolescents and young adults after controlling for self-consciousness and age. Additionally, Cingel and Krcmar found that behavioral rehearsal, defined as the comparison of individual behaviors to those of others and mental rehearsal of the desired behaviors, mediated Facebook use and IA ideation. In other words, the use of social media increases comparisons with other adolescents which is related to heightened thoughts of imaginary audience. Given the widespread use of social media among adolescents together with the nascent research in this area, attending to the relationship between social media, imaginary audience, and self-consciousness will be important to follow over the coming decade.

Although IA appears to be a normal developmental phenomenon, higher ratings of IA do appear to be correlated with poorer mental health outcomes. For example, IA is negatively correlated with self-esteem and self-concept (Kelly et al. 2002; Markstrom and Mullis 1986; Ryan and Kuczkowski 1994). Further, IA is associated with shyness, audience anxiety, social anxiety, social avoidance, nervousness, depression, and poor social skills (Cohn et al. 1988; Baron 1986; Baron and Hanna 1990; Kelly et al. 2002).

Self-Consciousness and Mental Health

Similar to findings in IA, SC and trait self-focused attention (SFA, another term used to describe self-consciousness) are also strongly implicated in chronic negative affect (NA) and more specifically anxiety and depression in children, adolescents, and adults (Allgood-Merten et al. 1990; Bowker and Rubin 2009; Higa et al. 2008; Mor and Winquist 2002). Mor and Winquist’s (2002) meta-analysis demonstrated that public SC is more strongly related to anxiety than private SC. More specifically, the relationship between public SC and social anxiety appears to be particularly strong with studies across children, adolescents, and adults demonstrating this consistent finding (Higa and Daleiden 2008; Higa et al. 2008; Hofmann and Heinrichs 2003; Kashdan and Roberts 2004; Mansell et al. 1999; Mellings and Alden 2000; Woody 1996). However, according to Mor and Winquist (2002), studies of individuals with generalized anxiety disorder (GAD) revealed no difference between private and public self-focus. On the other hand, self-reflectiveness, a sub-factor of private SC, appears to play a unique role in the severity of GAD symptoms in adults (Nuevo et al. 2007), and adults with GAD score higher on self-reflectiveness than adults with other psychopathology (Ruipérez and Belloch 2003). It is possible when internal state awareness (and thus the more positive aspects of a focus on the self) is removed from private SC, a tendency to self-reflect may be a risk factor for the development of worry or GAD. In addition to worry and GAD, researchers have found that self-reflectiveness also predicts shame, guilt, and negative affect (Anderson et al. 1996; Watson et al. 1996).

SC also appears to play an important role in adolescent depression (e.g., Andrews et al. 1993; Garber et al. 1993; Lewinsohn et al. 1997). Mor and Winquist (2002) reported in their meta-analysis that the relationship between private SC and depression is stronger than the relationship between public SC and depression. Additionally, researchers have found that private SC is associated with self-reported loneliness in adolescents (Franzoi and Davis 1985). This is consistent with

the findings discussed above that private SC, and in particular self-reflectiveness, is closely related to generalized anxiety which has been demonstrated to be more closely related to depression than other anxiety disorders (Higa-McMillan et al. 2008; Lahey et al. 2008). Further, in a recent community sample of adolescents, participants experienced higher levels of NA when they engaged in self-focused thoughts and the relationship between NA and self-focused attention was stronger in adolescents who were recently diagnosed with depression compared to adolescents who were recently diagnosed with an anxiety disorder, comorbid anxiety and depression, or no diagnosis (Mor et al. 2010).

Although most research to date has examined the relationships between public and private SC and internalizing adjustment problems, only one study has examined the differential effects of gender on which type of SC (public or private) produces greater risk for poor adjustment. Bowker and Rubin (2009) examined SC and internalizing symptoms in young adolescents. They found that when controlling for the effects of public SC, private SC accounted for more adjustment problems in girls, suggesting private SC represents a unique cognitive vulnerability risk factor for psychopathology among girls. On the other hand, public SC was significantly associated with angry and anxious rejection sensitivity for boys but not girls (after controlling for private SC), suggesting that public SC plays a more significant role in excessive social concerns and worries among boys. Given the relatively small sample size in the study, additional research is needed to more fully understand the unique contributions of public and private SC to mental health outcomes in adolescent boys and girls.

Developmental and Gender Differences

Although the different facets of SC may pose differential mental health risks to boys and girls, one consistent finding across all studies, samples, and ages is that girls report significantly higher levels of IA and all components of SC (e.g., Allgood-Merten et al. 1990; Bowker and Rubin

2009; Davis and Franzoi 1991; Elkind and Bowen 1979; Galanaki 2012; Higa et al. 2008; Lewinsohn et al. 1998; Liu and Li 2007; Rankin et al. 2004; Ryan and Kuczowski 1994) except for internal state awareness (Higa et al. 2008). Although the direction of the relationship has not been formally tested, it is possible that female gender is a risk factor for SC.

The development of IA has been more widely studied in the extant literature than the development of SC. Initial studies found that young adolescents (ages 12–13) reported greater IA than older adolescents and preadolescent children, demonstrating an inverted U shape distribution with age (Elkind and Bowen 1979; Enright et al. 1980; Gray and Hudson 1984; Ryan and Kuczowski 1994). However, more recent studies revealed that adolescent egocentrism does not demonstrate a curvilinear increase and decrease between childhood and middle-to-late adolescence, but rather appears to continue to increase even into late adolescence and young adulthood (Peterson and Roscoe 1991; Rycek et al. 1998; Schwartz et al. 2008).

Although less studied, some research has examined the developmental course of SC in youth, and investigations in adolescents have produced mixed findings. Bowker and Rubin (2009) reported that young adolescents reported more public than private SC. In a longitudinal study, Davis and Franzoi (1991) reported no significant changes in SC in 9th through 12th graders over 3 years. In contrast, Rankin and colleagues (2004) found that in two cohorts of adolescents (ages 13 and 15) across 4 years, private SC increased while public SC decreased, suggesting that public SC peaks in early adolescence similar to early findings on IA. To date, studies have examined age effects on IA and adolescent egocentrism cross-sectionally, and there are only two longitudinal studies of SC that we are aware of – and they produced conflicting findings. In order to establish whether there are true changes in the levels of SC, IA, and egocentrism across development, additional longitudinal studies are needed.

Recent developments in neuroimaging and observation of the developing adolescent's brain may be another avenue of research that could

illuminate the biological changes that account for or contribute to SC behaviors during adolescence. For example, structural magnetic resonance imaging (MRI) studies have demonstrated that brain regions involved in self-related processing continue to develop between 10 and 20 years of age (Giedd et al. 1999; Gogtay et al. 2004). MRI studies have demonstrated that the amount of white matter in the prefrontal cortex, temporal cortex, and parietal cortex increases (Paus 2005), whereas the amount of grey matter volume develops in an inverted U shape during adolescence (Bates 1990; Giedd et al. 1999; Gogtay et al. 2004). It is hypothesized that heightened SC during adolescence may be in part due to neurocognitive development in the medial prefrontal cortex (MPFC; Sebastian et al. 2008). Indeed, in a recent study researchers found that the MPFC response magnitude and selective MPFC–striatum connectivity were significantly higher in adolescents (relative to children) and slightly lower in early adults (relative to adolescents) during a simulated social-evaluation task (Somerville et al. 2013). Somerville and colleagues collected functional MRI, skin conductance, and self-reported embarrassed emotional ratings from children, adolescents, and young adults who believed they were being looked at through a camera by a peer. In addition to heightened engagement of the MPFC as well as MPFC–striatum connectivity in adolescents, results indicated that self-reported self-conscious emotion was higher among adolescents and young adults relative to children, and arousal as measured by skin conductance was highest among adolescents. This study lends evidence to the relationship between age-dependent brain system sensitivity and self-consciousness. As our understanding of the adolescent brain continues to advance, we will learn more about how brain biology contributes to SC, both cognitively and behaviorally.

Measurement of Self-Consciousness

The most widely used measure of SC is the self-consciousness scales (SCS; Fenigstein

et al. 1975), a 23-item self-report scale that measures private SC, public SC, and social anxiety in adults. Primarily investigated in college students, the SCS has demonstrated 2-week test–retest reliability (Fenigstein et al. 1975), acceptable internal consistency (Piliavin and Charng 1988), and factorial and construct validity (Fenigstein et al. 1975). Despite the extensive research on the SCS in adult samples, very little research has examined the SCS in adolescent samples. The few studies that have investigated the psychometric properties of SCS with adolescent samples have demonstrated its test–retest reliability and convergent validity with measures of depression (e.g., Andrews et al. 1993; Lewinsohn et al. 1997). In terms of the performances of the subscales, Rankin and colleagues (2004) found that in their sample of two cohorts of adolescents, the public SC scale evidenced better internal consistency estimates than the private SC scale.

In the first study of SC in children, Abrams (1988) revised the original SCS and tested it in a sample of preadolescent children. His version retained 10 of the original SCS items but also included five additional items (for a total of 15 items). Exploratory factor analysis revealed two separate factors (private SC and public SC). Internal consistency was in the low to moderate range for both private and public SC. Test–retest reliability was weak for private SC but in the moderate range for public SC. More recently, Higa and colleagues (2008) examined a combination of the original 23-item SCS (eight items were modified for age appropriateness) together with Abrams' 5 additional items (SCS for Children, SCS-C). Higa and colleagues found that Abrams' items performed poorly in their sample and after removing those items found support for four factors of SC and one social anxiety factor (similar to Mittal and Balasubramanian 1987). Although the three major subscales (private SC, public SC, social anxiety) evidenced strong internal consistency, the minor subscales (self-reflectiveness, internal state awareness, style consciousness, appearance consciousness) did not. Convergent validity was established via measures of social anxiety and negative affect, and discriminant validity was established via a measure of positive affect.

Some researchers have suggested that given the multifaceted nature of SC, in order to comprehensively measure the construct, additional items should be generated and tested because 23 items do not provide enough reliability per scale (Silvia 1999; Watson et al. 1996). Given the low internal consistency estimates for the subscales of the private SC and public SC scales in youth, Takishima-Lacasa et al. (2014) revised the 28-item SCS-C by removing four original SCS items and five additional Abrams' (1988) SCS-C items that performed poorly in the Higa et al. (2008) study. Additionally, 31 new items were created by a team of child anxiety researchers based on the hypothesized five subscales of the SCS (Self-Reflectiveness, Internal State Awareness, Style Consciousness, Appearance Consciousness, and Social Anxiety), resulting in a revised measure of 50 items. In a sample of 1,207 youth, exploratory factor analysis (EFA) on a randomly selected subsample ($n = 603$) revealed support for a three-factor structure (public SC, private SC, and social anxiety). Following the EFA, Takishima-Lacasa and colleagues removed 21 poorly performing items. A subsequent confirmatory factor analysis (CFA) of the remaining 29 items provided further support for a three-factor solution. Multigroup CFAs demonstrated good model fit of the three-factor structure across gender and age. Additionally, the R-SCS-C demonstrated improved internal consistency for all scales (alphas 0.78 or greater), 2-week test-retest reliability ($r_s > 0.76$), construct-specific convergent and divergent validity with the imaginary audience scales, and consistency with anxiety, depression, and negative affect.

Conclusion

Adolescence is a period marked by significant internal and external change. It is believed that self-consciousness develops as a result of the ability to have meta-cognitions and the increasing social pressures adolescents feel to conform to certain standards. SC has multiple dimensions which can be reliably measured in children, adolescents, and adults, and it appears that adolescents today begin to develop SC in early

adolescence and this continues to increase throughout middle and late adolescence and into young adulthood. This is an important finding for researchers, educators, and clinicians who work with adolescents to keep in mind as they develop research protocols, adapt teaching styles, and integrate developmental principles into effective treatment approaches. For example, teachers might consider using alternate approaches to having students complete assignments at the board and might be more sensitive to speech anxiety in the classroom. Further, clinicians might consider that their adolescent clients' heightened self-consciousness may be a risk factor for anxiety and depression. For clients who tend to be socially anxious or have generalized anxiety, clinicians might consider testing unrealistic social beliefs through cognitive restructuring and using exposure exercises designed to decrease discomfort with heightened SC (e.g., video feedback; Hofmann and Scepkowski 2006). On the other hand, given the findings that self-focus tends to increase negative affect in adolescents with depression, clinicians might consider having adolescent clients engage in activities that encourage focus outside the self and decrease opportunities for intense self-focus, such as highly interactive team sports like soccer or basketball. Further, mindfulness-based therapy has been found to be helpful for adults with anxiety (Hofmann et al. 2010), and although additional research is needed, such techniques may also be helpful for adolescents with unpleasant SC. The development of SC is just one of the many fascinating developments that occurs during adolescence, and by having a greater understanding of SC, educators, clinicians, and researchers will be better equipped to help adolescents reach their full potential.

References

- Abrams, D. (1988). Self-consciousness scales for adults and children: Reliability, validity, and theoretical significance. *European Journal of Personality*, 2, 11–37. <https://doi.org/10.1002/per.2410020103>.
- Allgood-Merten, B., Lewinsohn, P. M., & Hops, H. (1990). Sex differences and adolescent depression. *Journal of Abnormal Psychology*, 99(1), 55–63. <https://doi.org/10.1037/0021-843X.99.1.55>.

- Anderson, E. M., Bohon, L. M., & Berrigan, L. P. (1996). Factor structure of the private self-consciousness scale. *Journal of Personality Assessment*, *66*, 144–152. https://doi.org/10.1207/s15327752jpa6601_11.
- Andrews, J. A., Lewinsohn, P. M., Hops, H., & Roberts, R. E. (1993). Psychometric properties of scales for the measurement of psychosocial variables associated with depression in adolescence. *Psychological Reports*, *73*, 1019–1046.
- Baron, P. (1986). Egocentrism and depressive symptomatology in adolescents. *Journal of Adolescent Research*, *1*(4), 431–437. <https://doi.org/10.1177/074355488614008>.
- Baron, P., & Hanna, J. (1990). Egocentrism and depressive symptomatology in young adults. *Social Behavior and Personality*, *18*(2), 279–285. <https://doi.org/10.2224/sbp.1990.18.2.279>.
- Bates, E. (1990). Language about me and you: Pronominal reference and the emerging concept of self. In D. Cicchetti & M. Beeghly (Eds.), *The self in transition: Infancy to childhood* (pp. 165–182). Chicago: University of Chicago Press.
- Blos, P. (1962). *On adolescence: A psychoanalytic interpretation*. Oxford: Free Press of Glencoe.
- Bowker, J. C., & Rubin, K. H. (2009). Self-consciousness, friendship quality, and adolescent internalizing problems. *British Journal of Developmental Psychology*, *27*, 249–267. <https://doi.org/10.1348/026151008X295623>.
- Burnkrant, R. E., & Page, T. J. (1984). A modification of the Fenigstein, Scheier, and Buss self-consciousness scales. *Journal of Personality Assessment*, *48*, 629–637. https://doi.org/10.1207/s15327752jpa4806_10.
- Carver, C. S., & Scheier, M. F. (1987). The blind men and the elephant: Selective examination of the public-private literature gives rise to a faulty perception. *Journal of Personality*, *55*, 525–541. <https://doi.org/10.1111/j.1467-6494.1987.tb00449.x>.
- Cingel, D. P., & Krcmar, M. (2014). Understanding the experience of imaginary audience in a social media environment: Implications for adolescent development. *Journal of Media Psychology: Theories, Methods, and Applications*, *26*(4), 155–160. <https://doi.org/10.1027/1864-1105/a000124>.
- Cohn, L. D., Millstein, S. G., Irwin, C. E., Adler, N. E., Kegeles, S. M., Dolcini, P., & Stone, G. (1988). A comparison of two measures of egocentrism. *Journal of Personality Assessment*, *52*(2), 212–222. https://doi.org/10.1207/s15327752jpa5202_3.
- Cramer, K. M. (2000). Comparing the relative fit of various factor models of the self-consciousness scale in two independent samples. *Journal of Personality Assessment*, *75*, 295–307. https://doi.org/10.1207/S15327752JPA7502_9.
- Davis, M. H., & Franzoi, S. L. (1991). Stability and change in adolescent self-consciousness and empathy. *Journal of Research in Personality*, *25*, 70–87. [https://doi.org/10.1016/0092-6566\(91\)90006-C](https://doi.org/10.1016/0092-6566(91)90006-C).
- Elkind, D. (1967). Egocentrism in adolescence. *Child Development*, *38*, 1025–1034. <https://doi.org/10.2307/1127100>.
- Elkind, D. (1978). Understanding the young adolescent. *Adolescence*, *13*, 127–134.
- Elkind, D., & Bowen, R. (1979). Imaginary audience behavior in children and adolescents. *Developmental Psychology*, *15*, 38–44. <https://doi.org/10.1037/0012-1649.15.1.38>.
- Enright, R. D., Shukla, D. G., & Lapsley, D. K. (1980). Adolescent egocentrism – Sociocentrism and self-consciousness. *Journal of Youth and Adolescence*, *9*(2), 101–116. <https://doi.org/10.1007/BF02087929>.
- Fenigstein, A. (1979). Self-consciousness, self-attention, and social interaction. *Journal of Personality & Social Psychology*, *37*, 75–78. <https://doi.org/10.1037/0022-3514.37.1.75>.
- Fenigstein, A., Scheier, M. R., & Buss, A. H. (1975). Public and private self-consciousness: Assessment and theory. *Journal of Consulting and Clinical Psychology*, *43*, 522–527. <https://doi.org/10.1037/h0076760>.
- Franzoi, S. L., & Davis, M. H. (1985). Adolescent self-disclosure and loneliness: Private self-consciousness and parental influences. *Journal of Personality and Social Psychology*, *48*(3), 768–780. <https://doi.org/10.1037/0022-3514.48.3.768>.
- Froming, W. J., & Carver, C. S. (1981). Divergent influences of private and public self-consciousness in a compliance paradigm. *Journal of Research in Personality*, *15*, 159–171.
- Froming, W. J., Walker, G. R., & Lopyan, K. J. (1982). Public and private self-awareness: When personal attitudes conflict with societal expectations. *Journal of Experimental Social Psychology*, *18*, 476–487.
- Galanaki, E. P. (2012). The imaginary audience and the personal fable: A test of Elkind's theory of adolescent egocentrism. *Psychology*, *3*(6), 457–466. <https://doi.org/10.4236/psych.2012.36065>.
- Garber, J., Weiss, B., & Shanley, N. (1993). Cognitions, depressive symptoms, and development in adolescents. *Journal of Abnormal Psychology*, *102*(1), 47–57. <https://doi.org/10.1037/0021-843X.102.1.47>.
- Giedd, J. N., Blumenthal, J., Jeffries, N. O., Castellanos, F. X., Liu, H., Zijdenbos, A., . . . Rapoport, J. L. (1999). Brain development during childhood and adolescence: A longitudinal MRI study. *Nature Neuroscience*, *2*(10), 861–863.
- Gogtay, N., Giedd, J. N., Lusk, L., Hayashi, K. M., Greenstein, D., Vaituzis, A. C., . . . Thompson, P. M. (2004). Dynamic mapping of human cortical development during childhood through early adulthood. *Proceedings of the National Academy of Sciences*, *101*(21), 8174–8179.
- Gray, W. M., & Hudson, L. M. (1984). Formal operations and the imaginary audience. *Developmental Psychology*, *20*(4), 619–627. <https://doi.org/10.1037/0012-1649.20.4.619>.
- Higa, C. K., & Daleiden, E. L. (2008). Social anxiety and cognitive biases in non-referred children: The interaction of self-focused attention and threat interpretation biases. *Journal of Anxiety Disorders*, *22*(3), 441–452. <https://doi.org/10.1016/j.janxdis.2007.05.005>.

- Higa, C. K., Phillips, L. K., Chorpita, B. F., & Daleiden, E. L. (2008). The structure of self-consciousness in children and young adolescents and relations to social anxiety. *Journal of Psychopathology and Behavioral Assessment, 30*(4), 261–271. <https://doi.org/10.1007/s10862-008-9079-z>.
- Higa-McMillan, C. K., Smith, R. L., Chorpita, B. F., & Hayashi, K. (2008). Common and unique factors associated with DSM-IV-TR internalizing disorders in children. *Journal of Abnormal Child Psychology: An official publication of the International Society for Research in Child and Adolescent Psychopathology, 36*(8), 1279–1288. <https://doi.org/10.1007/s10802-008-9250-8>.
- Hofmann, S. G., & Heinrichs, N. (2003). Differential effects of mirror manipulation on self-perception in social phobia subtypes. *Cognitive Therapy and Research, 27*, 131–142. <https://doi.org/10.1023/A:1023507624356>.
- Hofmann, S. G., & Scepkowski, L. A. (2006). Social self-reappraisal therapy for social phobia: Preliminary findings. *Journal of Cognitive Psychotherapy, 20*, 45–57. <https://doi.org/10.1891/jcop.20.1.45>.
- Hofmann, S. G., Sawyer, A. T., Witt, A. A., & Oh, D. (2010). The effect of mindfulness-based therapy on anxiety and depression: A meta-analytic review. *Journal of Consulting and Clinical Psychology, 78*, 169–183. <https://doi.org/10.1037/a0018555>.
- Kashdan, T. B., & Roberts, J. E. (2004). Social anxiety's impact on affect, curiosity, and social self-efficacy during a high self-focus social threat situation. *Cognitive Therapy and Research, 28*, 119–141. <https://doi.org/10.1023/B:COTR.0000016934.20981.68>.
- Kelly, K. M., Jones, W. H., & Adams, J. M. (2002). Using the imaginary audience scale as a measure of social anxiety in young adults. *Educational and Psychological Measurement, 62*(5), 896–914. <https://doi.org/10.1177/001316402236884>.
- Kroger, J. (1998). Adolescence as a second separation-individuation process: Critical review of an object relations approach. In E. E. A. Skoe & A. L. von der Lippe (Eds.), *Personality development in adolescence: A cross-national and life span perspective* (pp. 172–192). London: Routledge.
- Lahey, B.B., Rathouz, P.J., Van Hulle, C., Urbano, R.C., Krueger, R.F., Applegate, B., . . . Waldman, I.D. (2008). Testing structural models of DSM-IV symptoms of common forms of child and adolescent psychopathology. *Journal of Abnormal Child Psychology, 36*, 187–206. <https://doi.org/10.1007/s10802-007-9169-5>.
- Lapsley, D. K. (1993). Toward an integrated theory of adolescent ego development: The “new look” at adolescent egocentrism. *American Journal of Orthopsychiatry, 63*(4), 562–571. <https://doi.org/10.1037/h0079470>.
- Lapsley, D. K., & Murphy, M. N. (1985). Another look at the theoretical assumptions of adolescent egocentrism. *Developmental Review, 5*, 201–217. [https://doi.org/10.1016/0273-2297\(85\)90009-7](https://doi.org/10.1016/0273-2297(85)90009-7).
- Lapsley, D. K., Milstead, M., Quintana, S. M., Flannery, D., & Buss, R. R. (1986). Adolescent egocentrism and formal operations: Tests of a theoretical assumption. *Developmental Psychology, 22*(6), 800–807. <https://doi.org/10.1037/0012-1649.22.6.800>.
- Lapsley, D. K., FitzGerald, D. P., Rice, K. G., & Jackson, S. (1989). Separation-individuation and the “new look” at the imaginary audience and personal fable: A test of an integrative model. *Journal of Adolescent Research, 4*(4), 483–505. <https://doi.org/10.1177/074355488944006>.
- Lewinsohn, P. M., Seeley, J. R., & Gotlib, I. H. (1997). Depression-related psychosocial variables: Are they specific to depression in adolescents? *Journal of Abnormal Psychology, 3*, 365–375. <https://doi.org/10.1037/0021-843X.106.3.365>.
- Lewinsohn, P. M., Gotlib, I. H., Lewinsohn, M., Seeley, J. R., & Allen, N. B. (1998). Gender differences in anxiety disorders and anxiety symptoms in adolescents. *Journal of Abnormal Psychology, 107*, 109–117. <https://doi.org/10.1037/0021-843X.107.1.109>.
- Liu, J., & Li, L. (2007). Egocentrism of 93 adolescents. *Chinese Mental Health Journal, 21*(7), 461–463.
- Mansell, W., Clark, D. M., Ehlers, A., & Chen, Y. P. (1999). Social anxiety and attention away from emotional faces. *Cognition and Emotion, 13*, 673–690. <https://doi.org/10.1080/026999399379032>.
- Markstrom, C. A., & Mullis, R. L. (1986). Ethnic differences in the imaginary audience. *Journal of Adolescent Research, 1*(3), 289–301. <https://doi.org/10.1177/074355488613004>.
- Mellings, T. M. B., & Alden, L. E. (2000). Cognitive processes in social anxiety: The effects of self-focus, rumination, and anticipatory processing. *Behaviour Research and Therapy, 38*, 243–257. [https://doi.org/10.1016/S0005-7967\(99\)00040-6](https://doi.org/10.1016/S0005-7967(99)00040-6).
- Mittal, B., & Balasubramanian, S. K. (1987). Testing the dimensionality of the self-consciousness scales. *Journal of Personality Assessment, 51*, 53–68. https://doi.org/10.1207/s15327752jpa5101_5.
- Mor, N., & Winquist, J. (2002). Self-focused attention and negative affect: A meta-analysis. *Psychological Bulletin, 128*, 638–662. <https://doi.org/10.1037/0033-2909.128.4.638>.
- Mor, N., Doane, L. D., Adam, E. K., Mineka, S., Zinbarg, R. E., Griffith, J. W., . . . Nazarian, M. (2010). Within-person variations in self-focused attention and negative affect in depression and anxiety: A diary study. *Cognition and Emotion, 24*(1), 48–62. <https://doi.org/10.1080/02699930802499715>.
- Nuevo, R., Marquez, M., Montorio, I., Losada, A., Izal, M., & Cabrera, I. (2007). Analysis of the role of private self-consciousness in the prediction of generalized anxiety symptoms severity. *Ansiedad y Estrés, 13*(1), 13–23.
- Nystedt, L., & Ljungberg, A. (2002). Facets of private and public self-consciousness: Construct and discriminant validity. *European Journal of Personality, 16*, 143–159. <https://doi.org/10.1002/per.440>.
- Panayiotou, G. (2004). Performance effects of self-focus. *Psychology: The Journal of the Hellenic Psychological Society, 11*(2), 255–268.

- Paus, T. (2005). Mapping brain maturation and cognitive development during adolescence. *Trends in Cognitive Sciences*, 9, 60–68. <https://doi.org/10.1016/j.tics.2004.12.008>.
- Peterson, K. L., & Roscoe, B. (1991). Imaginary audience behavior in older adolescent females. *Adolescence*, 26(101), 195–200.
- Piliavin, J. A., & Charng, H. (1988). What is the factorial structure of the private and public self-consciousness scales? *Personality and Social Psychology Bulletin*, 14, 587–595. <https://doi.org/10.1177/0146167288143018>.
- Rankin, J. L., Lane, D. J., Gibbons, F. X., & Gerrard, M. (2004). Adolescent self-consciousness: Longitudinal age changes and gender differences in two cohorts. *Journal of Research on Adolescence*, 14, 1–21. <https://doi.org/10.1111/j.1532-7795.2004.01401001.x>.
- Ruipérez, M. A., & Belloch, A. (2003). Dimensions of the self-consciousness scale and their relationship with psychopathological indicators. *Personality and Individual Differences*, 35, 829–841. [https://doi.org/10.1016/S0191-8869\(02\)00286-6](https://doi.org/10.1016/S0191-8869(02)00286-6).
- Ryan, R. M., & Kuczowski, R. (1994). The imaginary audience, self-consciousness, and public individuation in adolescence. *Journal of Personality*, 62, 219–238. <https://doi.org/10.1111/j.1467-6494.1994.tb00292.x>.
- Rycek, R. F., Stuhr, S. L., McDermott, J., Benker, J., & Schwartz, M. D., (1998). Adolescent egocentrism and cognitive functioning during late adolescence. *Adolescence*, 33(132), 745–749.
- Scheier, M. F. (1980). Effects of public and private self-consciousness on the public expression of personal beliefs. *Journal of Personality and Social Psychology*, 39, 514–521. <https://doi.org/10.1037/0022-3514.39.3.514>.
- Scheier, M. F., & Carver, C. S. (1985). The self-consciousness scale: A revised version for use with general populations. *Journal of Applied Social Psychology*, 15, 687–699. <https://doi.org/10.1111/j.1559-1816.1985.tb02268.x>.
- Scheier, M. F., Buss, A. H., & Buss, D. M. (1978). Self-consciousness, self-report of aggressiveness and aggression. *Journal of Research in Personality*, 12, 133–140. [https://doi.org/10.1016/0092-6566\(78\)90089-2](https://doi.org/10.1016/0092-6566(78)90089-2).
- Scheier, M. F., Carver, C. S., & Gibbons, F. X. (1979). Self-directed attention, awareness of bodily states, and suggestibility. *Journal of Personality and Social Psychology*, 37, 1576–1588. <https://doi.org/10.1037/0022-3514.37.9.1576>.
- Schwartz, P. D., Maynard, A. M., & Uzelac, S. M. (2008). Adolescent egocentrism: A contemporary view. *Adolescence*, 43(171), 441–448.
- Sebastian, C., Burnett, S., & Blakemore, S.-J. (2008). Development of the self-concept during adolescence. *Trends in Cognitive Sciences*, 12(11), 441–446. <https://doi.org/10.1016/j.tics.2008.07.008>.
- Silvia, P. J. (1999). Explaining personality or explaining variance? A comment on Creed and Funder (1998). *European Journal of Personality*, 11, 533–538. [https://doi.org/10.1002/\(SICI\)1099-0984\(199911\)12:13:6<533::AID-PER354>3.0.CO;2-0](https://doi.org/10.1002/(SICI)1099-0984(199911)12:13:6<533::AID-PER354>3.0.CO;2-0).
- Somerville, L. H., Jones, R. M., Ruberry, E. J., Dyke, J. P., Glover, G., & Casey, B. J. (2013). The medial prefrontal cortex and the emergence of self-conscious emotion in adolescence. *Psychological Science*, 24(8), 1554–1562. <https://doi.org/10.1177/0956797613475633>.
- Takishima-Lacasa, J. Y., Higa-McMillan, C. K., Ebesutani, C., Smith, R. L., & Chorpita, B. F. (2014). Self-consciousness and social anxiety in youth: The revised self-consciousness scales for children. *Psychological Assessment*, 26(4), 1292–1306. <https://doi.org/10.1037/a0037386>.
- Tunnell, G. (1984). The discrepancy between private and public selves: Public self-consciousness and its correlates. *Journal of Personality Assessment*, 48, 549–555. https://doi.org/10.1207/s15327752jpa4805_15.
- Vartanian, L. R. (2000). Revisiting the imaginary audience and personal fable constructs of adolescent egocentrism: A conceptual review. *Adolescence*, 35(140), 639–661.
- Watson, P. J., Morris, R. J., Ramsey, A., & Hickman, S. E. (1996). Further contrasts between self-reflectiveness and internal state awareness factors of private self-consciousness. *Journal of Psychology*, 130, 183–192.
- Woody, S. R. (1996). Effects of focus of attention on anxiety levels and social performance of individuals with social phobia. *Journal of Abnormal Psychology*, 105, 61–69. <https://doi.org/10.1037/0021-843X.105.1.61>.

Self-Construal in a Cultural Context

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Synonyms

[Self-definition](#); [View of self](#)

Overview

Self-construal refers to the way in which we conceptualize and experience ourselves. Markus and Kitayama (1991) distinguished between an independent self-construal that prioritizes an individual's personal needs and goals and is most

prominent in North American and Western European cultures and an interdependent self-construal that prioritizes one's social relationships and is most salient in Asian, Latin-American, and African cultures. Contemporary research emphasizes a nuanced understanding of these contrasting construals, with recognition that individuals may hold both independent and interdependent views of the self, with the salience of each varying based on contextual factors. Research on the implications of self-construal on behaviors, cognitions, and well-being has largely focused on college student samples, though growing literature in this field has implications for child and adolescent development. This entry begins with an introduction to the construct of self-construal followed by an overview of measures and measurement challenges. Next, literature pertaining to the implications of self-construal for individual psychological processes such as cognition, motivation, and emotion is presented, as well as a review of studies examining self-construal in bi-/multicultural samples. The development of self-construal in the family context and the implications for individual functioning and mental health, as well as peer and romantic relationships, are also examined with a focus on adolescence.

Introduction and Definitions of Self-Construal

In its broad sense, self-construal refers to each individual's cognitive representation of his/her own self. The term *self-construal* was coined by Markus and Kitayama (1991) to describe cultural variation in the way people from different cultural backgrounds conceptualize and understand themselves. Markus and Kitayama (1991) proposed that an independent self-construal is characteristic of North American and Western European cultures, in which an individual's behavior is organized and made meaningful by reference to one's own internal attributes (e.g., thoughts, feelings, or actions) rather than those of others. In contrast, in many Asian, African, and Latin-American cultures, a view of self as *interdependent* is predominant, in which an individual's behavior is

organized and made meaningful by reference to one's social relationships (Markus and Kitayama 1991). For individuals with an independent self, expression and validation of one's internal attributes are important determinants of self-esteem. In contrast, for those with an interdependent self-construal, the focus of individual experience is in the context of "self in relation to others," and emphasis is placed on fitting in and living harmoniously with others.

Similar conceptualizations of variation in self-construal have been proposed by anthropologists prior to Markus and Kitayama's (1991) work. For instance, Marriott (1976) used the term *dividual* to describe people from India, whom he conceptualized as emotionally, socially, and physically tied to others, and contrasted this with the Western notion of persons as relatively bounded and self-contained *individuals*. Shweder and Bourne (1984) described people in non-Western countries as *sociocentric* who are "linked to each other in an interdependent system" and "take an active interest in another's affairs" (p. 194) and those in Western societies as *egocentric* – "autonomous, indivisible, and bounded" units (p. 190). Moving beyond these dichotomous conceptualizations, psychologist Kağıtçıbaşı (1996) proposed the construal of an autonomous-relational self as a third possible configuration (in addition to "autonomous" and "relational" self), which incorporates an orientation toward autonomous agency while maintaining a sense of connectedness with others.

While self-construal describes differences across cultures at an individual level of analysis, Triandis (1989, 1995) used the dimension of individualism versus collectivism to describe variation at a cultural level of analysis. Briefly, collectivism is a social pattern consisting of closely linked individuals who see themselves as parts of one or more collectives (family, coworkers, tribe, nation), while individualism is a social pattern that consists of loosely linked individuals who view themselves as independent of collectives (Triandis 1995). Triandis (1989) also proposed distinctions between the private, public, and collective self that coexist in each individual, theorizing that the public and collective self have greater importance for individuals in

collectivist cultures, while the private self is emphasized more in individualist cultures.

Although there are many possible conceptualizations of the self, the term *self-construal* (as introduced by Markus and Kitayama 1991) “has become virtually synonymous with independent and interdependent” (Cross et al. 2011, p. 143). Markus and Kitayama’s (1991) seminal article on self-construal spurred a large body of literature exploring cultural variation in self-construal and the impact of self-construal on emotional, cognitive, and motivational processes. In the two decades since the publication of Markus and Kitayama’s article, a more nuanced understanding of self-construal has emerged with recognition of both between and within culture variability, as well as growing recognition that individuals may hold both independent and interdependent views of the self, with the relative salience of each varying depending on contextual factors. The bulk of research examining the influence of self-construal on psychological processes has used college student samples, and somewhat limited research attention has been devoted to self-construal at the developmental level. Important developmental considerations include both the development of self-construal within the family, as well as changes in self-construal across early childhood, through adolescence, and into adulthood. Moreover, the impact of culture on self-construal in a developmental context is gaining importance with globalization and the growing number of multicultural children and families.

Measurement Challenges and Controversies

Measuring a construct as broad as self-construal can be difficult, particularly given the challenges inherent in measuring psychological constructs across cultures. Indeed, while many researchers find the construct of self-construal to be meaningful and beneficial to various domains of study (e.g., Cross et al. 2000; Singelis 1994), others have argued that the independent-interdependent self-construal construct may be invalid,

inconsistent, or unsupported by cross-cultural research (Matsumoto 1999; Park and Levine 1999). Despite these challenges, various investigators have developed self-report measures of self-construal that draw from the independent-interdependent typology outlined by Markus and Kitayama (1991) and other similar classifications.

One classic self-report measurement tool is Kuhn and McPartland’s (1954) Twenty Statements Test (TST). The TST instructs respondents to provide 20 statements in response to the question “Who am I?” The 20 responses are then coded into categories, typically independent versus interdependent or an extended four-way categorization (i.e., idiocentric, small group, large group, and allocentric responses). The TST is unique in that its open-ended response format does not restrict participant responses. A second commonly used measure is Singelis’ (1994) Self-Construal Scale (SCS), which lists 24 statements and asks the respondent to rate each statement using a 5-point Likert scale. These statements, which are characteristic of either an interdependent or an independent view of self, were constructed based on Markus and Kitayama’s (1991) description of self-construal as well as other measures of self-construal and individualism-collectivism. Leung and Kim (1997) and Gudykunst et al. (1996) have also proposed similar measures.

Other measures of self-construal are more finely focused on different domains related to self-construal. For instance, the 11-item Relational-Interdependent Self-Construal Scale (RISC; Cross et al. 2000) was designed to measure a relational-interdependent self-construal, emphasizing the importance of close interpersonal relationships (as opposed to group membership) as one form of the interdependent self. In contrast, other instruments (e.g., Collectivism Scale; Yamaguchi 1994) are designed to measure group membership and allegiance.

The validity of current self-report measures of self-construal has been debated in the literature (e.g., Gudykunst and Lee 2003; Kağıtçıbaşı 2013; Kim and Raja 2003; Levine et al. 2003). Indeed, Levine and colleagues (2003) reported that there are “serious and persistent flaws in existing self-

construal scales,” whereby “the intended two-factor measurement fails to fit the data, fails badly, and fails consistently” (p. 247). Do these findings highlight problems with current measures of self-construal or deeper problems with the construct itself? The answer remains unclear.

One explanation of varied findings posited by Markus and Kitayama (2010) is that self-construal may not be readily accessible to conscious reflection and thus may not be adequately captured by self-report measures. Indeed, a number of emerging studies make efforts to circumvent challenges of self-report by measuring self-construal using implicit association tests (e.g., Kitayama et al. 2009) as well as brain imaging studies (see Kim and Sasaki 2014). A second explanation of discrepant findings is that the salience of independence and interdependence may vary based on contextual factors, and thus, self-report measures in testing situations may capture different aspects of the self for participants from different cultural backgrounds. Moreover, scores on self-report measures of self-construal may be affected by situational priming that may also have differential effects on people from different backgrounds (Cross et al. 2011). Other explanations of varied findings focus on challenging the notion of a dichotomous view of self-construal (e.g., independence-interdependence). For example, Kağıtçıbaşı (2013) suggests that these dimensions are too broad and posits that self-construal is much more complex and multidimensional. In spite of methodological challenges, self-construal remains an important and widely studied construct with implications for adolescent development and well-being.

To date, few investigators have measured self-construal from a developmental perspective. In one recent study, Pomerantz and colleagues (Pomerantz et al. 2009) modified the RISC Scale (Cross et al. 2000) to specifically measure early adolescents’ relationships with their parents and peers as relevant to their interdependent self-construals (Parent-oriented Interdependent Self-Construal Scale and Friend-oriented Interdependent Self-Construal Scale, respectively). Amidst many relational changes – with parents, peers, and romantic partners – as well as

differences in cultural expectations of autonomy in adolescence, the challenge continues for future researchers to systematically examine self-construal within a developmental context. Such careful consideration may provide evidence for *what* self-construal is in adolescence, *when* the construct of self-construal might be meaningfully useful, and *how* (the *mechanisms* by which) such a construct informs development across the life span.

Self-Regulatory Schemas

Markus and Kitayama (2010) situate self-construal at the core of an individual’s self-schema, with these core schemas influencing how *self-regulatory schemas* such as cognitive, emotional, and motivation systems are triggered and respond, as well as how they are experienced by the individual. Similarly, Cross et al. (2011) place self-construal at the center of information processing, with self-construal influencing cognition, emotion, and motivation, which in turn influences social behavior.

Emotion. In considering the ways in which self-construal impacts emotional processes and experiences, Markus and Kitayama (1991) suggest that individuals with an independent view of the self more frequently express, and possibly experience, *ego-focused emotions* (or *socially disengaging emotions*; Kitayama et al. 2006). These include emotions such as anger, frustration, or pride that are related to personal achievement and violation of personal goals and desires. In contrast, those with interdependent selves more frequently experience and express *other-focused* (Markus and Kitayama 1991) or *socially engaging emotions* (Kitayama et al. 2006), such as sympathy or the Japanese emotion of *amae*, that are focused on the importance of maintaining connections with others and, in turn, supporting one’s interdependence. For example, Kitayama et al. (2006) found that Japanese college students were more likely to experience socially engaging emotions, and these emotions were related to their self-reported subjective well-being, while American college students were more likely to

experience socially disengaging emotions, which were related to their subjective well-being. Another aspect of the emotional experience that relates to self-construal is emotional complexity (i.e., experiencing both pleasant and unpleasant emotions at the same time). Research has shown that positive events are more likely to elicit mixed emotions in individuals with interdependent self-construals. This emotional complexity has been linked to dialectical thinking emphasized in many Asian societies (Spencer-Rodgers et al. 2010).

Motivation. Just as emotional experiences can be understood through the lens of self-construal, one's view of self also impacts motivation. Markus and Kitayama (1991) outlined differences between interdependent and independent motives, in addition to variations in the salience of cognitive consistency. Cognitive consistency refers to efforts an individual makes to reduce cognitive dissonance that may arise when their thoughts and feelings are incongruent with their actions and behaviors. The need for cognitive consistency seems particularly salient to individuals with an independent self-construal. Those with an interdependent self-construal on the other hand are less likely to be affected by this phenomenon, as the ability to control – rather than express – one's innermost feelings in the favor of the goals and preferences of others is valued. Markus and Kitayama (2003) have also described differences in motivation in terms of agency: *conjoint agency* and *disjoint agency*. In the former (associated with interdependent self-construal), motivation integrates personal interests and the interests of others, whereas the latter (associated with an independent self-construal) more clearly separates personal interests from those of others. It is worth noting that similar goals and behaviors may be rooted in different motivations guided by self-construal. For example, the goal of doing well at school may be motivated by a desire to elevate the self (independent self-construal) or by a desire to please significant others (interdependent self-construal) (Cross et al. 2011). Indeed, researchers have found that both Japanese and American students endorsing high relational (interdependent) self-construal are motivated to

pursue goals based on relational-autonomous reasons, such as supporting the needs of others (Gore et al. 2009).

Cognition. Substantial research suggests that cultural differences related to interdependence and independence contribute to differences in cognition and cognitive processes (Markus and Kitayama 1991; Nisbett 2007). Markus and Kitayama (1991) examined three consequences of self-construal differences: (1) those with an interdependent self-construal may be more attentive and sensitive to others than those with an independent self-construal, (2) an interdependent self-construal will contribute to viewing the self in relation to others as context dependent, and (3) the emphasis on social context and attentiveness characteristic of the interdependent self will influence nonsocial cognitive processes such as categorization and counterfactual thinking. Whereas Western perception and cognition prioritize a focus on a central object (and thus is more analytical), Eastern perception and cognition prioritize a focus on relationships and contextual understanding and thus is more holistic (Nisbett and Miyamoto 2005; Nisbett et al. 2001). For example, Kim and Markus (1999, Study 3) found that East Asians (Chinese and Korean) and European Americans chose different color pens when given the opportunity to give a pen as a gift. Specifically, East Asians chose the most common color (the one that emphasizes conformity), whereas European Americans more often chose the rarest color (the one that emphasizes uniqueness). These differences in perception and cognition impact attribution processes, reliance on rules, and categorization (Nisbett 2007), suggesting that “cognitive and perceptual processes are constructed in part through participation in cultural practices” and are not as fixed and universal as has often been assumed (Nisbett and Miyamoto 2005, p. 472).

Self-Regulatory Schemas in Adolescence. Surprisingly few research studies have specifically considered self-construal and relevant implications for cognition, emotion, and motivation during the developmental stage of adolescence. Although many studies have used college students whereby some participants may be considered to fall under

the category of “adolescents,” these studies were not designed to specifically examine the relevant constructs through the developmental lens of adolescence (for an exception, see Pomerantz et al. 2009). As a period of substantial growth and transition that impacts cognition, emotion, and motivation, there is an important need to examine the ways in which self-construal impacts the transition into, the trajectory throughout, and the subsequent outcomes of adolescent development. In adolescence, youth navigate complicated peer relationships, increased personal decision-making, sexual development, and, in some cultures, the beginning of romantic relationships, as well as future prospects related to career and education options (Kerig and Wenar 2006; Steinberg 2011). Thus, it is important for investigators to consider how these developmental challenges are impacted by differences in cognitive, emotional, and motivational processes associated with one’s self-construal.

Particularly, the study of cognitive, emotional, and motivational processes in adolescence must consider cultural aspects related to normative development. For example, adolescence may be considered as the developmental period that is characterized by the onset of formal operational thinking (Piaget 1972), and yet recent research has suggested that formal operations itself may not be universal, particularly among those who cannot read or write, among societies that do not place a high priority on formal education (Hatano and Inagaki 1998), or among societies which place an emphasis on social intelligence (Serpell 1994). In addition to advances in cognitive development, Euro-American psychology has emphasized separation from parents as an increasingly important developmental task during adolescence. However, current thinking emphasizes a more nuanced view, with balance between autonomy and relatedness. In addition, researchers suggest that the way in which this balance unfolds is based on sociocultural factors and may be informed by one’s self-construal (Greenfield et al. 2003; Kağıtçıbaşı 2005, 2007). In fact, recent studies have found benefits of feeling a sense of responsibility toward parents including better academic performance among school-age

children in both the USA and China (Pomerantz et al. 2011).

Self-Construal Within the Family Context

Family socialization processes may provide an insight into how children across cultures develop varying self-construals. Parents across the globe have unique socialization goals which are grounded in broader cultural models that are salient in their society (Keller and Otto 2009). Although all parents emphasize autonomous and relational socialization goals (Tamis-LeMonda et al. 2008), the relative emphasis of these goals vary across cultural groups. Consistent with the broader cultural model of individualism (Triandis 2001) or independence (Markus and Kitayama 1991; Kağıtçıbaşı 2013), middle-class European Americans likely endorse autonomous socialization goals that focus on developing children into independent, unique, competitive, and self-expressive individuals (Chao 2000). In these families self-boundaries of each member do not overlap, promoting each member’s independence (Kağıtçıbaşı 2013). Although there may be variation in parental socialization goals across social classes and in the meanings associated with characteristics such as independence (Kagan 1984; Kusserow 2004), a majority of European American middle-class families may strive for autonomy, uniqueness, and self-expression in their children.

In contrast, consistent with a cultural model of interdependence, parents in traditional communities in Asia, the Middle East, and South America are apt to emphasize relational socialization goals that focus on obedience, respect, concern for the well-being of others, harmony in interpersonal relationships, and an overall view of the self in relation to others (e.g., Kağıtçıbaşı 2013; Keller and Otto 2009; Markus and Kitayama 1991). Scholars (i.e., Lamb 1997; Mines 1994) have argued that viewing individuals as interconnected does not mean that people do not have an inner self or an ability to maintain their own perspective. Indeed, parents from collectivist societies do value certain autonomous/independent goals. For example, in a study of suburban middle-class families from

Northwestern India, Raval et al. (2014) found that although mothers endorsed both autonomous and relational goals, relational characteristics were rated as significantly more desirable than autonomous characteristics.

Partly in recognition of socioeconomic development and movement from rural to urban communities taking place in Eastern cultures, Kağitçibaşı (1990) proposed a qualitatively different third cultural construct to supplement the individualist-collectivist/independent-interdependent model in these developing countries. This third construct, the autonomous-related self, entails emphasis on both an autonomous orientation particularly with respect to material goods and psychological interdependence within the family (Kağitçibaşı 2005). Kağitçibaşı (1996) argued that in traditional farming communities in Asia, both material and emotional interdependence were salient because the family unit needed to work together for basic survival. As families move into urban areas, material interdependence becomes less important, though psychological or emotional interdependence continues, resulting in a self-construal where material interdependence is less salient though psychological interdependence continues to be valued. Parents in these societies encourage autonomy as well as relatedness, for example, mothers in South Korea whose traditional values of interdependence are confronted with modernization consider a blend of qualities such as autonomy, social awareness, and self-control as markers of child competence (Trommsdorff et al. 2012).

Self-Construal in Bi-/Multicultural Populations

As globalization increases and rates of migration rise, studies exploring the influence of culture and self-construal are becoming increasingly important. Moreover, the study of self-construal among children/adolescents with bi-/multicultural identities may also help expand our understanding of how salience of interdependence or independence may vary in different contexts. Wang et al. (2010) examined the impact of language on self-

construal among 125 bilingual children (ages 8–14 years) in Hong Kong. The researchers found that children interviewed in English reported more Western independent values and self-construal, while children interviewed in Chinese reported greater endorsement of Chinese interdependent philosophies and self-construal. In essence, language cued the child's cultural belief system which in turn influenced their self-construal. These results advance *cultural frame shifting* theories, which propose that individuals living in two (or more) cultures may switch their social behavior and cognitions (and now self-construal) depending on the cultural context (Hong et al. 2000). This notion of being cued to respond within a certain frame is also connected to priming studies.

Priming studies have become important in cross-cultural psychology, with a surge in studies within the last decade (Markus and Kitayama 2010). Generally, priming studies employ subtle cues to engage a culturally based schema of how to think and act. In a novel study combining priming and brain imagining, Chiao et al. (2010) examined the effects of cultural priming on neural activity in Asian-American college students who self-identified as bicultural. Students were presented with either an independent prime (reading a story where a warrior is selected based on individual merit and writing an essay on qualities that make them unique from significant others) or an interdependent prime (reading a story where a warrior is chosen based on family relations and writing an essay on qualities shared with significant others). The researchers found that priming influenced neural activity, with students in the independent priming condition showing greater activation for more general rather than contextual self-descriptions and the reverse effect seen in those primed in the interdependent condition.

Cultural studies employing brain imaging fall in the realm of *cultural neuroscience* and are increasingly reminding us of the critical impact of culture on the brain and how we perceive, engage, and respond to the world around us (see Chiao 2015; Kim and Sasaki 2014 for a review). A recent meta-analysis of 35 studies examining cultural differences in psychological processing at

a neural level (i.e., utilizing functional magnetic resonance imaging; fMRI) found that cultural variation in “social and non-social processes are mediated by distinct neural networks” with many studies documenting neural differences between individuals from East Asian and Western societies (Han and Ma 2014, p. 293).

Findings from broad fields of study including cultural neuroscience lend credence to the validity of dimensions of independence and interdependence as a construct and also highlight the importance of further research to expand our understanding self-construal in a developmental context. Moreover, when considering cultural differences that may emphasize different ways of viewing self in relation to other, it is likely that cognitive, emotional, and motivational processes across the life span (including adolescence and emerging adulthood) will be impacted by related factors of autonomy and connectedness.

Functioning and Well-Being in Adolescence

In addition to the family context, researchers have been particularly interested in self-construal’s impact on individual psychosocial functioning and well-being. Self-esteem, depression, and anxiety are three areas of functioning that have received some research attention, and findings to date provide a mixed picture. Some of the challenge rests in differences in the way in which certain constructs may be understood in different cultural contexts. For example, in their review of literature pertaining to self-esteem among Chinese and Western children and adolescents, Wang and Ollendick (2001) suggest that “the construct of self-esteem may have different ‘meaning’ in the Chinese culture than in prevailing Western cultures” (p. 265) and emphasize the importance of considering the nature of self-identity in association with collectivism/individualism and other cultural factors.

Among Vietnamese American adolescents, Lam (2006) found that students with both a strong interdependent and independent self-construal (referred to by Lam as *bicultural students*)

reported lower levels of depression and distress and higher levels of self-esteem and family cohesion than students with either a strong interdependent or independent self-construal or youth with low scores on both interdependent and independent self-construal (*marginal students*). Lam (2005) found that self-construal did not have a direct relationship with depression, but rather contributed to depressive symptomatology through indirect pathways. Specifically, interdependent self-construal was associated with high family cohesion, which in turn was associated with higher levels of self-esteem and lower levels of depression. In contrast, independent self-construal was associated with higher self-esteem and high peer support, which in turn were associated with decreased depression.

Other researchers have found a relationship between self-construal and social anxiety. For example, Okazaki (1997) found the low independent self-construal was significantly related to higher reports of social anxiety among both Asian-American and European American college students (Okazaki 1997). It may be that an individual with lowered levels of an independent self-construal may feel socially insecure or less likely to engage socially, particularly when living in a more individualistic culture. More recently, Ho and Lau (2011) examined the relationship between self-construal and social anxiety among three groups of college students: first-generation Asian-Americans, second-generation Asian-Americans, and European American. Similar to prior studies, greater endorsement of an independent self-construal was associated with lower levels of social anxiety for all groups. In contrast, higher endorsement of an interdependent self-construal was associated with increased report of social anxiety; however, this effect was only seen in the first-generation Asian-American sample suggesting some unique influences of culture and/or acculturation.

Peer and Romantic Relationships

In many Western cultures, adolescence and emerging adulthood are marked by youth

navigating increasingly complicated peer and romantic relationships. The ways in which individuals communicate and relate to one another in these relationships are often a function of how they perceive themselves in relation to the other and in the overall relationship. According to Cross and colleagues (2000), the relational-interdependent self-construal, or the relational self-construal, is characterized by emphasizing relationships with others, self-enhancement, and self-expression with others. This conceptualization of relational self-construal is similar to Markus and Kitayama's (1991) concept of the interdependent self-construal and will be used interchangeably here. Individuals with a highly relational self-construal engage in behaviors and cognitions that foster and maintain close relationships with others and thus conceptualize themselves primarily in the context of these relationships (Cross and Morris 2003). Those with a lower relational self-construal are conceptualized as having a more independent self.

Self-construal has also been found to influence the facility to infer emotions in others, which in turn may impact interpersonal communication and peer relationships. In a separate series of studies comparing European American and East Asian college students, Ma-Kellams and Blascovich (2012) found that East Asian students endorsing higher levels of an interdependent self-construal were better at identifying emotions in close others. As an interdependent self-construal emphasizes the self in the context of others, it follows that being sensitive to emotions of close others would foster harmony and thus be particularly advantageous in this cultural context.

Research with same-sex young adult peers has indicated that those who view themselves as interdependent are primarily prevention-focused in their communication, whereby communication is used to avoid a conflict, and personal expression is often indirect, as passive and obliging strategies are used (Lee et al. 2000; Gudykunst et al. 1996; Markus et al. 1996). In contrast, students who identified themselves as primarily independent engaged in more active and open communication strategies and employed dominant conflict

approaches when dealing with same-sex peers. In a study that focused on relationships between college roommates, researchers found that students who rated themselves as engaging in a highly relational/interdependent self-construal were better able to predict their roommate's beliefs and values and engaged in more optimistic thinking about their relationship with their new roommate than students who identified themselves as having a more independent self-construal (Cross and Morris 2003).

Research with romantic partners has focused primarily on self-construal and conflict. Sinclair and Fehr (2005) examined the different strategies used when dealing with dissatisfaction in romantic relationships based on self-construal. The authors found that college students who conceptualized themselves as having an independent self-construal were vocal and active when expressing their dissatisfaction with their romantic partner, while those who conceptualized themselves as having an interdependent self-construal were more passive, as they optimistically waited for conditions to improve in the relationship. Extending from this, Le and Impett (2013) surveyed dating experiences of a diverse sample of undergraduate students in Canada and discovered that sacrifice (disregarding one's own personal interests) and emotion suppression were related to positive self and relational outcomes for students endorsing high levels of interdependent self-construal. In contrast, sacrifice and emotion suppression predicted lower relationship quality and daily well-being among students reporting low interdependence. By and large, studies on emotion and well-being have detailed many negative consequences of suppressing or inhibiting emotions (e.g., English et al. 2013), and studies such as these point to an important mediating role of self-construal.

One major challenge in examining self-construal and both peer and romantic relationships in adolescence is the variability in social norms of these relationships across cultures. Studies with college-age students such as those outlined above provide insights that may be relevant to adolescent development in different cultures, though further research is needed.

Conclusion

It has been over two decades since Markus and Kitayama's (1991) seminal paper on self-construal, and the construct remains an important avenue of study. The body of literature has expanded in recent years, with researchers using increasingly unique and novel ways (e.g., priming studies, brain imaging, etc.) to explore the self-construal and its impact on cognition, motivation, and emotion. With that being said, there remains a dearth of literature on children and adolescents with a majority of studies being conducted with samples of convenience (i.e., college students). Certainly, it is also important for investigators to consider the developmental context in studies of self-construal. Particularly, an understanding of self in relation to others is intricately associated with adolescent development, as adolescents navigate family and peer relationships, as well as in some cultures, the emergence of romantic relationships. Given the impact of self-construal on motivation, cognition, and emotion, as well as relationships and individual functioning, self-construal may be an important construct for furthering the scientific knowledge related to cultural contexts of adolescent development.

References

- Chao, R. K. (2000). The parenting of immigrant Chinese and European American mothers: Relations between parenting styles, socialization goals, and parental practices. *Journal of Applied Developmental Psychology, 21*(2), 233–248.
- Chiao, J. Y. (2015). Current emotion research in cultural neuroscience. *Emotion Review, 7*, 280–293.
- Chiao, J. Y., Harada, T., Komeda, H., Li, Z., Mano, Y., Saito, D., . . . & Iidaka, T. (2010). Dynamic cultural influences on neural representations of the self. *Journal of Cognitive Neuroscience, 22*(1), 1–11.
- Cross, S. E., & Morris, M. L. (2003). Getting to know you: The relational self-construal, relational cognition, and well-being. *Personality and Social Psychology Bulletin, 29*, 512–523.
- Cross, S. E., Bacon, P. L., & Morris, M. L. (2000). The relational-interdependent self-construal and relationships. *Journal of Personality and Social Psychology, 78*, 791–808.
- Cross, S. E., Hardin, E. E., & Gercek-Swing, B. (2011). The what, how, why, and where of self-construal. *Personality and Social Psychology Review, 15*, 142–179.
- English, T., John, O. P., & Gross, J. J. (2013). Emotion regulation in relationships. In J. A. Simpson & L. Campbell (Eds.), *Handbook of close relationships* (pp. 500–513). Oxford, UK: Oxford University Press.
- Gore, J. S., Cross, S. E., & Kanagawa, C. (2009). Acting in our interests: Relational self-construal and goal motivation across cultures. *Motivation and Emotion, 33*(1), 75–87.
- Greenfield, P. N., Keller, H., Fuligni, A., & Maynard, A. (2003). Cultural pathways through universal development. *Annual Review of Psychology, 54*, 461–490.
- Gudykunst, W. B., & Lee, C. M. (2003). Assessing the validity of self construal scales: A response to Levine et al. *Human Communication Research, 29*, 253–274.
- Gudykunst, W. B., Matsumoto, Y., Ting-Toomey, S., Nishida, T., Kim, K., & Heyman, S. (1996). The influence of cultural individualism-collectivism, self-construals, and individual values on communication styles across cultures. *Human Communication Research, 22*, 510–543.
- Han, S., & Ma, Y. (2014). Cultural differences in human brain activity: A quantitative meta-analysis. *NeuroImage, 99*, 293–300.
- Hatano, G., & Inagaki, K. (1998). Cultural context of schooling revisited: A review of the learning gap from a cultural psychology perspective. In S. G. Paris & H. M. Wellman (Eds.), *Global prospects for education: Development, culture and schooling* (pp. 79–104). Washington, DC: American Psychological Association.
- Ho, L. Y., & Lau, A. S. (2011). Do self-report measures of social anxiety reflect cultural bias or real difficulties for Asian American college students? *Cultural Diversity and Ethnic Minority Psychology, 17*(1), 52–58.
- Hong, Y. Y., Morris, M. W., Chiu, C. Y., & Benet-Martinez, V. (2000). Multicultural minds: A dynamic constructivist approach to culture and cognition. *American Psychologist, 55*(7), 709–720.
- Kagan, J. (1984). *Nature of the child*. New York: Basic Books.
- Kagitcibasi, C. (1990). Family and socialization in cross-cultural perspective: A model of change. In J. Berman (Ed.), *Cross-cultural perspectives: Nebraska symposium on motivation, 1989* (pp. 135–200). Lincoln: University of Nebraska Press.
- Kağitçibaşı, Ç. (1996). The autonomous-relational self: A new synthesis. *European Psychologist, 1*, 180–186.
- Kağitçibaşı, Ç. (2005). Autonomy and relatedness in cultural context: Implications for self and family. *Journal of Cross-Cultural Psychology, 36*, 403–422.
- Kağitçibaşı, Ç. (2007). *Family, self, and human development across cultures: Theory and applications* (2nd ed.). Mahwah: Earlbaum.

- Kağitçibaşı, Ç. (2013). Adolescent autonomy-relatedness and the family in cultural context: What is optimal? *Journal of Research on Adolescence, 23*(2), 223–235.
- Keller, H., & Otto, H. (2009). The cultural socialization of emotion regulation during infancy. *Journal of Cross-Cultural Psychology, 40*(6), 996–1011.
- Kerig, P. K., & Wenar, C. (2006). *Developmental psychopathology: From infancy through adolescence* (5th ed.). New York: McGraw-Hill.
- Kim, H., & Markus, H. R. (1999). Deviance or uniqueness, harmony or conformity?: A cultural analysis. *Journal of Personality and Social Psychology, 77*, 785–800.
- Kim, M.-S., & Raja, N. S. (2003). When validity testing lacks validity: Comment on Levine et al. *Human Communication Research, 29*, 275–290.
- Kim, H. S., & Sasaki, J. Y. (2014). Cultural neuroscience: Biology of the mind in cultural contexts. *Annual Review of Psychology, 65*, 487–514.
- Kitayama, S., Mesquita, B., & Karasawa, M. (2006). Cultural affordances and emotional experience: Socially engaging and disengaging emotions in Japan and the United States. *Journal of Personality and Social Psychology, 91*, 890–903.
- Kitayama, S., Park, H., Sevincer, A. T., Karasawa, M., & Uskul, A. K. (2009). A cultural task analysis of implicit independence: Comparing North America, Western Europe, and East Asia. *Journal of Personality and Social Psychology, 97*(2), 236.
- Kuhn, M., & McPartland, T. S. (1954). An empirical investigation of self-attitudes. *American Sociological Review, 19*, 68–76.
- Kusserow, A. (2004). *American individualisms: Child rearing and social class in three neighborhoods*. New York: Palgrave Macmillan.
- Lam, B. T. (2005). Self-construal and depression among Vietnamese-American adolescents. *International Journal of Intercultural Relations, 29*, 239–250.
- Lam, B. T. (2006). Self-construal and socio-emotional development among Vietnamese-American adolescents: An examination of different types of self-construal. *International Journal of Behavioral Development, 30*, 67–75.
- Lamb, S. (1997). The making and unmaking of persons: Notes on aging and gender in North India. *Ethos, 25*, 279–302.
- Le, B. M., & Impett, E. A. (2013). When holding back helps suppressing negative emotions during sacrifice feels authentic and is beneficial for highly interdependent people. *Psychological Science, 24*(9), 1809–1815.
- Lee, A. Y., Aaker, J. L., & Gardner, W. L. (2000). The pleasures and pains of distinct self-construals: The role of interdependence in regulatory focus. *Journal of Personality and Social Psychology, 78*, 397–409.
- Leung, T., & Kim, M. S. (1997). *A revised self-construal scale*. Honolulu: University of Hawaii at Manoa.
- Levine, T. R., Bresnahan, M. J., Park, H. S., Lapinski, M. K., Wittenbaum, G. M., Shearman, S. M., et al. (2003). Self-construal scales lack validity. *Human Communication Research, 29*, 210–252.
- Ma-Kellams, C., & Blascovich, J. (2012). Inferring the emotions of friends versus strangers the role of culture and self-construal. *Personality and Social Psychology Bulletin, 38*(7), 933–945.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review, 98*, 224–253.
- Markus, H. R., & Kitayama, S. (2003). Models of agency: Sociocultural diversity in the construction of action. In G. Berman & J. Berman (Eds.), *The Nebraska symposium on motivation: Cross-cultural differences in perspectives on self* (Vol. 49, pp. 1–57). Lincoln: University of Nebraska Press.
- Markus, H. R., & Kitayama, S. (2010). Cultures and selves: A cycle of mutual constitution. *Perspectives on Psychological Science, 5*(4), 420–430.
- Markus, H. R., Kitayama, S., & Heiman, R. J. (1996). Culture and basic social psychological principles. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social Psychology: Handbook of basic principles* (pp. 857–913). New York: Guilford Press.
- Marriott, M. (1976). Interpreting Indian society: A monistic alternative to Dumont's dualism. *Journal of Asian Studies, 36*, 189–195.
- Matsumoto, D. (1999). Culture and self: An empirical assessment of Markus and Kitayama's theory of independent and interdependent self-construals. *Asian Journal of Social Psychology, 2*, 289–310.
- Mines, M. (1994). *Public faces, private voices: Community and individuality in South India*. Berkeley/Los Angeles: University of California Press.
- Nisbett, R. E. (2007). Eastern and western ways of perceiving the world. In Y. Shoda, D. Cervone, & G. Downey (Eds.), *Persons in context: Building a science of the individual* (pp. 62–83). New York: Guilford Press.
- Nisbett, R. E., & Miyamoto, Y. (2005). The influence of culture: Holistic versus analytic perception. *Trends in Cognitive Science, 9*, 467–473.
- Nisbett, R. E., Peng, K., Choi, I., & Norenzayan, A. (2001). Culture and systems of thought: Holistic versus analytic cognition. *Psychological Review, 108*, 291–310.
- Okazaki, S. (1997). Sources of ethnic differences between Asian American and White American college students on measures of depression and social anxiety. *Journal of Abnormal Psychology, 106*, 52–60.
- Park, H. S., & Levine, T. R. (1999). The theory of reasoned action and self construal: Evidence from three cultures. *Communication Monographs, 66*, 199–218.
- Piaget, J. (1972). Intellectual evolution from adolescence to adulthood. *Human Development, 15*, 1–12.
- Pomerantz, E. M., Qin, L., Wang, Q., & Chen, H. (2009). American and Chinese early adolescents' inclusion of their relationships with their parents in their self-construals. *Child Development, 80*, 792–807.
- Pomerantz, E. M., Qin, L., Wang, Q., & Chen, H. (2011). Changes in early adolescents' sense of responsibility to their parents in the United States and China:

- Implications for academic functioning. *Child Development*, 82(4), 1136–1151.
- Raval, V. V., Raval, P. H., & Deo, N. (2014). Mothers' socialization goals, mothers' emotion socialization behaviors, child emotion regulation, and child socio-emotional functioning in urban India. *Journal of Early Adolescence*, 34(2), 229–250.
- Serpell, R. (1994). The cultural construction of intelligence. In W. L. Lonner & R. S. Malpass (Eds.), *Psychology and culture* (pp. 157–163). Boston: Allyn & Bacon.
- Shweder, R. A., & Bourne, E. J. (1984). Does the concept of the person vary cross culturally? In R. A. Shweder & R. A. Levine (Eds.), *Cultural theory* (pp. 158–199). Cambridge, UK: Cambridge University Press.
- Sinclair, L., & Fehr, B. (2005). Voice versus loyalty: Self-construals and responses to dissatisfaction in romantic relationships. *Journal of Experimental Social Psychology*, 41, 298–304.
- Singelis, T. M. (1994). The measurement of independent and interdependent self-construals. *Personality and Social Psychology Bulletin*, 5, 580–591.
- Spencer-Rodgers, J., Peng, K., & Wang, L. (2010). Dialecticism and the co-occurrence of positive and negative emotions across cultures. *Journal of Cross-Cultural Psychology*, 41(1), 109–115.
- Steinberg, L. (2011). *Adolescence* (9th ed.). New York: McGraw-Hill.
- Tamis-LeMonda, C. S., Way, N., Hughes, D., Yoshikawa, H., Kalman, R. K., & Niwa, E. Y. (2008). Parents' goals for children: The dynamic coexistence of individualism and collectivism in cultures and individuals. *Social Development*, 17(1), 183–209.
- Triandis, H. C. (1989). The self and social behavior in different cultural contexts. *Psychological Review*, 96, 506–520.
- Triandis, H. C. (1995). *Individualism and collectivism*. San Francisco: Westview Press.
- Triandis, H. C. (2001). Individualism-collectivism and personality. *Journal of Personality*, 69(6), 907–924.
- Trommsdorff, G., Cole, P. M., & Heikamp, T. (2012). Cultural variations in mothers' intuitive theories: A preliminary report on interviewing mothers from five nations about their socialization of children's emotions. *Global Studies of Childhood*, 2(2), 158–169.
- Wang, Y., & Ollendick, T. H. (2001). A cross-cultural and developmental analysis of self-esteem in Chinese and Western children. *Clinical Child and Family Psychology Review*, 4, 253–271.
- Wang, Q., Shao, Y., & Li, Y. J. (2010). "My way or Mom's way?" The bilingual and bicultural self in Hong Kong Chinese children and adolescents. *Child Development*, 81(2), 555–556.
- Yamaguchi, S. (1994). Collectivism among the Japanese: A perspective from the self. In U. Kim, H. C. Triandis, Ç. Kağıtçıbaşı, S. S. Choi, & G. Yoon (Eds.), *Individualism and collectivism* (pp. 175–188). Newbury Park: Sage.

Self-Control Theory

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The notion of self-control figures prominently in the study of adolescence. Most notably, deficiencies in self-control play an important role in psychopathology, and it tends to be the centerpiece of research conducted by other names, such as delay of gratification, self-regulation, impulsivity, and self-discipline (see Strayhorn 2002). These terms help highlight the centrality of self-control to healthy development, such as impulsivity and its place in impulse control problems, conduct disorders, and addictions. It is difficult to overestimate the significance of self-control in adolescent development.

Although the notion of self-control, in its different guises, is ubiquitous in the study of adolescence and central to healthy development, "Self-control Theory" generally refers to the groundbreaking work of Gottfredson and Hirschi (1990). In their conceptualization of a general theory of crime, they contend that all deviance (including crime and delinquency) can be subsumed under self-control theory. In fact, their "general theory of crime" eventually became known as self-control theory. Their theory had many features, one of the most important of which was the observation that individuals who commit any one deviant act will tend to commit other deviant acts as well. That observation was then nuanced by several others that supported why that generality existed and persisted. Under their conceptualization, self-control essentially involves a crime-prone propensity. They identified several key aspects of crime-prone propensities. They noted, for example, an urge to gratify desires immediately, a lack of diligence and persistence in a course of action, a lack of commitment to children or jobs, a deficit in skills and planning, and a tendency to use illegal drugs, drink excessively, or gamble. Research quickly showed that these characteristics and behaviors did relate to delinquent and criminal behavior

(Hay and Forrest 2006). Research also was quick to criticize the theory for being tautological due to the close links between self-control and delinquency, with the claim that the theory subsumed delinquent behavior as a predictor of itself, which led to no surprise that, for example, delinquent behavior predicts delinquent behavior (see Akers 1991). Although highly scrutinized and criticized by criminologists, self-control theory continues to gain considerable support.

Self-control theory posits many points that mirror important research in developmental sciences. It posits that there is stability in self-control, which receives considerable support from research showing impressive consistency over context and time (see Block 1993; Hay and Forrest 2006), an area of research that continues to gain support from cutting-edge studies focusing on brain development, genetics, and neurotransmitters (Beaver et al. 2008; Schepis et al. 2008). It also posits that self-control emerges quite early in life, which receives support from multiple areas of research relating to human development (Strayhorn 2002). Also receiving support is its proposition that individuals who have difficulty with one aspect of self-control (e.g., drug abuse) tend to have difficulties with others (e.g., gambling) see (Jessor et al. 1991). The theory also asserts that an individual's sense self-control emerges early in childhood, and that it results from parental socialization; considerable evidence does support the claim that factors such as family climate, associated family processes, and specific parenting behaviors, all are key to the socialization of self-control (see Vazsonyi and Belliston 2007). Although nuanced and not immune from limitations, the theory remains an important one that pulls together several strands of research and helps move fields forward as they assess its viability.

References

- Akers, R. L. (1991). Self-control as a general theory of crime. *Journal of Quantitative Criminology*, 7, 201–211.
- Beaver, K. M., Wright, J. P., DeLisi, M., & Vaughn, M. G. (2008). Genetic influences on the stability of low self-

- control: Results from a longitudinal sample of twins. *Journal of Criminal Justice*, 36, 478–485.
- Block, J. (1993). Studying personality the long way. In D. C. Funder, R. D. Parke, C. Tomlinson-Keasy, & K. Widaman (Eds.), *Studying lives through time: Personality and development* (pp. 9–41). Washington, DC: American Psychological Association.
- Gottfredson, M. R., & Hirschi, T. (1990). *A general theory of crime*. Stanford: Stanford University Press.
- Hay, C., & Forrest, W. (2006). The development of self-control: Examining self-control theory's stability thesis. *Criminology*, 44, 739–774.
- Jessor, R., Donovan, J. E., & Costa, F. M. (1991). *Beyond adolescence: Problem behavior and young adult behavior*. New York: Cambridge University Press.
- Schepis, T. S., Adinoff, B., & Rao, U. (2008). Neurobiological processes in adolescent addictive disorders. *The American Journal on Addictions*, 17, 6–23.
- Strayhorn, J., Jr. (2002). Self-control: Theory and research. *Journal of the American Academy of Child and Adolescent Psychiatry*, 41, 7–16.
- Vazsonyi, A. T., & Belliston, L. M. (2007). The family → low self control → deviance: A cross-cultural and cross-national test of self-control theory. *Criminal Justice and Behavior*, 34, 505–530.

Self-Definition

- ▶ [Self-Construal in a Cultural Context](#)

Self-Descriptions

- ▶ [Self-Perception](#)

Self-Determination

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Self-determination is an action accompanied with a sense of choice, volition, and commitment due to the action's being based in intrinsic motivations rather than extrinsic (or controlled) motivations (see Ryan and Deci 2000). Whether motivations are intrinsic or extrinsic is of significance in that they help determine the source of regulatory

control. When regulation is autonomous (as in, from “inside” the person), an individual acts out of a sense of volition, choice, endorsement, as well as relative freedom. When regulation is controlled, actions are based on seduction, coercion, and pressure (as in, from forces external to the person). Researchers associate self-determination with autonomous regulation, and note a wide variety of benefits that accrue to individuals who act with self-determination. Self-determination theory hypothesizes, and research generally supports, that autonomous regulation fosters optimal behavioral development and well-being, while controlled regulations forestall psychosocial adjustment and even foster a vulnerability to maladjustment and psychopathology (see Deci and Ryan 2000).

Both extrinsic and intrinsic motivations involve motivation to some action; however, the source and outcome of the type of motivation differ rather significantly. The nature of the outcome of each type of motivation is due to the psychological processes related to each. For example, an adolescent who is given money to perform an activity well and punished for performing the activity poorly is externally compelled to perform well. That type of pressure to perform well, however, will most likely result in feelings of resentment and alienation from the activity, as it is merely a means for financial gain. An adolescent who feels internally compelled to perform well, however, will most likely have volition and agency in their activity because it reflects their inner needs, values, and self. In self-determination theory, autonomous self-regulation is characterized by personal endorsement of behavior.

Autonomous self-regulation and controlled regulation each involve two distinctive types of regulation, and these are of significance to understand given that only autonomous self-regulation enables an individual to be fully self-determined and many circumstances involving youth foster controlled regulation. The first type of autonomous self-regulation is based on intrinsic motivation that stems from a natural draw towards an activity. These behaviors, because they are interesting and enjoyable, do not require

reinforcement and are the prototype of self-determination. The second type of autonomous self-regulation stems from the internalization of extrinsic motivation. This route to internalization derives from an individual’s initially behaving in ways that they find uninteresting because they receive a reward; but, through time, the individual internalizes the value and regulation of that behavior and optimally integrates it into their sense of self. Together, intrinsic motivation and integrated regulation are the basis for self-determination. In controlled regulation, an individual can experience external regulation and introjected regulation. On one hand, a behavior may remain primarily controlled by external rewards and punishments. On the other, extrinsic motivation does not become completely integrated into an individual’s sense of self. In this form of controlled self-regulation, introjected regulation, individuals internalize and employ controlling contingencies to pressure and coerce themselves into performing a behavior. Here, an individual’s behavior may become internalized, but never be accepted as their own.

Numerous studies examining various life domains have revealed the diverse positive consequences associated with acting in a self-determined fashion, and much of that research has involved adolescents. These findings have been found in research examining academics, sports, career decision making processes, the parenting of adolescents, friendships and other personal relationships, exercise performance, weight control, therapy and rehabilitation, as well as identity development itself (see, e.g., Soenens and Vansteenkiste 2005; Luyckx et al. 2009). Indeed, it would be difficult to find an area of adolescent development that would not relate to self-determination issues, perhaps because learning how and the extent to which one can self-govern and become the initiator of one’s actions is much of what the transition to and out of adolescence is all about.

Given the potential benefits that can attach to autonomous self-regulation, researchers have explored methods of promoting self-determination (see Ryan and Deci 2000). Self-determination theory suggests that effectively

integrating external behavioral regulation into self-identity requires addressing three basic needs: relatedness, competence, and autonomy. Internalizing the regulation of a behavior is found more frequently when an individual's immediate social network values a particular behavior. If family, friends, or group members endorse a behavior, the individual will likely internalize the regulation of that behavior. In this way, providing individuals with a sense of personal relatedness with others who value a behavior may be a way of increasing their autonomous self-regulation of that behavior. Additionally, individuals who feel that they possess the skills and understanding required to execute a behavior will more likely internalize and integrate a behavior. Ideally, an individual would be appropriately challenged and given effectance-relevant feedback to facilitate internalization. Lastly, autonomous self-determination can be increased by allowing the individual to understand the meaning of a behavior for themselves, have their own perspective acknowledged, and feel as though they have a choice in performing the behavior. Essentially, this requires providing supports for an individual to be autonomous.

Self-determination is a concept indicating an individual's level of choice, volition, and commitment to a behavior. Autonomous self-regulation can be increased through highlighting relatedness, enhancing competence, and facilitating autonomy and has particularly beneficial outcomes as compared to controlled behavioral regulation. Drawing from behavioral analysts and cognitive theorists' work, the theory of self-determination has delineated several key concepts relating to behavioral regulation and has improved understandings of self-determination. Those understandings have led to important developments in the study of adolescence. The study of adolescence likely will continue to benefit from understanding how behaviors marked by more self-determination and less external control tend to elicit more personal commitment, greater persistence, more positive feelings, higher quality performance, and better mental health.

References

- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*, 227–268.
- Luyckx, K., Vansteenkiste, M., Goossens, L., & Duriez, B. (2009). Basic need satisfaction and identity formation: Bridging self-determination theory and process-oriented identity research. *Journal of Counseling Psychology, 56*, 276–288.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *The American Psychologist, 55*, 68–78.
- Soenens, B., & Vansteenkiste, M. (2005). Antecedents and outcomes of self-determination in three life domains: The role of parents' and teachers' autonomy support. *Journal of Youth and Adolescence, 34*, 589–604.

Self-Disclosure

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Self-disclosure involves communicating with others by sharing information about oneself, either deliberately (such as by telling them) or not (such as by the way one looks). Self-disclosure occurs in all forms of relationships and variety of contexts in which individuals interact. During adolescence, self-disclosure certainly is an important phenomenon, as it relates to family and peer relationships (see Bauminger et al. 2008) as well as new forms of relationships being shaped by technology and emerging media (such as online relationships) (see Cho 2007). Despite a wide variety of potential contexts and relationships involving communication, the study of adolescents' self-disclosure (or lack of it) has focused mainly on parent–child relationships and the effects that disclosure has on their relationships as well as on adolescents' mental health (see Horesh et al. 2004; Vieno et al. 2009). Importantly, less researched is the disclosure of adults toward adolescents. The best research in this area comes from studies examining therapeutic relationships, which help to highlight key points in

the understanding of self-disclosure toward adolescence. Still, given the significance of self-disclosure in fostering relationships, and the potential vulnerabilities involved in disclosure, it remains odd that it is an area of relatively undeveloped research.

The place, and importance, of self-disclosure during adolescence recently has been the subject of considerable interest due to its being part of a general reconceptualization of research on parenting. Parents' behaviors have long been associated with adolescents' mental health, actions, and other outcomes (see, e.g. Simons and Conger 2007). Parental knowledge of youths' activities has been deemed a key factor. Rather than assuming that parental knowledge is a matter of parents' actions (such as monitoring and control), recent research views it as including parents' asking their adolescents, limiting or controlling their adolescents' activities, or as involving adolescents' self-disclosure (Kerr and Stattin 2000; Stattin and Kerr 2000). This reconceptualization has involved suggesting that parental knowledge, and its effects, actually may be related to individual differences in adolescents' self-disclosure than parental practices (see also Stattin and Kerr 2000). Numerous studies have confirmed that self-disclosure plays a key role in fostering parent-child relationships and the effect those relationships has on numerous adolescent outcomes (see Vieno et al. 2009).

In the contexts of therapeutic relationships, the notion of self-disclosure has focused less on the clients than on the therapists themselves. Commentaries in this area highlight that it remains a controversial topic given that self-disclosure is intended to build rapport. This sharing, sometimes described as transparency, involves a therapist's offering, for example, their own experiences, emotions, or family background to aid in promoting connection with clients (see Jourard 1971). Self-disclosure in therapeutic contexts is divided into four types: deliberate, unavoidable, accidental, and client-driven (Stricker and Fosjer 1990; Zur 2007). Deliberate disclosure refers to a therapist's intentionally revealing something of themselves; this can be subtle (through personal effects decorating an office) to overt (explicitly discussing one's

personal views). Deliberate self-disclosure can be used to express a therapist's views on a subject, or to reflect on the effect of what a client has said; deliberate self-disclosure strictly for the benefit of the therapist is considered unethical. Unavoidable self-disclosures includes aspects of a person that are apparent through observation (race, age, gender, overt religious paraphernalia, body modifications, personal dress and manner of presentation, etc). Accidental self-disclosures are those that are the result of interactions between therapists and clients when therapists do not maintain their professional demeanor; this can occur when they are surprised and caught off-guard or when therapists encounter clients outside professional settings. Client-driven self-disclosures result from a more open culture, combined with internet technology. Clients have come to view themselves as entitled to information on their therapist's background, and easy access to the Internet makes it easy to acquire such information. The appropriateness of self-disclosure varies based on the therapist, the client, and the particular situation. Some therapeutic techniques like feminist and humanist approaches lend themselves to self-disclosure to emphasize the egalitarian nature of counseling relationships, and others like cognitive-behavioral approaches use self-disclosure to provide feedback to a client's words or actions, and others like psychoanalysis aim to be opaque to clients in an effort to use, for example, projection and other therapeutic techniques (Henretty and Levitt 2010). As expected, the variety of therapeutic methods and self-disclosure challenges efforts to understand the effects of self-disclosure, but this area of research does highlight that self-disclosure is a key component of relationships and can serve to shape those relationships.

References

- Bauminger, N., Finzi-Dottan, R., Cahson, S., & Har-Even, D. (2008). Intimacy in adolescent friendship: The roles of attachment, coherence, and self-disclosure. *Journal of Social and Personal Relationships, 25*, 409–428.
- Cho, S.-H. (2007). Effects of motivations and gender on adolescents' self-disclosure in online chatting. *Cyberpsychology & Behavior, 10*, 339–345.

- Henretty, J. R., & Levitt, H. M. (2010). The role of therapist self-disclosure in psychotherapy: A qualitative review. *Clinical Psychology Review, 30*, 63–77.
- Horesh, N., Zalsman, G., & Apter, A. (2004). Suicidal behavior and self-disclosure in adolescent psychiatric inpatients. *The Journal of Nervous and Mental Disease, 192*, 837–842.
- Jourard, S. M. (1971). *The transparent self*. New York: Van Nostrand Reinhold.
- Kerr, M., & Stattin, H. (2000). What parents know, how they know it, and several forms of adolescent adjustment: Further support for a reinterpretation of monitoring. *Developmental Psychology, 36*, 366–380.
- Simons, L. G., & Conger, R. D. (2007). Linking mother–father differences in parenting to a typology of family parenting styles and adolescent outcomes. *Journal of Family Issues, 28*, 212–241.
- Stattin, H., & Kerr, M. (2000). Parental monitoring: A reinterpretation. *Child Development, 71*, 1072–1085.
- Stricker, G., & Fosjer, M. (Eds.). (1990). *Self-disclosure in the therapeutic relationships*. New York: Plenum.
- Vieno, A., Nation, M., Pastore, M., & Santinello, M. (2009). Parenting and antisocial behavior: A model of the relations between adolescent self-disclosure, parental closeness, parental control, and adolescent antisocial behavior. *Developmental Psychology, 45*, 1509–1519.
- Zur, O. (2007). *Boundaries in psychotherapy: Ethical and clinical explorations*. Washington, DC: American Psychological Association.

results from and gives rise to important developmental processes including abstract thinking, goal setting, and goal attainment (Harter 2006; Gestsdottir and Lerner 2008). Despite the prevalence and functionality of self-discrepancies, they are associated with emotional discomfort, especially for midadolescents. This is because adolescents are wrestling with the task of identity formation and are still developing the ability to make sense of, and to some extent make peace with, internal contradictions (Erikson 1968; Harter 1999). Although the literature on adult self-discrepancies far outstrips the work with younger populations, there has been some important and diverse work with adolescents.

This essay begins by discussing a number of perspectives on the self which have shaped modern research on self-discrepancies, particularly among adolescents. Following is a discussion of the dominant theoretical conceptualization of self-discrepancies and new research findings that challenge and expand this conceptualization. Finally, the clinical relevance of self-discrepancies will be considered along with future directions for treatment and research. In this essay, the terms self, self-view, and self-representation will be used interchangeably, as will the terms discrepancy, conflict, and contradiction.

Self-Discrepancies

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Overview

The tale of Dr. Jekyll and Mr. Hyde provides a vivid image of a self-discrepancy: a contradiction between two distinct inner “selves.” In reality, self-discrepancies are not confined to moral conflicts nor are they generally as extreme or as rare as the split personality of Dr. Jekyll/Mr. Hyde. Rather, inconsistencies between and among private thoughts, feelings, beliefs, desires, goals, and motivations are quite common across the life span (Markus and Nurius 1986). In adolescence, *self-discrepancies are both normative and necessary*; their exponential growth following late childhood

How Do Self-discrepancies Come About?

The notion of dualities within the self dates far back in human history, but scientific curiosity about self-conflicts arose on the heels of modern psychological conceptions of the developing self. Thus, any discussion of adolescent self-discrepancies must begin with a discussion of the self in general, and the adolescent self in particular. Several major theorists have been influential in shaping current views of the self. These include William James (multiple selves, psychological significance of the ratio of one’s actualities to potentialities: 1890/1950), Charles Horton Cooley (looking glass self – parents’ views of children becomes embedded in children’s self-views: 1902), Sigmund Freud (primacy of parent–child relationships, conflicting inner id,

ego, superego: 1923/1961), Erik Erikson (identity formation across several domains during adolescence: 1968), and Urie Bronfenbrenner (self as active contributor to its own development: 1979). Taken together, these perspectives hold that *self-knowledge begins to evolve in infancy and becomes increasingly complex, multi-dimensional, and purposeful as individuals approach adulthood.*

Intertwined with the cognitive, pubertal, social/relational, and environmental/educational changes that characterize the transition into adolescence, conceptions of self also undergo unique qualitative and quantitative changes (Wigfield et al. 1996; Harter 1999). Adolescents start to envision themselves in new ways and create multiple versions of the self, including numerous *self-guides*, which represent their desired end states. In addition to the self as it is (actual/true or current self), adolescents imagine themselves as they desire to be (ideal self), as they are duty-bound to be (ought self), as dreaded (undesired/feared self), as seen by a significant other (e.g., parental ideal for self), and as an infinite number of other past and future possible selves (Markus and Nurius 1986). Adolescents also begin to view themselves differently across relational contexts – as early as seventh grade, adolescents can describe differences between their attributes and behaviors when they are with parents, friends, and romantic partners (Harter and Monsour 1992).

Ideal and ought selves are the *self-guides* or *self-standards* that have received the most attention perhaps because parents are believed to be the primary contributors to their development. Children develop strong ideal and/or ought self-guides according to the focus of parenting messages. Messages regarding the importance of achieving positive outcomes lead to strong ideal selves, whereas messages regarding avoiding negative outcomes lead to strong ought selves (regulatory focus theory: Higgins 1997; Manian et al. 2006). Indeed, research in several countries including Germany, Israel, Jamaica, and the USA indicates that there is often a high degree of similarity between adolescents' values and ideals and their perceptions of their parents' wishes for them (see Cashmore and Goodnow 1985; Ferguson and

Dubow 2007), particularly for girls (Moretti and Wiebe 1999). Societal values also play a role in the development of ideal and ought self-guides. For example, children across multiple societies tend to adopt ideals for physical appearance that represent culturally valued physical characteristics to the citation (e.g., Cramer and Anderson [Ferguson] 2003).

Increasing cognitive sophistication is the platform that allows for the rapid multiplication of selves during adolescence (cognitive developmental perspective: Harter et al. 1997). Due to the rise of formal operations (Piaget 1970), there is rapid growth in hypothetical and abstract thinking – adolescents are much better able to consider possibilities beyond their immediate experience. Early adolescents also demonstrate highly compartmentalized thinking, which aides in the formation of numerous self-representations. Furthermore, having developed better perspective-taking ability (i.e., the ability to put themselves in another's shoes, which emerges in mid-/late childhood), early adolescents are more orientated toward social relationships and the standards of significant adults. This unique point in cognitive and social development results in greater differentiation of the self across different social contexts and relational roles (Harter 2006). As self-views rapidly multiply, so do contradictions between those self-views. Thus, *the prevalence of self-discrepancies during adolescence is a logical consequence of the exponential growth in self-representations.* Although the content of adolescents' selves differs based on what attributes are culturally prized, the proliferation of selves and corresponding increase in self-discrepancies during adolescence are considered to be universal phenomena (Harter 1999).

What Purpose Do Self-discrepancies Serve?

Self-discrepancies play a role in how adolescents go about evaluating and modifying their behaviors to achieve their goals (intentional self-regulation: Brandstätter 1999). *Their purpose is simple but essential: to spur growth toward*

self-development. Whereas adolescents' desired and undesired selves specify the end states they want to approach and avoid, respectively, self-discrepancies between current self-states and those end states provide the *motivation* to do so. The motivational power of self-discrepancies lies in the fact that they create an unpleasant internal state that individuals instinctively desire to resolve by somehow bringing the dissonant selves back together (cognitive dissonance: Festinger 1957; self-discrepancy theory: Higgins 1987).

Cross-sectional and longitudinal research indicate that adolescents play an active role in eliminating self-discrepancies in order to reverse the negative emotional state they bring about. For example, US adolescents in identity moratorium, who are actively exploring identity options, report significantly more self-discrepancies than adolescents with achieved, foreclosed, and diffused identity statuses who are not actively exploring identity options (Makros and McCabe 2001). This indicates that self-discrepancies are not simply a feature of having an uncommitted identity, but they are associated with actively seeking a resolution, a task that requires motivation and effort. Research among undergraduate students is also consistent with this view. Among US undergraduate students, personal growth initiative (i.e., "active intentional involvement in changing and developing as a person") mediates relations between self-discrepancies and affect (Hardin et al. 2007, pp. 86). In other words, students' self-discrepancies lead to greater focus and effort toward self development, which in turn lead to improved affect. Longitudinal research also supports the notion that adolescents use self-discrepancies to achieve their self-development goals. A longitudinal investigation of changes in self-discrepancies among German adolescents indicated that adolescents seek to achieve their desired end states by intentionally heightening their goals in relevant domains, thus, intentionally enlarging their self-discrepancies (Pinquart et al. 2004). They then resolve these self-discrepancies by bringing their actual self to meet their ideal self over time (assimilation) rather than vice versa (accommodation).

These findings strongly support the action theoretical perspective on intentional self-development, which holds that the self is both a product and producer of self-development (Brandstätter 1999; Lerner 1982). That is, partly influenced by background and current environment, *each adolescent intentionally creates a variety of possible selves that give rise to self-discrepancies and, in turn, create the adolescent's own future*. This view greatly expands on the cognitive developmental perspective, which focuses on the self as a product rather than as a producer.

How Do Researchers Study Self-discrepancies?

Because of the nature of self-discrepancies as internal contradictions between two self-states, researchers have commonly studied them by asking participants to describe the relevant opposing selves. *The actual self is treated as the reference point and the degree of discrepancy from a comparison self is calculated. Based on traditional self-discrepancy theories, researchers have been most interested in ways in which the actual self falls short of its self-standards* (Brandstätter 1999; James 1890/1950; Harter 1999). *Idiographic measures* require adolescents to generate a list of attributes for each self-state and rate the degree to which each attribute describes the different self-states (e.g., Selves Questionnaire: Higgins et al. 1985). On the other hand, *nomothetic measures* require adolescents to rate their self-states on pre-generated attributes (e.g., Self-Description Questionnaire, Self-Standards Questionnaire: Dubois 1993a, b). The former have been critiqued for being too complex to complete and score, and the latter have been critiqued for being too canned and impersonal. To solve this problem, a combined idiographic/nomothetic measure has been designed for use with adults, but has not yet been piloted with adolescents (Integrated Self-Discrepancy Index: Hardin and Lakin 2009). Another creative measurement approach combines a spatial element with an idiographic format (Harter and Monsour 1992).

There is now evidence that adolescent self-discrepancies also occur in the reverse direction wherein the actual self actually exceeds the self-standard (Ferguson et al. 2009). The possibility of a “reverse discrepancy” had been largely overlooked for decades until very recently, presumably because of the counterintuitive logic involved, but perhaps also because of limitations in the commonly used self-discrepancy measures. In a study with Jamaican high school students, Ferguson and colleagues demonstrated the existence of self-discrepancies in both directions using a graphical pie instrument, which has been used in parenting research. The Identity Pie requires adolescents to share up a presliced circle/pie chart among prespecified areas of life according to how important each area is to the actual and ideal selves, respectively. Thus, the Identity Pie makes it possible for adolescents to indicate when an area of life such as family or religion is not actually as important to their identity as they would ideally like it to be (traditional self-discrepancy), or when an area of life is actually *more* important to their identity than they would ideally like it to be (reverse discrepancy).

Having adolescents respond to domains (e.g., schoolwork) rather than attributes (e.g., intelligent, dumb) is a major strength of the Identity Pie because it maintains a self-descriptive rather than self-evaluative tone, thus, avoids biasing the adolescent toward viewing their ideal self as more positive than their actual self. An explicit self-evaluative focus may be one reason that other measures have not captured a reverse discrepancy despite having the capability to do so (e.g., Self-Description Questionnaire, Self-Standards Questionnaire: Dubois 1993a, b; Self-Attribute Rating List: Makros and McCabe 2001). That is, an ideal attribute is by definition more desirable than an actual attribute (which is what most measures capture); however, the importance one ideally places on a life domain can be either higher *or* lower than the current importance ascribed to that domain (which is what the Identity Pie captures).

The Identity Pie is also unique in that it assesses the relative salience of domains within each self-state and helps the researcher understand the rank-ordered importance of each domain for

the adolescent. However, being a finite whole, it limits the variance of domain scores (i.e., proportion of the pie assigned to each domain), and scores do not represent the absolute level of importance an adolescent places on each domain. For example, an adolescent who finds family very important to her identity may nevertheless assign only 30% of her Identity Pie to family because she finds schoolwork and dating slightly more important and has already assigned 35% to each of those domains. Like other graphical measures, the format of the Identity Pie makes it simple, engaging, quick, and more impervious to differing levels of adolescent verbal competence.

Are Self-discrepancies Problematic for Adolescents?

Although self-discrepancies evolve from normative developmental processes, a great deal of research across several countries indicates that they can also be a liability. Adolescent self-discrepancies are associated with momentary and/or chronic emotional distress and related adjustment problems (Ferguson et al. 2009; Hankin et al. 1997; Meleddu and Scalas 2003; Moretti and Wiebe 1999; Pinquart et al. 2004; Renaud and McConnell 2007; Sanderson et al. 2008). However, the nature and extent of the problems associated with self-discrepancies depend on what particular selves are discrepant (actual/ideal discrepancies seem to be worse); how discrepant they are (larger discrepancies are worse); the domain of discrepancy (appearance and social/relational discrepancies are worse); and characteristics of the adolescent (high feminine gender orientation, and ruminative coping style are worse) (Ferguson et al. 2009; Higgins 1987; Klingenspor 2002; Moretti and Wiebe 1999; Papadakis et al. 2006).

Part of the reason that self-discrepancies become increasingly distressing as youth enter adolescence is that their self-descriptions and ideals are more likely to be based on stable traits or dispositions (e.g., physical attractiveness: I have a pretty face) rather than on shifting behaviors or situations (e.g., physical attractiveness:

I am pretty when I wear my hair this way, but ugly when I wear it that way) (Papadakis et al. 2006). Discrepancies between one's traits and trait goals, both of which are perceived to be stable, are likely to have a greater emotional impact than discrepancies between one's transient behaviors. The distressing quality of self-discrepancies may actually be a necessary motivational ingredient for active self-improvement, and whereas this state of tension does not cause significant problems for most adolescents, there is a minority of adolescents with large and/or numerous self-conflicts who experience very high levels of distress and require clinical attention. This sub-group of adolescents will be specifically addressed in the next section.

Self-discrepancy theory (SDT; Higgins 1987) is the predominant theory used to understand the relations between self-discrepancies and emotional experience. It expands upon prior theories by making specific predictions regarding how and why particular emotions are linked to particular discrepancies. According to SDT, dejection-related feelings result specifically from actual/ideal discrepancies and anxiety results specifically from actual/ought discrepancies. Unlike research with adults, research with adolescents does not provide strong support for SDT's prediction of differential emotional consequences of specific discrepancies. Rather, several studies have found actual/ideal and actual/ought discrepancies to be highly intercorrelated, and actual/ought discrepancies to be weakly related or unrelated to anxiety (Meleddu and Scalas 2003). Furthermore, the correlation between these two self-discrepancies is significantly larger among children than among adults (Rubin et al. 1996). Taken together, these findings suggest that adolescents may not experience their ideal and ought self-standards to be as distinct as do adults.

Self-discrepancies are more distressing for adolescents when they pertain to physical appearance, peer relationships, and romantic relationships. Adolescents become more oriented towards social and relational contexts starting in late childhood when social comparison skills emerge strongly. In addition, these are domains in which adolescents have less control over the outcome:

one's own biology/puberty and the actions/choices of other people play a very large role in achieving goals related to being physically attractive and securing a relationship, respectively.

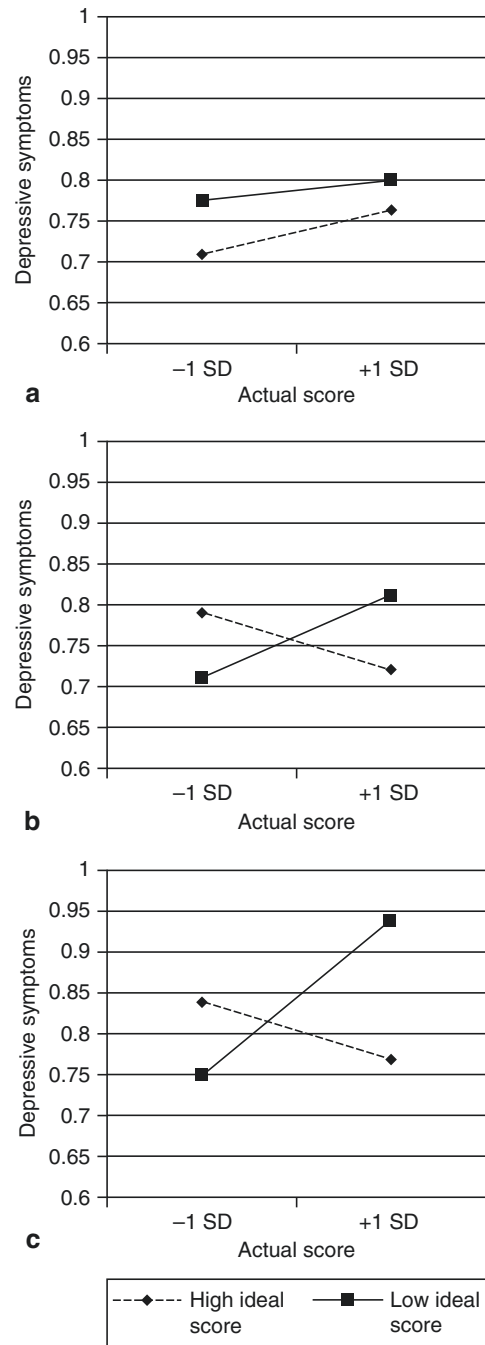
During the adolescent years teenagers become increasingly preoccupied with their attributes, especially physical appearance, and become more self-conscious. Although both boys and girls place equally high importance on appearance, girls are especially vulnerable to large self-discrepancies in this area due to unrealistically high societal standards of female beauty (Meleddu and Scalas 2003). In Western societies in particular, the "thinner is better" ideal is in direct contrast to the physiological changes accompanying the onset of puberty for girls (e.g., widening hips, increased body fat). This no-win situation becomes reflected in lowered self-esteem, greater body dissatisfaction, and increased symptoms of depression, anxiety, and disordered eating (Harrison 2001; Sanderson et al. 2008).

Moreover, among US adolescent girls with self-discrepancies, those who ruminate experience more discrepancy-related depressive symptoms (Papadakis et al. 2006). Papadakis and colleagues suggested that rumination interferes with adaptive coping by becoming like a quicksand which inhibits helpful behavioral action: "whereas under optimal conditions the momentary distress associated with perceptions of self-discrepancy motivates the individual to either increase their efforts in goal pursuit or to switch to a different goal, rumination intensifies distress at the same time as it makes disengagement more difficult" (Papadakis et al. 2006, p. 824). Work among undergraduate male and female students in the Netherlands supports these findings and suggests that rumination partially or fully mediates the association between self-discrepancies and depression (Roelofs et al. 2007).

In their study using the Identity Pie, Ferguson and colleagues found that Jamaican adolescents with larger actual/ideal self-discrepancies in the friendship and dating domains had lower self-esteem, more depressive symptoms, and lower school grades (Ferguson et al. 2009). This was true for adolescents with discrepancies in the

traditional direction *and* in the reverse direction. That is, it was just as problematic for adolescents when their actual self fell short of their ideal in the dating domain as it was when their actual self exceeded their ideal self-ratings in that domain (see Fig. 1).

Age also makes a difference in the level of discrepancy-related distress adolescents experience and these age-related differences are associated with cognitive developmental changes across adolescence (Harter and Monsour 1992; Harter et al. 1997). Although self-representations begin to multiply in early adolescence, adolescents maintain fairly compartmentalized self views at that developmental stage. Because they have little interest in integrating their perceived attributes into a coherent self-portrait, early adolescents are less cognizant of the contradictions between those attributes and they experience little discrepancy-related distress. In midadolescence, however, youth become more self-aware, make finer distinctions between self-representations, and begin to compare and contrast self-attributes. As a result, *self-discrepancies become very noticeable to mid-adolescents, who report significantly more opposing self-attributes and more conflict between attributes*. Unfortunately, midadolescents still lack sufficient cognitive sophistication to successfully integrate these contrasting attributes. Consequently, they struggle to pull together the diverse conceptions of themselves into a coherent self-portrait and experience significant discomfort. In Ferguson et al. 2009 study, midadolescents with high ideal scores but low actual scores and those with high actual scores but low ideal scores (larger actual/ideal discrepancy in both cases) reported more depressive symptoms than midadolescents without self-discrepancies (pictured in Fig. 1, graphs b and c). However, self-discrepant early adolescents (pictured in Fig. 1, graph a) did not report more distress than non-discrepant early adolescents. Near the end of adolescence significant advances in cognitive integration skills make adolescents better equipped to handle self-discrepancies by weaving together opposing self-attributes into higher order traits (e.g., the trait label “moody” integrates a view of self as happy in one setting, depressed in another, and anxious



Self-Discrepancies, Fig. 1 Interaction between actual and ideal Identity Pie friendship scores in relation to depressive symptoms for early and midadolescents. (a) 12.47 mean years (SD = .69 years, n = 51); (b) 14.30 mean years (SD = .48 years, n = 106); (c) 16.33 mean years (SD = .66 years, n = 55) (Reprinted with permission from Ferguson et al. 2009)

in a third), and also by coming to accept that no-one is perfectly congruent (for detailed discussion, see Harter 2006).

The impact of self-discrepancies on self-esteem can be moderated by cultural values. In a study of actual/ideal discrepancies regarding skin color among children in Jamaica, self-esteem was significantly higher among fifth/sixth graders whose actual skin color matched their ideal skin color *only if* their ideal was aligned with the cultural ideal (Ferguson [Anderson] and Cramer 2007). That is, the self-esteem of non-discrepant children whose ideal skin color differed from the cultural ideal was as low as the self-esteem of children with discrepancies between their actual and ideal skin color.

What Can Be Done About Self-discrepancies?

It is important to remember that self-discrepancies in adolescence are, for the most part, adaptive in that they promote self-growth. Therefore, the eradication of self-discrepancies would ultimately not be beneficial. Furthermore, most adolescents do not experience intense or chronic levels of distress related to their self-discrepancies; rather, significant problems arise for a small subset of adolescents when self-discrepancies are too plentiful and/or too large. Thus, *strategies to identify these high-risk adolescents may be the most useful approach.* Quick, easy, and portable self-discrepancy measures, such as the Identity Pie, may have utility as screening tools to identify adolescents at risk for emotional difficulties due to large self-discrepancies. In fact, because self-discrepancy measures do not assess mental health problems (e.g., depression), their use may be more readily accepted in nonclinical setting (e.g., schools, community centers). Referrals for treatments can be provided as needed for youth evidencing very large or numerous self-discrepancies and those voicing significant distress related to self-discrepancies.

Longitudinal research has demonstrated that changing one's actual self to meet one's ideal self (i.e., assimilation) predicts significantly higher

self-esteem for adolescents (Pinquart et al. 2004). Consistent with this, Harrison (2001) recommended that adolescents with weight-related discrepancies select media (magazines, television programs) which promote fitness or diet strategies that will ultimately help the adolescent decrease his/her discrepancy by bringing his/her actual self in accord with his/her ideal.

Adolescents seeking clinical treatment for depression are especially likely to be experiencing large self-discrepancies. Self-system therapy (SST: Vieth et al. 2003) treats depression as a disruption/dysfunction of self-regulation, which includes but is not limited to a focus on self-discrepancies. In a randomized clinical trial, SST has been shown to be equally efficacious to Cognitive Behavioral Therapy (CBT) in treating depression among adults, and superior to CBT for a subset of individuals (Strauman et al. 2006). Given that SDT appears to explain depressive symptoms in adolescents as well as it does in adults, SST may offer a promising avenue for clinical intervention with adolescents. Research is needed on the applicability and efficacy of this clinical treatment with adolescents.

Where to from Here? Gaps in the Literature and Future Directions

As with many other areas of study, the bulk of knowledge about self-discrepancies comes from the adult literature, specifically, US undergraduate students. Although undergraduates are just beyond adolescence themselves, there are some unique aspects of adolescent development that suggest caution in generalizing research findings from emerging adults to adolescents. For example, as has been discussed, due to a unique combination of newfound cognitive capabilities and limitations, midadolescents experience significantly more discrepancy-related distress compared to late adolescents. This important developmental vulnerability during mid-adolescence would be masked by leaning solely on adult research.

Within the modest literature, research interest in adolescent self-discrepancies is not equally

spread across types of discrepancies (disproportionate focus on actual/ideal and actual/ought), domains (disproportionate focus on body-related self-discrepancies), age groups (disproportionate focus on late adolescents and older), or socioeconomic groups (disproportionate focus on socioeconomically and educationally advantaged youth). Future research is needed to address these gaps. In addition, there are interesting lines of adult self-discrepancy research that have not even begun to be investigated among adolescents. For example, research with US undergraduates reveals that priming self-discrepancies suppresses the body's immune functioning whereas priming self-congruency for highly self-discrepant individuals boosts immune functioning (see Strauman et al. 2004). Another line of research with US undergraduates demonstrates that actual/undesired self-discrepancies are associated with depressive symptoms (Hardin and Leong 2005). These are two fascinating avenues for future exploration among adolescents.

The traditional unidirectional view of self-discrepancies in which the actual self is permanently cast as the underdog to lofty self-standards misses half the story. Thus, the bidirectional view is a new frontier to be explored further. In any given area of life, an adolescent may perceive himself/herself to have fallen short of *or* to have exceeded a particular self-standard, and discrepancies in both directions can be equally problematic. Self-discrepancy researchers should take this into account by using measures that capture discrepancies in both directions (e.g., Identity Pie) or adapting measurement techniques capable of the same (e.g., Selves Questionnaire) (see Ferguson et al. 2009).

Much of the self-discrepancy literature is problem focused. However, there is evidence that awareness of self-discrepancies can be heightened in order to promote positive behavior change among adolescents. For example, college students are more likely to purchase condoms after they have been made more aware of the discrepancies between their beliefs and behaviors regarding safe sex (Stone et al. 1994). This intervention approach could be explored to promote other positive

physical and emotional health behaviors such as healthy eating or not smoking. Other interesting work among undergraduate students suggests that low self-esteem individuals can move their actual selves closer to their ideal selves just by thinking about a favorite celebrity (Derrick et al. 2008). The potential benefits of these “faux” relationships for low self-esteem adolescents could also be explored, especially given their heightened engagement with celebrity culture.

Conclusion

The current understanding of adolescent self-discrepancies is based on the past three decades of scientific research. This body of knowledge demonstrates that adolescents start to envision themselves in new ways, creating multiple versions of the self and experiencing resulting self-discrepancies. These self-discrepancies are largely normative, intentional, and adaptive; they serve both as markers of the gulf between an adolescents' present state and his/her goal state, and as fuel to cross that very gulf. For adolescents, who they are (cognitive capabilities, personal goals, family background, and cultural values) shapes their self-discrepancies, and their self-discrepancies shape who they become.

Research on adolescent self-discrepancies has until recently been somewhat myopic in its focus on only one direction of discrepancy – when the self-standard exceeds the actual self. New research indicates that adolescents also experience discrepancies in the opposite direction – when the actual self exceeds the self-standard. Discrepancies in both directions can be problematic. Internal distress decreases as adolescents bring their actual state in agreement with their self-standard. Adolescents with larger or more numerous self-discrepancies may benefit from clinical help targeting their self-discrepancies and self-regulation strategies.

More self-discrepancy research among adolescents is needed in the published empirical literature and there are many new avenues to apply and expand one's current knowledge. Certainly among those avenues are additional investigations

of reverse self-discrepancies, validation of self-system therapy for use with adolescents, and exploration of discrepancy-related immune reactivity among adolescents.

References

- Brandstädter, J. (1999). The self in action and development: Cultural, biosocial, and ontogenetic bases of intentional self-development. In J. Brandstädter & R. M. Lerner (Eds.), *Action and self-development: Theory and research through the lifespan* (pp. 37–65). Thousand Oaks: Sage.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.
- Cashmore, J. A., & Goodnow, J. J. (1985). Agreement between generations: A two-process approach. *Child Development, 56*(2), 493–501. <https://doi.org/10.2307/1129736>.
- Cooley, C. H. (1902). *Human nature and the social order*. New York: Scribner's.
- Cramer, P., & Anderson (Ferguson), G. M. (2003). Ethnic/racial attitudes and self-identification of Black Jamaican and White New England children. *Journal of Cross-Cultural Psychology, 34*(4), 395–416. <https://doi.org/10.1177/0022022103034004002>.
- Derrick, J. L., Gabriel, S., & Tippin, B. (2008). Parasocial relationships and self-discrepancies: Faux relationships have benefits for low self-esteem individuals. *Personal Relationships, 15*(2), 261–280. <https://doi.org/10.1111/j.1475-6811.2008.00197.x>.
- DuBois, D. L. (1993a). *Self-description questionnaire*. Unpublished measure. Columbia: Department of Psychology, University of Missouri-Columbia.
- DuBois, D. L. (1993b). *Self-standards questionnaire*. Unpublished measure. Columbia: Department of Psychology, University of Missouri-Columbia.
- Erikson, E. H. (1968). *Identity: Youth and crisis*. New York: Norton.
- Ferguson (Anderson), G. M., & Cramer, P. (2007). Self-esteem among Jamaican children: Exploring the impact of skin color and rural/urban residence. *Journal of Applied Developmental Psychology, 28*(4), 345–359. <https://doi.org/10.1016/j.appdev.2007.04.005>.
- Ferguson, G. M., & Dubow, E. F. (2007). Self-representations of Jamaican adolescents: Perceived parental ideal, own ideal and actual self. *Caribbean Journal of Psychology, 2*(2), 27–43.
- Ferguson, G. M., Hafen, C. A., & Laursen, B. (2009). Adolescent psychological and academic adjustment as a function of discrepancies between actual and ideal self-perceptions. *Journal of Youth and Adolescence, 38*(1), 1–15. <https://doi.org/10.1007/s10964-009-9461-5>. Advance online publication.
- Festinger, L. (1957). *A theory of cognitive dissonance*. Evanston: Row, Peterson.
- Freud, S. (1961). The ego and the id. In Strachey (Ed. and Trans.), *The standard edition of the complete psychological works of Sigmund Freud* (Vol. 19, pp. 3–66). London: Hogarth Press. (Original work published 1923).
- Gestsdottir, S., & Lerner, R. M. (2008). Positive development in adolescence: The development and role of intentional self-regulation. *Human Development, 51*(3), 202–224. <https://doi.org/10.1159/000135757>.
- Hankin, B. L., Roberts, J., & Gotlib, I. H. (1997). Elevated self-standards and emotional distress during adolescence: Emotional specificity and gender differences. *Cognitive Therapy and Research, 21*(6), 663–679. <https://doi.org/10.1023/A:1021808308041>.
- Hardin, E. E., & Lakin, J. L. (2009). The integrated self-discrepancy index: A reliable and valid measure of self-discrepancies. *Journal of Personality Assessment, 91*(3), 245–253. <https://doi.org/10.1080/00223890902794291>.
- Hardin, E. E., & Leong, F. T. (2005). Optimism and pessimism as mediators of the relations between self-discrepancies and distress among Asian and European Americans. *Journal of Counseling Psychology, 52*(1), 25–35. <https://doi.org/10.1037/0022-0167.52.1.25>.
- Hardin, E. E., Weigold, I. K., Robitschek, C., & Nixon, A. E. (2007). Self-discrepancy and distress: The role of personal growth initiative. *Journal of Counseling Psychology, 54*(1), 86–92. <https://doi.org/10.1037/0022-0167.54.1.86>.
- Harrison, K. (2001). Ourselves, our bodies: Thin-ideal media, self-discrepancies, and eating disorder symptomatology in adolescents. *Journal of Social and Clinical Psychology, 20*(3), 289–323. <https://doi.org/10.1521/jscp.20.3.289.22303>.
- Harter, S. (1999). *The construction of the self: A developmental perspective*. New York: Guilford.
- Harter, S. (2006). Self-processes and developmental psychopathology. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology* (Vol. 1, 2nd ed., pp. 370–418). Hoboken: Wiley.
- Harter, S., & Monsour, A. (1992). Developmental analysis of conflict caused by opposing attributes in the adolescent self-portrait. *Developmental Psychology, 28*(2), 251–260. <https://doi.org/10.1037/0012-1649.28.2.251>.
- Harter, S., Bresnick, S., Bouche, H. A., & Whitesell, N. R. (1997). The development of multiple role-related selves during adolescence. *Development and Psychopathology, 9*, 835–853.
- Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review, 94*(3), 319–340. <https://doi.org/10.1037/0033-295X.94.3.319>.
- Higgins, E. T. (1997). Beyond pleasure and pain. *American Psychologist, 52*(12), 1280–1300. <https://doi.org/10.1037/0003-066X.52.12.1280>.
- Higgins, E. T., Klein, R., & Strauman, T. (1985). Self-concept discrepancy theory: A psychological model for distinguishing among different aspects of depression and anxiety. *Social Cognition, 3*(1), 51–76.
- James, W. (1890/1950). *The principles of psychology* (Vol. 1). New York: Henry Holt. (Unaltered republication New York: Dover).

- Klingenspor, B. (2002). Gender-related self-discrepancies and bulimic eating behavior. *Sex Roles, 47*(1–2), 51–64. <https://doi.org/10.1023/A:1020631703798>.
- Lerner, R. M. (1982). Children and adolescents as producers of their own development. *Developmental Review, 2*(4), 342–370. [https://doi.org/10.1016/0273-2297\(82\)90018-1](https://doi.org/10.1016/0273-2297(82)90018-1).
- Makros, J., & McCabe, M. P. (2001). Relationships between identity and self-representations during adolescence. *Journal of Youth and Adolescence, 30*(5), 623–639. <https://doi.org/10.1023/A:1010404822585>.
- Manian, N., Papadakis, A. A., Strauman, T. J., & Essex, M. J. (2006). The development of children's ideal and ought self-guides: Parenting, temperament, and individual differences in guide strength. *Journal of Personality, 74*(6), 1619–1645. <https://doi.org/10.1111/j.1467-6494.2006.00422.x>.
- Markus, H., & Nurius, P. (1986). Possible selves. *American Psychologist, 41*, 954–969. <https://doi.org/10.1037/0003-066X.41.9.954>.
- Meleddu, M., & Scalas, F. (2003). Physical-self discrepancies, emotional discomfort and gender in adolescence. *Cognitive Processing, 4*(2), 67–85.
- Moretti, M. M., & Wiebe, V. J. (1999). Self-discrepancy in adolescence: Own and parental standpoints on the self. *Merrill-Palmer Quarterly, 45*(4), 624–649.
- Papadakis, A. A., Prince, R. P., Jones, N. P., & Strauman, T. J. (2006). Self-regulation, rumination, and vulnerability to depression in adolescent girls. *Development and Psychopathology, 18*(3), 815–829. <https://doi.org/10.1017/S0954579406060408>.
- Piaget, J. (1970). Piaget's theory. In P. H. Mussen (Ed.), *Carmichael's manual of child psychology* (Vol. 1, 3rd ed., pp. 703–723). New York: Wiley.
- Pinquart, M., Silbereisen, R. K., & Wiesner, M. (2004). Changes in discrepancies between desired and present states of developmental tasks in adolescence: A 4-process model. *Journal of Youth and Adolescence, 33*(6), 467–477. <https://doi.org/10.1023/B:JOYO.0000048062.81471.5b>.
- Renaud, J. M., & McConnell, A. R. (2007). Wanting to be better but thinking you can't: Implicit theories of personality moderate the impact of self-discrepancies on self-esteem. *Self and Identity, 6*(1), 41–50. <https://doi.org/10.1080/15298860600764597>.
- Roelofs, J., Papageorgiou, C., Gerber, R. D., Huibers, M., Peeters, F., & Arntz, A. (2007). On the links between self-discrepancies, ruminations, metacognitions, and symptoms of depression in undergraduates. *Behaviour Research and Therapy, 45*(6), 1295–1305. <https://doi.org/10.1016/j.brat.2006.10.005>.
- Rubin, E. C., Cohen, R., Houston, D. A., & Cockrel, J. (1996). Children's self-discrepancies and peer relationships. *Social Cognition, 14*(1), 93–112.
- Sanderson, C. A., Wallier, J. M., Stockdale, J. E., & Yopyk, D. J. A. (2008). Who feels discrepant and how does feeling discrepant matter? Examining the presence and consequences of feeling discrepant from personal and social norms related to thinness in American and British high school girls. *Journal of Social & Clinical Psychology, 27*(9), 995–1020. <https://doi.org/10.1521/jsecp.2008.27.9.995>.
- Stone, J., Aronson, E., Crain, A. L., Winslow, M. P., & Fried, C. B. (1994). Inducing hypocrisy as a means of encouraging young adults to use condoms. *Personality and Social Psychology Bulletin, 20*(1), 116–128. <https://doi.org/10.1177/0146167294201012>.
- Strauman, T. J., Woods, T. E., Schneider, K. L., Kwapil, L., & Coe, C. L. (2004). Self-regulatory cognitions and immune reactivity: Idiographic success and failure feedback effects on the natural killer cell. *Brain, Behavior, and Immunity, 18*(6), 544–554. <https://doi.org/10.1016/j.bbi.2004.01.003>.
- Strauman, T. J., Vieth, A. Z., Merrill, K. A., Kolden, G. G., Woods, T. E., Klein, M. H., et al. (2006). Self-system therapy as an intervention for self-regulatory dysfunction in depression: A randomized comparison with cognitive therapy. *Journal of Consulting and Clinical Psychology, 74*(2), 367–376.
- Vieth, A. Z., Strauman, T. J., Kolden, G. G., Woods, T. E., Michels, J. L., & Klein, M. H. (2003). Self-system therapy (SST): A theory-based psychotherapy for depression. *Clinical Psychology: Science and Practice, 10*(3), 245–268. <https://doi.org/10.1093/clipsy/bpg023>.
- Wigfield, A., Eccles, J. S., & Pintrich, P. R. (1996). Development between the ages of 11 and 25. In D. C. Berliner & R. C. Calfee (Eds.), *Handbook of educational psychology* (pp. 148–185). New York: Macmillan Library Reference USA.

Self-Efficacy

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Self-efficacy, like much of the seminal research in psychology, has been developed from an adult-centric perspective and the evidence-based theories then extended to the field of adolescence. Hence, research relating to self-efficacy is considerably more modest in the adolescent than in the adult domain. Nevertheless, the concept has been useful in a general sense and particularly helpful in identifying elements of the construct, such as academic, social, and filial self-efficacy, which are pertinent to the world of the adolescent. This essay briefly reviews that literature as it

particularly focuses on the general nature of self-efficacy, its measurement, its various forms, and some of its links and programs that can enhance it.

Bandura and the Construct of Self-efficacy

Albert Bandura, best known for his significant contribution in the field of social cognitive theory, is accredited with identifying, developing, and providing the empirical support for the construct of self-efficacy. Bandura described self-efficacy as “self-reflectiveness about one’s capabilities, quality of functioning, and their meaning and purpose of one’s life pursuits” (Bandura 2001, p. 1). In other words, self-efficacy is the individual’s belief in their abilities and capacities that enables him or her to adapt and adjust in a given environment. Moreover,

[P]eople’s beliefs in their efficacy influence the choices they make, their aspirations, how much effort they mobilize in a given endeavour, how long they persevere in the face of difficulties and setbacks, whether their thought patterns are self-hindering or self-aiding, the amount of stress they experience in coping with taxing environmental demands and their vulnerability to depression. (Bandura 1991, p. 257)

Since social cognitive theory underpins self-efficacy, the construct is both impacted by the environment and is underscored by self-determination. That is, the decisions made by the individual play an important part. The central and pervasive mechanism of personal agency is the individual’s belief in their capacity to exercise control over events that affect their life. The causal structure of social cognitive theory is heavily influenced by perceived self-efficacy; efficacy belief will not only affect how the individual will personally adapt in a given environment but these self-beliefs will have further implications on other factors in the given situation.

Bandura acknowledges that the individual’s environment is inconsistent and unpredictable and even though they may have knowledge on what to do in a given situation, it is also a matter of determining *how* they will use the knowledge.

The individual’s efficacy requires self-reflection and regulation of their abilities, cognitive social skills, behavior, and organization (Bandura 2001). The individual’s ability to reflect and assess their behaviors and abilities will affect the choices, aspirations, motivations, and coping mechanisms.

Measurement of Adolescent Self-efficacy

Even though self-efficacy is a widely recognized and researched concept, its measurement is somewhat inconsistent. In many of the studies referenced in this section, the researchers have developed different tools to measure the construct. Some of the instruments used are tailored for specific populations, for example, teenage self-efficacy in “resisting alcohol.” The following table lists some of the measurement tools used to investigate self-efficacy (Table 1).

In the name of scientific research, it would be ideal to have an established and widely used measure for self-efficacy; however, it must be acknowledged that self-efficacy is a highly subjective concept. Despite differing approaches to the measurement of self-efficacy, there are some reliable and robust measures available. These various measures have provided the means to objectively measure self-efficacy.

Types of Self-efficacy

Since self-efficacy was first defined by Bandura, increased research and interest in the concept has led to various forms of self-efficacy being identified. This includes social, familial, mathematical, and academic self-efficacy. All these specific areas of self-efficacy have been researched in relation to adolescence and adolescent well-being. The following section reviews the different forms of self-efficacy that have been reported.

Social Self-efficacy

Social self-efficacy is the ability to utilize behaviors and strategies in order to build personal relationships. Thus, having friends is as an aspect of social

Self-Efficacy, Table 1 Measurement of adolescent self-efficacy

| Instrument | Source | What does it measure? |
|--|-----------------------|---|
| Self-efficacy questionnaire for children (SEQ-C) | Muris (2002) | Assess children's sense of self-efficacy in three domains |
| | | 1. Academic |
| | | 2. Social |
| | | 3. Emotional |
| Self-efficacy questionnaire for depression in adolescents (SEQ-DA) | Tonge et al. (2005) | 12-item Likert scale |
| Physical self-efficacy scale | Rykman et al. (1982) | 22 items addressing perceived strengths in physical ability |
| Perceived self-efficacy | Bandura et al. (1999) | 37 items representing seven domains |
| Depression coping self-efficacy scale (DCSES) | Tucker et al. (2002) | 24-item instrument |
| General self-efficacy scale | Schwartzler (1992) | 6-item scale |
| Resisting smoking | Ford et al. (2009) | 4 items addressing ability to resist smoking |
| Drinking refusal self-efficacy questionnaire – revised (DRSEQ-R) | Oiu et al. (2005) | 19-item measure assessing one's ability to resist alcohol under social pressure |

self-efficacy. Studies have suggested that it is important for adolescents not only to develop their personal self-efficacy but also their social self-efficacy. Social self-efficacy, that is, a capacity to have friends, can potentially act as a protective factor against depression and interpersonal stress.

Academic Self-efficacy

Academic or educational self-efficacy relates to how one sees one's capacities in an academic setting. Academic self-efficacy includes aspirations, self-regulation in learning and pro-social behavior, and lower vulnerability toward depression. Educational self-efficacy is the attitudinal and behavioral investments relating specifically to education.

Numerous factors can affect both academic outcomes and academic efficacy. For example, they are influenced by both successes and failures and the perceptions of others, including parents, teachers, and peers (Bandura et al. 2001). Other factors include socioeconomic status, self-regulatory factors that include self-monitoring of academic progress, achievement in the form of grade point average, and whether one is victimized or favored. All these factors can impact academic motivation and learning (Zimmerman

2000). Additionally, academic self-efficacy is susceptible to instruction and other social-cultural influences. In the academic context, it depends on the perceived difficulty of the task (e.g., spelling words) and it is dependent on performance capabilities and not just personal abilities.

Mathematics Self-efficacy

Self-efficacy in mathematics is an exemplar of the numerous forms of self-efficacy that can be considered. More particularly, it is generally addressed in the educational context. Both mastery and social persuasion have been considered as important, but the latter has been found to be more than four times as important for girls than mastery (Usher and Pajares 2006). In a more qualitative investigation, using semi-structured interviews with eight middle school students of high and low self-efficacy clear differences in the groups emerged. Low-efficacy students reported poor achievement in mathematics and low mastery students relied on sources outside themselves, and drew on vicarious learning. Self-regulation was important but students who were low in efficacy experienced their arousal as disheartening, whilst those high on efficacy experienced arousal as motivating (Usher 2009).

Coping Efficacy

Coping self-efficacy is the belief in one's capacity to control one's thoughts, feelings, and behaviors. These actions, combined with a positive attributional style, are associated with greater use of positive coping responses. An individual's belief in their coping strategies will affect their coping efficiency. For example, an individual who chooses to use nonproductive coping strategies is more likely to be associated with depression and other forms of emotional and social malfunctioning.

Problem-Solving Efficacy

Problem solving is an essential life skill and most relevant to schooling. Adolescents who demonstrate poor problem-solving strategies and self-efficacy are likely to develop psychosocial problems and school attrition. Problem-solving skills are an important resource for helping young people to cope with academic, social, emotional, and physical challenges. For example, Lewis and Frydenberg (2007) examined differences in the coping strategies of Australian adolescents living in Melbourne who assessed the efficacy of their own problem-solving strategies. The findings illustrated that students who reported high self-efficacy in their perceived problem solving were more likely to utilize productive coping strategies such as, accepting one's best efforts, focusing on the positive, and engaging in social action. Gender differences in problem-solving efficacy and coping were also identified. Female students who reported a low efficacy in their problem-solving ability were more likely to use strategies such as giving up, acknowledging defeat, keeping the issue to themselves, and using self-blame. Boys, on the other hand, specifically used more humor and spent time with friends, and girls relied more on social support, physical recreation, and working hard.

Collective Efficacy

Self-efficacy is usually considered in terms of the individuals and their interaction with the environment. However, a collective of individuals (e.g., a team or organization) can demonstrate collective efficacy through the use of combined abilities and

actions to solve problems. There has been little research into collective efficacy and motivation in relation to children and adolescents. Recent research has highlighted that social cognition grows over time. Older adolescents (ages 12–15) demonstrated that a high collective efficacy resulted in greater group cohesion and better performance, whilst younger adolescents (ages 10–12) did not demonstrate this collective efficacy indicating that there is still need for maturity in their social cognition. In a large study of 7,097 young people in Northern Italy, where the interest was in the relationship between social support, sense of community in school and self-efficacy, as resources during early adolescence it was found that self-efficacy and school sense of community mediated the effects of social support on psychosocial adjustment (Vieno et al. 2007). Collective efficacy is particularly relevant when it comes to social action. Individuals who have grown up in an environment where they have seen social activism demonstrated are more likely to engage in such practice.

Filial Self-efficacy

Filial self-efficacy describes the perceived self-efficacy in relation to managing and maintaining family relationships. Adolescents' perceived filial self-efficacy has been found to be linked directly and indirectly with students' satisfaction with their family life. Adolescents who reported greater self-efficacy also reported a more satisfactory family life, were likely to experience greater open communication with parents, and greater acceptance of their parents' monitoring of their activities.

Self-efficacy, Gender, and Depression

Consistent with the stress, coping, and well-being literature, age and gender differences have been reported in self-efficacy. Compared to males, females have reported lower self-esteem, higher negative self-efficacy, unhappiness, and more frequent experiences of worry. In addition, social persuasion also appears to be more important for girls than for boys, particularly, academic self-

efficacy and self-efficacy in mathematics (Usher 2009).

There is a clear association with low self-efficacy and depression. This association is true in a number of areas (Bandura et al. 1999; Bergmann and Scott 2001). For example, low academic self-efficacy showed the highest correlation with depression, suggesting that adolescents place a lot of importance on their academic self-efficacy. High levels of general and physical self-efficacy are also associated with reduced levels of depression (Ehrenberg 1991).

Gender differences were also associated with predictors of depression. Academic self-efficacy was the most significant predictor of depression in early adolescent males, general self-efficacy for middle adolescent males, and social self-efficacy for late adolescent males. For females, in early adolescence it is social self-efficacy that is the significant predictor for depression, and as for middle and late adolescence, physical self-efficacy is a major predictor (Ehrenberg 1991).

Recently, Tonge et al. (2005) developed a 12-item self-efficacy questionnaire for depression in adolescents (SEQ-DA) in order to measure self-efficacy expectancies and their relation to coping with depressive symptoms which they trialed with adolescents in special settings to deal with their depression. Finding showed a good test–retest reliability (.85) and good internal consistency with a Chronbach’s alpha reliability coefficient of .73. Construct validity with a depression scale showed a predicated negative correlation with a Pearson’s r of $-.67$. Others have found that low self-efficacy was generally associated with high levels of trait anxiety/neuroticism, anxiety, and depression.

Programs to Enhance Efficacy

Self-efficacy can be enhanced through both direct and indirect instruction. For example, programs that relate to life skills with a particular focus, such as social skills, conflict resolution, coping

skills, or educational and social and emotional learning skills in a more general sense, can have a direct or indirect impact on the sense of efficacy or belief in an individual’s capacity to deal with situations effectively. When the instruction is not directly focused on efficacy, there is not as great a likelihood of a beneficial outcome. In addition to skill building, there needs to be an increase in the individual’s belief in their capacities. For example, a recent study by Harrell et al. (2009) showed the benefits of implementing an intervention program such as the Social Skills Group Intervention-Adolescent (S.S. GRIN-A), a 10-session program aiming to improve peer relationships by making adjustments to the causal process and increasing adolescent awareness of their thoughts, feeling, and behaviors. Findings showed that post-program, adolescents demonstrated significant increases in their global self-concept and social self-efficacy and a decrease in internalizing behaviors. There is a case for continuing to implement specific programs in secondary years in order to give adolescents skills and resources to maintain and further develop their self-efficacy, which in turn is likely to improve well-being.

Adolescents who present with Learning Disabilities (LD) are more likely to show low self-efficacy, low self-confidence, and less confidence to develop satisfying relationships. Research from Firth et al. (2008) has demonstrated that adapting a general coping skills program, such as The Best of Coping (Frydenberg and Brandon 2007a, b) can assist these students to develop their coping skills. Findings showed that LD students who utilized that program showed an increase in the use of productive coping strategies, such as working hard and solving problems. Targeted programs can assist learning-disabled students to become empowered despite their disabilities.

A study by Jenkin (1997) showed the relationship between coping and self-efficacy when assessing student perception in participating an Outward Bound (a rugged outdoor camping) program. Findings showed that the best predictors for

distinguishing between high and low self-efficacy were the coping strategies focusing on the positive, focusing on solving the problem, and working hard to achieve.

Ferrari et al. (2007) investigated the relationship between problem-solving abilities and self-efficacy beliefs in adolescents who were at risk for maladjustment. Adolescents from a business school in an Italian province who were known to be at greater risk for psychosocial problems compared to other provinces, reported a positive correlation between self-efficacy and problem-solving abilities. Using the Adolescent Coping Scale (Frydenberg and Lewis 1993) as a measure, the study reported positive correlations between self-efficacy beliefs and working hard to achieve and worry. Negative correlations were found between problem-solving ability, not coping, and self-blame. Problem-solving ability correlated positively with focus on problem solving, working hard to achieve, and worry. When intervention effects for the Best of Coping program were then investigated, results indicated that although the intervention did not have a significant effect on self-efficacy beliefs, the intervention did have an impact on problem-solving abilities. There was a meaningful difference between the control and experimental groups after the program.

It can be generally concluded that it is both possible to raise self-efficacy through a range of interventions that might target specific skills that are desirable in a setting, or a rise in self-efficacy can be achieved through teaching social emotional competence skills, such as coping, but that is not always the case. The important element in skill development is the emphasis that is placed on positive self-assessment in terms of one's efficacy and belief in one's capacities.

Since recognition of the importance of belief in one's capacities, that is self-efficacy, the delineation of self-efficacy in a number of domains such as academic and social, for example, enable benefits to be achieved in terms of both assessment and intervention. Thus, attention can be directed to areas that are deemed to be important universally or in a particular setting or community. For

example, sport or physical self-efficacy might be the focus of attention in one setting and mathematics self-efficacy in another. Training programs can be developed to target areas of need. This makes the construct highly valuable in an educational sense.

Cross-References

- ▶ [Self-Efficacy and Adolescents' Health](#)
- ▶ [Self-Perception](#)

References

- Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Processes*, 50, 248–287.
- Bandura, A. (2001). Social cognitive theory: An angentic perspective. *Annual Review of Psychology*, 52, 1–26.
- Bandura, A., Barbaranelli, C., Capara, G. V., & Pastorelli, C. (2001). Self-efficacy beliefs as shapers of children's aspirations and career trajectories. *Child Development*, 72, 187–206.
- Bandura, A., Pastorelli, C., Bandura, A., & Capara, G. V. (1999). Self-efficacy pathways to childhood depression. *Personality Processes and Individual Differences*, 76, 258–269.
- Bergmann, M. M., & Scott, J. (2001). Young adolescents' wellbeing and health-risk behaviours: Gender and socio-economic differences. *Journal of Adolescence*, 24, 183–197.
- Ehrenberg, M. F. (1991). The relationship between self-efficacy and depression in adolescents. *Adolescence*, 26, 361–374.
- Ferrari, L., Nota, L., Soresi, S., & Frydenberg, E. (2007). The best of coping: A training to improve coping strategies. In *Emerging thought and research on student, teacher and administrator stress and coping. Volume in series on stress and coping in education* (pp. 49–75). Greenwich: Information Age Publishing.
- Firth, N., Frydenberg, E., & Greaves, D. (2008). Perceived control and adaptive coping programs for adolescent students who have learning disabilities. *Journal of the Council for Learning Disabilities*, 31, 151–165.
- Ford, K. H., Diamond, P. M., Kelder, S. H., Sterling, K. M., & McAlister, A. L. (2009). Validation of scales measuring attitudes, self-efficacy, and intention related to smoking among middle school studies. *Psychology of Addictive Behaviors*, 23, 271–278.
- Frydenberg, E., & Brandon, C. (2007a). *The best of coping*. Melbourne: Australian Council for Educational Research.

- Frydenberg, E., & Brandon, C. (2007b). *The best of coping: Student workbook*. Melbourne: Australian Council for Educational Research.
- Frydenberg, E., & Lewis, R. (1993). *Manual: The adolescent coping scale*. Melbourne: Australian Council for Educational Research.
- Harrell, A. W., Mercer, S. H., & DeRosier, M. E. (2009). Improving the social-behavioral adjustment of adolescents: The effectiveness of a social skills group intervention. *Journal of Child and Family Studies, 18*, 378–387.
- Jenkin, C. (1997). *The relationship between self-efficacy and coping: Changes following an Outward Bound Program*. Unpublished Master of Educational Psychology Project. Melbourne: University of Melbourne.
- Lewis, R., & Frydenberg, E. (2007). When problem-solving is not perceived as effective: How do young people cope. In *Emerging thought and research on student, teacher and administrator stress and coping. Volume in series on stress and coping in education* (pp. 35–48). Greenwich: Information Age Publishing.
- Muris, P. (2002). Relationships between self-efficacy and symptoms of anxiety disorders and depression in a normal adolescent sample. *Personality and Individual Differences, 32*, 337–348.
- Oiu, T. P. S., Hasking, P. A., & Young, R. M. (2005). Drinking Refusal self-efficacy questionnaire – revised (DRSEQ-R): A new factor structure with confirmatory factor analysis. *Drug and Alcohol Dependence, 78*, 297–307.
- Rykman, R. M., Robbins, M. A., Thornton, B., & Cantrell, P. (1982). Development of validation of a physical self-efficacy scale. *Journal of Personality and Social Psychology, 42*, 891–900.
- Schwartz, R. (1992). *Self-efficacy. Thought control of action*. Washington, DC: Hemisphere.
- Tonge, B., King, N., Klimkeit, E., Melvin, G., Hayne, D., & Gordon, M. (2005). The self-efficacy questionnaire for depression in adolescents (SEQ-DA): Development and psychometric evaluation. *European Child & Adolescent Psychiatry, 14*, 357–363.
- Tucker, S., Brust, S., & Richardson, B. (2002). Validity of the depression coping self-efficacy scale. *Archives of Psychiatric Nursing, 14*(3), 125–133.
- Usher, E. L. (2009). Sources of middle school students self-efficacy in mathematics. *American Educational Research Journal, 46*(1), 275–314.
- Usher, E. L., & Pajares, F. (2006). Sources of academic and self-regulated beliefs entering middle school students. *Contemporary Educational Psychology, 31*, 125–141.
- Vieno, A., Santinello, M., Pastore, M., & Perkins, D. D. (2007). Social support, sense of community in school, and self-efficacy as resources during early adolescence: an integrative model. *American Journal of Community Psychology, 39*, 177–190.
- Zimmerman, B. J. (2000). Self-efficacy: An essential motive to learn. *Contemporary Educational Psychology, 25*, 82–91.

Self-Efficacy and Adolescents' Health

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Overview

Self-efficacy refers to optimistic beliefs about individual ability to deal with tasks at hand. Several major psychological theories explain how these beliefs operate in concert with other cognitions, affecting adolescents' health behavior, emotions, somatic symptoms, and reactions to stress. The most frequently applied approach to self-efficacy (Social Cognitive Theory) clarifies how this construct should be measured. The essay provides a review of investigations of effects of adolescents' efficacy beliefs on their health. Research on health-compromising behaviors (e.g., smoking), health-promoting practices (e.g., physical activity), disease management (adherence to treatment), psychosomatic symptoms and mental health issues (e.g., pubertal depression), as well as stress responses (e.g., coping effectiveness) are discussed. The essay concludes with an overview of burning issues in this area, including the role of age and gender.

Definitions: Self-Efficacy and Its Role in the Context of Adolescents' Health

Perceived self-efficacy pertains to personal action control or agency. People who believe that they can cause events may lead active and self-determined lives (Bandura 1997). Self-efficacy reflects the confidence that one is able to master challenging demands by means of adaptive action. This belief mirrors a sense of control over one's environment.

It affects emotional and cognitive processes (such as goal setting), and actions (Luszczynska and Schwarzer 2005). According to Social Cognitive Theory (Bandura 1997), low sense of self-efficacy is associated with depression, anxiety, and helplessness, whereas a strong sense of personal efficacy is related to better social integration. In terms of thinking, a strong sense of competence facilitates cognitive processes and performance in a variety of settings, including decision-making, goal setting, and school achievements (Maddux 1995; Bandura 1997). Further, self-efficacy perceptions are a powerful determinant of affect, physiological responses to stress, and symptoms of mental disorders (Bandura 1997). In sum, efficacy beliefs have a great potential to influence physical and mental health outcomes, health behaviors, and self-care.

Self-efficacy is based on four main sources (Bandura 1997). First, self-efficacy beliefs can be enhanced through personal accomplishment or mastery, as far as success is attributed internally and can be repeated. Adolescent's experiences of mastery over temptations to snack on fatty foods or drink alcohol, or control over health symptoms (e.g., headache, negative moods) would build up their efficacy beliefs. A second source is vicarious experience. When a "model person" (e.g., admired peer) successfully masters a difficult situation, social comparison processes can enhance self-efficacy. Third, efficacy beliefs can be enhanced through verbal persuasion (e.g., a health educator reassures an adolescent that he or she is competent and able to refrain from smoking). The last source of influence is emotional arousal, that is, the person may experience no apprehension in a threatening situation and, as a result, may feel capable of mastering the situation.

The social, psychological, and physiological changes occurring during adolescence may affect self-efficacy perceptions, their development, and fluctuations. Believing in one's own capabilities results from developing skills, increased cognitive capabilities, abstraction, reflection, and social comparisons (Schunk and Meece 2006), as well as empowering experiences of mastering over one's own reactions and the environment. Research indicated an increase of self-efficacy

over the adolescence period (Schunk and Meece 2006).

Major Theories: How Health and Self-Efficacy Are Related? Major Theoretical Models

Several theories explaining *health-related behaviors* incorporate self-efficacy beliefs among their key components. Health behaviors include health-compromising actions (such as substance use, risky driving) and health-promoting actions (e.g., healthy nutrition, physical activity), screening behaviors, healthcare utilization, and adherence to medication.

The Theory of Planned Behavior (TPB; Ajzen 1991) claims that intention is the most proximal predictor of behavior, but it lists perceived behavioral control (perception about being able to perform a specific behavior) among most powerful predictors of intention. Self-efficacy and behavioral control are often seen as almost synonymous constructs (Luszczynska and Schwarzer 2005). According to *Social Cognitive Theory* (Bandura 1997), perceived self-efficacy is directly related to health behavior, but it also affects health behaviors indirectly, through the impact on goals. Self-efficacious individuals set high or challenging goals and focus on opportunities. The Trans-theoretical Model (Prochaska et al. 1992) proposes five stages of change, which depict the cycle of changes in health-related behaviors. The stages start with precontemplation (individuals do not even consider making any behavior change) and end up with the maintenance (the action is performed for a longer time; Prochaska et al. 1992). Together with perceived pros and cons, self-efficacy is seen as the main cognitive variable that facilitates stage transition. The importance of efficacy beliefs increases when individuals move on to the later stages. Finally, Health Action Process Approach (Schwarzer 2008) suggests a distinction between motivation processes that lead to a behavioral intention, and volition processes that lead to initiation and maintenance of a health behavior. Self-efficacy beliefs might be specific for these processes and therefore explain intention

formation, taking initiative, maintaining behavior change, and managing relapse (Luszczynska and Schwarzer 2005).

Self-efficacy may also influence the process of risk perception. The tendency to take risks among adolescents may be attributable to novelty and sensation seeking, which increase dramatically during puberty. Health risk behaviors are particularly common among adolescents because of their "feelings of invulnerability" (Milam et al. 2000). This may avoid them thinking about future consequences even if they are aware of the negative health outcomes. Although adolescents often demonstrate that they are capable of effective decision-making regarding health risk behaviors, their lack of life experience and knowledge could lead to errors in these judgments (Rodham et al. 2006). The role of self-efficacy in this process, however, depends on the nature of behaviors. Self-efficacy, generating a problem-focused attitude toward health risks may contribute to a higher awareness of accidents. However, the role of self-efficacy in risk perception of substance use is negative. This means that self-efficacy may lower the level of perception of smoking or alcohol-related risks, perhaps through generating a feeling of invulnerability (Piko and Gibbons 2008).

Besides its relationships to health behaviors, self-efficacy determines the ways individuals *perceive and cope with stress*, and therefore it influences mental and physical health. Self-efficacious individuals perceive stressful situations as challenging and controllable, which may reduce the negative impact of stress on health (Bandura 1997). Efficacy beliefs are seen as a proximal determinant of *physiological stress response*, affecting levels of cortisol, catecholamines secretion, and immune system response (Wiedenfeld et al. 1990; Bandura et al. 1985). It is assumed that because self-efficacy determines that stressful situation is perceived as manageable, the neuroendocrine and immune response to stress is reduced, and therefore a stressful situation becomes less harmful to physical and mental health. Finally, Social Cognitive Theory (Bandura 1997) suggests that self-efficacy is a resource determining the way individuals cope with stress. In particular, efficacy beliefs facilitate the selection of active

coping strategies, increase coping effectiveness, affect mental health directly, and buffer stress indirectly (reducing negative affect).

Measurement Issues

Social Cognitive Theory (Bandura 1997) suggests that self-efficacy measurement should refer to the particular health-related task, specific behavior, and barriers relevant for the target population. For example, to explain adolescents' tobacco use one should apply self-efficacy referring to refraining from smoking in those situations that increase a risk for obtaining a cigarette (Chang et al. 2006). If the aim is to predict diabetes management and the control over diabetes symptoms, then diabetes self-efficacy beliefs should be evaluated (Grey et al. 2000). Again, such a measure would cover the ability to deal with diabetes-related self-care in the context of the typical barriers that arise when an adolescent tries to integrate diabetes self-care into their daily routines. Consequently, interventions aiming at a specific change (e.g., increase of a chronic disease management) should target beliefs that are specific for the main health outcome of the intervention and address barriers relevant for the target group.

Researchers have also proposed that optimistic self-beliefs may be measured as more general, or that they should be tailored to particular stages of behavior change (Schwarzer and Luszczynska 2006). Applying general self-efficacy measures may be particularly useful if the investigation aims at predicting a broad range of mental and/or physical health outcomes. Measuring stage-tailored behavior may be particularly useful if a target population is in a particular stage of behavior change (e.g., the intervention is applied to adolescents who have not initiated sex life; therefore, they are in motivational stage in terms of condom use).

Self-Efficacy and Adolescents' Health-Compromising Behaviors

Several health-compromising behaviors are usually initiated during adolescence. Examples

include cigarette smoking, alcohol consumption, illegal substance use, and unprotected sex. When measured at the same time-point, stronger self-efficacy beliefs are usually related to less-frequent health-compromising behaviors (Schwarzer and Luszczynska 2006).

Longitudinal studies covering a period from early to middle adolescence indicate that low self-efficacy to refrain from *smoking* is one of significant predictors of smoking continuation (Ausems et al. 2009). However, it may play a negligible role in predicting smoking initiation, which is more affected by modeling by family members and peers (Ausems et al. 2009). It has to be noted that peer networks and families are most relevant contextual factors, which affect adolescent efficacy beliefs (Schunk and Meece 2006). Further, high levels of refusal self-efficacy in middle adolescence may differentiate nonsmokers from those who initiated smoking in late adolescence (Chang et al. 2006). Self-efficacy referring to ability to maintain nonsmoking status despite internal and external smoking cues as well as beliefs about ability to recover after a relapse predicted smoking reduction in late adolescence and early adulthood (Schwarzer and Luszczynska 2008). Finally, smoking resistance self-efficacy measured in late adolescents predicted smoking cessation in adulthood, with larger effects observed among young women (Tucker et al. 2002).

Experimental studies usually target self-efficacy beliefs together with other constructs from a specific theory, which are expected to facilitate smoking reduction or cessation. For example, a computerized smoking cessation program may target an increase of self-efficacy for quitting and perceived benefits of reduced nicotine dependence. Adolescents who participated in the computerized smoking cessation program increased their intention to quit, reduced the number of cigarettes smoked daily, or quit smoking (20% at 1 month after the intervention; Fritz et al. 2008). Such multicomponent interventions allow for cautious conclusions that manipulations targeting self-efficacy with other beliefs (such as perceived pros) result in a decrease of substance use.

Health promotion interventions may also train refusal skills and resisting pro-use influences

referring to *alcohol and drug use*. Such trainings provide mastery experience, which enhance self-efficacy beliefs, which in turn affect behaviors. In line with this assumption, experimental studies indicated that compared to controls, girls participating in a computer-based intervention applying such training reported greater efficacy beliefs about ability to avoid underage drinking and consumed less alcohol at follow-ups (Schinke et al. 2009).

Multicomponent interventions aim at reduction of *unsafe sexual practices* (including sporadic use of condom and engaging sexual behavior while under the influence of alcohol) among adolescents. Randomized controlled trials that evaluated programs targeting condom-use self-efficacy and other beliefs (e.g., positive attitudes toward condom use and normative perceptions) indicated a decrease of risky sexual behaviors at posttests (Schmiege et al. 2009). Importantly, the effect of the intervention was explained by self-efficacy for condom use, which predicted intention to practice safer sex and risky sexual behavior, whereas norms for and attitudes toward condom use did not explain the effects of the intervention on practicing safer sex (Schmiege et al. 2009).

With school health promotion overloaded, programs could *apply a transfer-oriented approach, targeting adolescents' beliefs about ability to refuse*. Such programs should target selected skills or cognitions that would stimulate adolescents to apply beliefs developed for one domain (e.g., allowing to resist tobacco use) to other domain (e.g., alcohol use, unprotected sex). Systematic reviews indicated that refusal self-efficacy (together with beliefs about immediate gratification, peer norms, peer and parental modeling) is among most powerful determinants across health-compromising behaviors and therefore the best candidate for transfer-oriented interventions (Peters et al. 2009).

Self-Efficacy and Adolescents' Health-Promoting Behaviors

Body weight and body mass index are related to age, gender, foods availability, but dietary

self-efficacy explains adolescents' body weight even if these factors are controlled (O'Dea and Wilson 2006). The role of psychological determinants of nutrition may change with age (Zabinski et al. 2006). Effects of such social cognitive variables as self-efficacy are smaller in early adolescence (e.g., among 11-years old) than in middle adolescence (e.g., among 15-years old; Zabinski et al. 2006). Systematic reviews of adolescent studies indicate that modeling is consistently related to *healthy diet* indicators, such as low fat consumption, low sugar snacking, low sweetened beverage consumption, and high fruit and vegetable intake (McClain et al. 2009). It is worthy to note that modeling is a major source of self-efficacy beliefs. Self-efficacy is not as consistently related to diet as modeling, if different nutrition indices are considered and the whole adolescence period is taken into account (McClain et al. 2009).

Interventions promoting self-efficacy (together with outcome expectancies and goals development) are effective tool in change of *physical activity* (Shilts et al. 2009). Compared to controls, adolescents who participated in such an intervention improved their physical activity and self-efficacy beliefs (Shilts et al. 2009). Importantly, changes in exercise levels, obtained by means of the intervention, were explained (mediated) by self-efficacy. This result indicates that the increase in activity levels may be ascribed to a change in beliefs about own ability to maintain active lifestyle, regardless the obstacles that arise overtime. Compared to physical activity education, an intervention enhancing self-efficacy and intrinsic motivation for physical activity among 11–12-year-olds resulted in greater increases in moderate-to-vigorous physical activity (as measured with 7-day accelerometry estimates; Wilson et al. 2008). Again, such intervention had a positive impact on the main cognitive mediator (i.e., self-efficacy) and intrinsic motivation (Wilson et al. 2008).

Systematic reviews of psychological factors that mediate between a theory-based psychological intervention and adolescents' physical activity indicated that self-efficacy is one of most commonly evaluated mediators (Lubans et al. 2009). Additionally, the reviews suggested that

mediating role of self-efficacy is strongly supported, whereas the evidence supporting the mediating role of other cognitions is mixed (Lubans et al. 2009). This means that most of theory-based psychological interventions addressing adolescents' physical activity affect their beliefs about ability to exercise. These beliefs, in turn, are related to an increase in physical activity. In sum, there is a large body of evidence indicating that interventions for adolescents, targeting their efficacy beliefs about ability to exercise regularly and eat healthy food should affect respective behaviors (in particular in late adolescence). Behavioral change is explained by an increase of respective cognitions, that is, dietary or physical activity self-efficacy.

Self-Efficacy and Chronic Disease Management

Adherence to medication is strongly determined by beliefs about ability to regularly use prescribed medication, regardless any internal or external obstacles. Suboptimal adherence to self-administered medication is a common problem in the treatment of acute and chronic illnesses. Besides increasing knowledge about disease and treatment, interventions for ill adolescents often take agentic perspective, addressing control over disease and empowering young patients to take active part in the treatment process (Kato et al. 2008). Such interventions may be delivered in a form of a computer or a video game. Compared to the control group, adolescents and young adults (with malignancies such as acute leukemia, lymphoma, and soft-tissue sarcoma) who were invited to take part in such an intervention showed higher adherence at 3-month follow-up, as indicated in serum metabolite assays analysis (Kato et al. 2008). Adherence was accompanied by an increase in knowledge and self-efficacy beliefs, which may be interpreted in a way that the significant effects of the intervention on adherence were obtained because the intervention increased efficacy beliefs (Kato et al. 2008).

Among adolescents diagnosed with tuberculosis, a group-based intervention had an effect on

self-efficacy (as compared to the control group participants; Morisky et al. 2001). Completion of medication was predicted by self-efficacy for medication taking, measured after the intervention (Morisky et al. 2001). Interventions designed to enhance self-efficacy were also organized for adolescents with Type 1 diabetes mellitus in order to improve their adherence to a recommended lifestyle. Such interventions resulted in weight gain prevention and improvement of metabolic control and overall psychosocial well-being of participants (Grey et al. 2000).

In line with findings presented above, systematic reviews of the effects of the psychosocial interventions facilitating child and adolescent adaptation to chronic illness (e.g., asthma, juvenile arthritis, chronic fatigue syndrome, chronic pain, diabetes) suggested that the effectiveness of the interventions depends on inclusion of self-efficacy-building techniques (Barlow and Ellard 2004). Other moderators of the effectiveness of the reviewed interventions included other competence variables, knowledge, self-management of disease, family variables, social isolation, and physical health and well-being (Barlow and Ellard 2004). Fostering beliefs about ability to manage chronic health problems is a vital ingredient of the intervention, which works across different diseases.

Self-Efficacy, Psychosomatic Symptoms, and Mental Health

Cross-sectional studies indicated that lower general self-efficacy and self-efficacy in dealing with school-related tasks were associated with higher psychosomatic distress (headache, stomachache, backache, dizziness, irritability, insomnia, etc.), especially if teenagers perceived low support from their teachers (Natvig et al. 1999). Levels of anxiety and affective disorders symptoms among 12–19-year-old adolescents were related to self-efficacy, with the strongest relationship found for social phobia, school phobia, generalized anxiety, and panic disorders (Muris 2002). The relationship is significant, even after controlling for neuroticism and trait anxiety (Muris

2002). Adolescents exposed to traumatic stress who developed posttraumatic stress disorder presented lower self-efficacy levels than those who survived trauma but did not meet posttraumatic stress disorder criteria (Saigh et al. 1995). Unfortunately, studies testing for the associations between efficacy beliefs and psychosomatic or mental disorder symptoms often apply cross-sectional design (see Muris 2002; Natvig et al. 1999; Saigh et al. 1995). Therefore, besides pointing to concurrence of higher efficacy beliefs with lower level of symptoms of mental disorders, causal conclusions about the influences of self-efficacy cannot be drawn. So far, systematic reviews of the research investigating relationships between efficacy beliefs and posttraumatic adaptation included both adolescents and adults (Luszczynska et al. 2009). These reviews indicated that efficacy beliefs have small-to-moderate effects on subsequent or co-occurring posttraumatic distress across youth and adults' samples (Luszczynska et al. 2009).

Longitudinal studies indicated that among 10–15-year-old girls, beliefs about poor ability to control one's own emotions doubles the risk of incidence of depressive symptoms, measured 1 year later, controlling for various confounding variables (Patton et al. 2008). It can be suggested that the pubertal rise of depressive symptoms may be well explained by adolescents' perceptions about ability to control their own emotions (Patton et al. 2008). Among adolescents with social anxiety disorder, cognitive treatment may result in changes with social anxiety symptoms, and the changes in symptoms are strongly related to changes in self-efficacy for social situations (Gaudiano and Herbert 2007).

Besides adolescents' efficacy beliefs, an intervention may target parents of adolescents with mental health problems (Deitz et al. 2009). Such interventions may affect adolescents' mental health indirectly, increasing parental skills and modeling, and therefore influencing symptom management among youth (Deitz et al. 2009). Web-based programs addressing knowledge, skills, and control beliefs among parents of adolescents with mental health problems have shown to affect parents' beliefs about their self-efficacy

in handling their children's mental health issues (Deitz et al. 2009).

Self-Efficacy, Stress, and Coping

When assessed at the same time-point, domain-specific self-efficacy is usually negatively related to perceptions of stress, referring to the same domain. For example, self-efficacy referring to ability to deal with interpersonal situations was negatively associated with stress perceptions in the domain of interpersonal stress and associated to lower use of strategies of coping with social stress among adolescents (Matsushima and Shiomi 2003). Among 15–18-year-old students (exposed to stress related to pressure of high school achievements), higher academic self-efficacy was related to lower perceived academic stress, more positive academic stress appraisals, and higher coping by means of family communication (Suldo et al. 2008). Academic self-efficacy was unrelated to the use of negative types of coping, such as avoidance or coping focused on negative emotions (Suldo et al. 2008). Further, higher self-efficacy (specific for selected target, e.g., management of issues related to chronic illness) was related to higher perceived coping effectiveness (in respective area, e.g., referring to stressful situations related to the disease; Berg et al. 2009).

Longitudinal studies on school-related stress and careers indicate that self-efficacy (measured at ages 12–15) predicts lower levels of stress at the age of 18 (e.g., lower stress referring to job application), which in turn predicted higher job satisfaction and lower unemployment rates during early adulthood (Pinquart et al. 2003). Stress management trainings for adolescents (aged 10–14 years) resulted in an increase of self-efficacy levels at post-intervention assessment and 3-month follow-up, lower perceived stress, and more frequent use of adaptive coping (Hampel et al. 2008). These effects were not found among control group respondents. The younger participants (in their early adolescence) benefitted more than older ones (i.e., those in middle adolescence; Hampel et al. 2008). Meta-analysis including

stress management programs for children and younger adolescents (7–14-years old) found out, however, that in general the effects of such programs on self-efficacy may be negligible (Kraag et al. 2006). These results indicate that a closer look into the relationships between age and efficacy beliefs is needed and that curvilinear relationships should be considered.

Controversies and Gaps in Knowledge

The major controversies include publication bias and the causality in the relationship between self-efficacy and health-related outcomes. These debates are not specific for adolescent research, but pretty often investigations focusing on adolescents' health build up these controversies. First, some systematic reviews indicate that there is a positive publication bias toward research discussing the effects of interventions including self-efficacy beliefs (Kraag et al. 2006). This positive bias, however, is specific for some research areas such as stress studies, whereas other areas suffer from a negative publication bias. For example, factors facilitating recovery from mental disorders (such as self-efficacy) gained considerably less attention than risk factors. For example, meta-analyses of psychological determinants of the development of posttraumatic stress disorder usually excluded self-efficacy (cf. Luszczynska et al. 2009).

A vast majority of research dealing with adolescents' health addressed the relationships between self-efficacy and health outcomes applying a cross-sectional or prospective design, but not controlling for the health outcome at the baseline. Therefore, no casual conclusions can be drawn. Although the theories presented in this essay suggest that cognitions (including self-efficacy) precede the health-related behaviors, physiological and psychological response to stressors (Bandura 1997; Prochaska et al. 1992; Schwarzer 2008), there is no compelling evidence for this assumption. The randomized controlled trials, which could build up stronger case for the causal of efficacy beliefs, are relatively scarce.

Most important gaps in knowledge refer to the role played by self-efficacy in multifactor interventions. The interventions including self-efficacy usually address other beliefs (e.g., pros or cons of a behavior change) or skills (e.g., goal setting) that Social Cognitive Theory refers to (Bandura 1997). Evaluation of multi-component interventions usually involves the evaluation of health outcomes, without testing for the changes in the cognitive mediators and the relationships between the changes in the cognitive mediators and health. In result, it is hard to indicate which component of the intervention played an active role. Fortunately, some recent studies identified this gap and tested if self-efficacy mediates between the participation in the intervention and changes in health (Kato et al. 2008; Schmiede et al. 2009; Shilts et al. 2009).

It remains unclear if compared to older adolescents, younger adolescents may benefit less from enhancing their self-efficacy. It is assumed that competence beliefs should increase from ages 11 to 18 (Schunk and Meece 2006). It remains unclear, however, if this can be translated into the role that efficacy beliefs can play in predicting health over the period of adolescence. Research evidence is ambiguous, but there is an increasing number of studies supporting the notion that in early adolescence self-reported self-efficacy beliefs are of lower relevance for health, compared to other psychosocial factors such as modeling (Ausems et al. 2009; Zabinski et al. 2006). Others, however, indicate that among 11–14-year-old youth younger ones may benefit more from self-efficacy interventions (Hampel et al. 2008). Consequently, the role of age requires a systematic investigation.

Finally, some studies showed that gender moderates the effects of self-efficacy belief on health. The role of gender is not always analyzed, and therefore, only preliminary conclusions can be drawn. Self-efficacy seems to play a more relevant role in predicting health outcomes among girls (Patton et al. 2008; Tucker et al. 2002). A cautious approach would suggest that self-efficacy-enhancing programs for adolescents should be gender-specific (Schinke et al. 2009).

Cross-References

► Self-efficacy

References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179–211.
- Ausems, M., Mesters, I., van Breukelen, G., & de Vries, H. (2009). Smoking among Dutch elementary schoolchildren: Gender specific prediction. *Health Education Research*, 24, 818–828.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Bandura, A., Taylor, C. B., Williams, S. L., Mefford, I. N., & Barchas, J. D. (1985). Catecholamine secretion as a function of perceived self-efficacy. *Journal of Consulting & Clinical Psychology*, 53, 406–414.
- Barlow, J. H., & Ellard, D. R. (2004). Psycho-educational interventions for children with chronic disease, parents and siblings: An overview of the research evidence base. *Child: Care, Health & Development*, 30, 637–645.
- Berg, C. R., Skinner, M., Ko, K., Butler, J. M., Palmer, D. L., Butner, J., et al. (2009). The fit between stress appraisal and dyadic coping in understanding perceived coping effectiveness for adolescents with type 1 diabetes. *Journal of Family Psychology*, 23, 521–530.
- Chang, F.-C., Lee, C. M., Laim, H. R., Chiang, J. T., Lee, P. H., & Chen, W. J. (2006). Social influences and self-efficacy as predictors of youth smoking initiation and cessation: A 3-year longitudinal study of vocational high school students in Taiwan. *Addiction*, 101, 1645–1655.
- Deitz, D. K., Cook, R. F., Billings, D. W., & Hendrickson, A. (2009). A web-based mental health program: Reaching parents at work. *Journal of Pediatric Psychology*, 34, 488–494.
- Fritz, D. J., Hardin, S. B., Gore, P. A., & Bram, D. (2008). A computerized smoking intervention for high school smokers. *Pediatric Nursing*, 34, 13–17.
- Gaudiano, B. A., & Herbert, J. D. (2007). Self-efficacy for social situations in adolescents with generalized social anxiety disorder. *Behavioral and Cognitive Psychotherapy*, 35, 209–223.
- Grey, M., Boland, E. A., Davidson, M., Li, J., & Tamborlane, W. V. (2000). Coping skills training for youth with diabetes mellitus has long-lasting effects on metabolic control and quality of life. *Journal of Pediatrics*, 137, 107–113.
- Hampel, P., Meier, M., & Kuemel, U. (2008). School-based stress management training for adolescents: Longitudinal results from an experimental study. *Journal of Youth and Adolescence*, 37, 1009–1024.
- Kato, P. M., Cole, S. W., Bradlyn, A. S., & Pollock, B. H. (2008). A video game improves behavioral outcomes in adolescents and young adults with cancer: A randomized trial. *Pediatrics*, 122, 305–317.

- Kraag, G., Zeegers, M. P., Kok, G., Hosman, C., & Abu-Saad, H. H. (2006). School programs targeting stress management in children and adolescents: A meta-analysis. *Journal of School Psychology, 44*, 449–472.
- Lubans, D. R., Foster, C., & Biddle, S. J. H. (2009). A review of mediators of behavior in interventions to promote physical activity among children and adolescents. *Preventive Medicine, 47*, 463–470.
- Luszczynska, A., & Schwarzer, R. (2005). Social cognitive theory. In M. Conner & P. Norman (Eds.), *Predicting health behaviour* (2nd ed., pp. 127–169). Buckingham: Open University Press.
- Luszczynska, A., Benight, C. C., & Cieslak, R. (2009). Self-efficacy and health-related outcomes of collective trauma: A systematic review. *European Psychologist, 14*, 49–60.
- Maddux, J. E. (1995). *Self-efficacy, adaptation, and adjustment: Theory, research, and application*. New York: Plenum.
- Matsushima, R., & Shiomi, K. (2003). Social self-efficacy and interpersonal stress in adolescence. *Social Behavior and Personality, 31*, 323–332.
- McClain, A. D., Chappuis, C., Nguyen-Rodriguez, S. T., Yaroch, A. L., & Spruijt-Metz, D. (2009). Psychosocial correlates of eating behavior in children and adolescents: A review. *International Journal of Behavioral Nutrition and Physical Activity, 6*, 54.
- Milam, J. E., Sussman, S., Ritt-Olson, A., & Dent, C. W. (2000). Perceived invulnerability and cigarette smoking among adolescents. *Addictive Behaviors, 25*, 71–80.
- Morisky, D. E., Malotte, C. K., Ebin, V., Davidson, P., Cabrera, D., Trout, P. T., et al. (2001). Behavioral interventions for the control of tuberculosis among adolescents. *Public Health Reports, 116*, 568–574.
- Muris, P. (2002). Relationship between self-efficacy and symptoms of anxiety disorders and depression in a normal adolescent sample. *Personality & Individual Differences, 32*, 337–348.
- Natvig, G. K., Albrektsen, G., Anderssen, N., & Qvarnström, U. (1999). School-related stress and psychosomatic symptoms among school adolescents. *Journal of School Health, 69*, 362–368.
- O'Dea, J. A., & Wilson, R. (2006). Socio-cognitive and nutritional factors associated with body mass index in children and adolescents: Possibilities for childhood obesity prevention. *Health Education Research, 21*, 796–805.
- Patton, G. C., Olsson, C., Bond, L., Toumbourou, J. W., Carlin, J. B., Hemphill, S. A., et al. (2008). Predicting female depression across puberty: A two-nation longitudinal study. *Journal of the American Academy of Child and Adolescent Psychiatry, 47*, 1424–1432.
- Peters, L. W. H., Wiefferink, C. H., Hoekstra, F., Buijs, G. J., ten Dam, G. T. M., & Paulussen, T. G. W. M. (2009). A review of similarities between domain-specific determinants of four health behaviors among adolescents. *Health Education Research, 24*, 198–223.
- Piko, B., & Gibbons, F. X. (2008). Behavioral and psychosocial influences of risk perception among Hungarian adolescents. *International Journal of Public Health, 53*, 131–138.
- Pinquant, M., Juang, L. P., & Silbereisen, R. K. (2003). Self-efficacy and successful school-to work transition: A longitudinal study. *Journal of Vocational Behavior, 63*, 329–346.
- Prochaska, J. O., DiClemente, C. C., & Norcross, J. C. (1992). In search of how people change: Applications to addictive behaviors. *American Psychologist, 47*, 1102–1114.
- Rodham, K., Brewer, H., Mistral, W., & Stallard, P. (2006). Adolescents' perception of risk and challenge: A qualitative study. *Journal of Adolescence, 29*, 261–272.
- Saigh, P. A., Mroueh, M., Zimmerman, B. J., & Fairbank, J. A. (1995). Self-efficacy expectations among traumatized adolescents. *Behaviour Research & Therapy, 22*, 701–704.
- Schinke, S. P., Cole, K. C. A., & Fang, L. (2009). Gender-specific intervention to reduce underage drinking among early adolescent girls: A test of a computer-mediated mother-daughter program. *Journal of Studies on Alcohol and Drugs, 70*, 70–77.
- Schmiege, S. J., Broaddus, M. R., Levin, M., & Bryan, A. D. (2009). Randomized trial of group interventions to reduce HIV/STD risk and change theoretical mediators among detained adolescents. *Journal of Consulting and Clinical Psychology, 77*, 38–50.
- Schunk, D. H., & Meece, J. L. (2006). Self-efficacy development in adolescence. In F. Pajares & T. Urdin (Eds.), *Self-efficacy beliefs of adolescents* (pp. 71–96). Greenwich: Information Age Publishing.
- Schwarzer, R. (2008). Modeling health behavior change: How to predict and modify the adoption and maintenance of health behaviors. *Applied Psychology, 57*, 1–29.
- Schwarzer, R., & Luszczynska, A. (2006). Self-efficacy and adolescent's risk taking and health. In F. Pajares & T. Urdan (Eds.), *Self-efficacy beliefs of adolescents* (pp. 139–159). Greenwich: Information Age Publishing.
- Schwarzer, R., & Luszczynska, A. (2008). How to overcome health-compromising behaviors: The Health Action Process Approach. *European Psychologist, 13*, 141–151.
- Shilts, M. K., Horowitz, M., & Townsend, M. S. (2009). Guided goal setting: Effectiveness in a dietary and physical activity intervention with low-income adolescents. *International Journal of Adolescent Medicine & Health, 21*, 111–122.
- Suldo, S. M., Shaunessy, E., & Hardesty, R. (2008). Relationships among stress, coping, and mental health in high-achieving high schools students. *Psychology in the Schools, 45*, 273–290.
- Tucker, J. S., Ellickson, P. L., & Klein, D. J. (2002). Smoking cessation during transition from adolescence to young adulthood. *Nicotine & Tobacco Research, 4*, 321–332.
- Wiedenfeld, S. A., O'Leary, A., Bandura, A., Brown, S., Levine, S., & Raska, K. (1990). Impact of perceived

self-efficacy in coping with stressors on components of the immune system. *Journal of Personality & Social Psychology*, 59, 1082–1094.

- Wilson, D. K., Kitzman-Urlich, H., Williams, J. E., Saunders, R., Griffin, S., Pate, R., et al. (2008). An overview of “The Active by Choice Today” (ACT) trial for increasing physical activity. *Contemporary Clinical Trials*, 29, 21–31.
- Zabinski, M. F., Daly, T., Norman, G. J., Rupp, J. W., Calfas, K. J., Sallis, J. F., et al. (2006). Psychosocial correlates of fruit, vegetable, and dietary fat intake among adolescent boys and girls. *Journal of the American Dietetic Association*, 106, 814–821.

Self-Esteem

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Overview

Of the multitude of psychological constructs used in the study of adolescence, self-esteem is one of the most pervasive. While a wide variety of claims have been made in the literature about the importance of self-esteem in adolescence, more recent research has cast doubt on many of these claims, for both conceptual and methodological reasons. In particular, studies using prospective longitudinal data have shown that the causal effects of self-esteem in adolescence on later outcomes likely range from small to nonexistent. The current state of evidence regarding self-esteem in adolescence suggests the need for a reconceptualization of the construct and its place in the psychological landscape.

Introduction

The term “self-esteem” is used almost ubiquitously in the lay literature on adolescence (Baumeister et al. 2003). For example, a Google search of the terms will turn up literally thousands of references to Web sites and other online

sources providing information on this topic. What is gleaned from these sites is that self-esteem in adolescence is important; without self-esteem, or without sufficient amounts of it, an adolescent is at increased risk of a variety of adverse life outcomes, including mental illness, substance abuse, aggressive and violent behavior, and early pregnancy and parenthood. Conversely, according to this literature, a high or healthy level of self-esteem is protective against these outcomes, and is an indicator of positive adjustment and a bright future. From this perspective, it could be argued that the advantages of holding a positive self-worth are so clearly obvious and straightforward that efforts to enhance self-esteem among adolescents would seem to be a simple and cost-effective way to improve a broad range of personal and social outcomes. As such, the concept of self-esteem is a pillar of the self-help literature on adolescent adjustment (Baumeister et al. 2003).

The psychological literature, on the other hand, paints a somewhat different picture of the concept. While the number of studies examining self-esteem in adolescence is very large indeed, only a minority of those studies present evidence that suggests that self-esteem plays a key causal role in life outcomes in adolescents (Baumeister et al. 2003; Boden et al. 2008). In particular, more recent studies, using more refined and focused methodologies, have begun to question whether self-esteem has any causal power at all, or whether it should be viewed more as a consequence, an attitude toward the self that is formed via experience and behavior over a long period of time (Baumeister et al. 2003; Boden et al. 2008). Further studies suggest that self-esteem is a generally stable measure, and that an individual’s level of self-esteem is relatively resistant to change (Roberts and Robins 2004), suggesting that attempts to alter self-esteem in the service of improving outcomes is likely to prove a futile task. Finally, examination of the methodological issues arising from studies linking self-esteem to outcomes suggests that the evidence is relatively weak, and plagued by issues pertaining to study design and threats to study ► **validity** (Boden et al. 2007, 2008; Boden and Horwood 2006).

The purpose of this essay is to evaluate the nature of the evidence concerning the role of self-esteem in adolescence. It begins by examining the roots of the concept, showing how it rose to prominence not only as a key explanatory construct in psychology, but also in the lay literature. Then, it examines some of the key issues in the study of self-esteem, and surveys more recent evidence that calls into question many of the claims made for self-esteem. In particular, the essay examines several studies of the links between self-esteem in childhood and adolescence and later life outcomes, using prospective longitudinal data, and advanced methods of data analysis to model the putative causal role of self-esteem. Finally, it concludes with brief suggestions for ways to move forward in the study of the role of self-esteem in adolescence. It should be noted that, while the essay frequently refers to “self-esteem” without specifying age, the vast majority of self-esteem research has been conducted with children and adolescents, and so the findings are generally thought to apply to these age groups unless otherwise specified.

It should also be noted that while it does not intend to examine specifically the nature of the concept of self-esteem, for the purposes of this essay, the author has adopted a “working definition” of self-esteem such that self-esteem refers to an evaluation of the relative worth of the self, which generally corresponds to the definition used in the current literature on the topic in social/personality psychology (Leary and Baumeister 2000). It is also assumed that this evaluation can be measured, with varying degrees of success, using a variety of self-evaluative attitudinal measures.

The Growth of the Concept of Self-esteem

As Baumeister and colleagues pointed out (Baumeister et al. 2003), while the notion of an evaluative aspect of the self is a very old concept, the roots of self-esteem in modern academic discourse reside in the notion of “the looking glass self,” in which the self-concept (and therefore

self-evaluation) develop as a result of interactions with others. On this theory, because an understanding of the self is developed via interactions with others (in the same manner as with any other concept), it follows that the self will be subject to the same evaluative mechanism that applies to any form of information available to the individual. Furthermore, throughout the course of the history of the discipline of psychology in the twentieth and twenty-first centuries, the existence of an evaluative component of the self has been a relatively uncontentious issue. For example, in terms of the psychometric properties of the numerous self-esteem scales that have been developed over the course of three decades for research and clinical practice, the vast majority rely heavily upon items pertaining to the individual’s evaluation of their own worth and value, and their perception of the extent to which others regard the individual as worthy and valuable.

Research on self-esteem began to grow significantly during the 1960s, a time during which there was extensive growth of both social/personality psychology and clinical psychology (Baumeister et al. 2003). As part of this research, several measurement scales for the assessment of self-esteem, such as the popular and enduring nine-item Rosenberg self-esteem scale (Rosenberg 1965), were developed. The newfound facility in measuring self-esteem helped to spur a growth in research on the links between self-esteem and other factors of interest. In general, much of the research during this period examined whether one’s level of self-esteem was related to outcomes in various domains, such as academic achievement. The research was underpinned by various observations, such as (for example) the fact that academically successful young people appeared to have a greater level of self-belief and self-confidence. And indeed, a number of early findings suggested that higher levels of self-esteem were related to both experimental and real-world phenomena, such as increased persistence on frustrating tasks presented in the laboratory, better school grades and examination scores, and reporting having more friends and more satisfying personal relationships. Conversely, lower levels of self-esteem

were related to lower levels of task persistence, lower levels of academic achievement, and increasing levels of social problems. The results of these early studies suggested that the links between self-esteem and outcomes could possibly be a causal one; that is, it was possible that the evaluative component of the self somehow played a causal role in determining later outcomes, with more positive outcomes being associated with more positive evaluations of the self.

Baumeister et al. (2003) have also noted that at the same time that the new research on self-esteem was emerging (in the late 1960s and early 1970s), there were enormous cultural changes taking place in Western society. It was a period in which there was extensive interest and experimentation into new ideas and new approaches to living, and two of these changes in particular turned out to have had critical implications for the concept of self-esteem. The first of these, derived from the discipline of psychology, was the rapid growth and development of psychotherapy and clinical psychology. One of the primary interests in clinical psychology during this period was the attempt to develop new and effective psychotherapeutic interventions and treatments, based on recent findings in social, personality, developmental, and cognitive psychology, to improve general functioning and outcomes. As such, the new findings regarding the potential role of high self-esteem in improving outcomes across a range of domains seemed a promising avenue for the development of clinical interventions. In particular, there were a number of interventions developed during that time period that were aimed at improvement of self-esteem in young people. Under the assumption that, if low self-esteem caused social and interpersonal problems, then it seemed obvious that improving or increasing self-esteem would help the individual to solve these problems, or even better avoid these problems altogether. The focus on improving self-esteem was given even further impetus by the increasing number of laboratory and field studies emerging in social psychology in which self-esteem was a feature. The importance of the construct of self-esteem was growing rapidly, and for a time, it seemed as though self-esteem was going to be

one of the major themes of at least two strands of Western psychology in the late twentieth century.

The second cultural change that had specific implications for the concept of self-esteem, according to Baumeister (Baumeister et al. 2003), was the rise in the early 1970s of the self-help movement, beginning first in the United States, then gradually spreading through other Western societies. It was during this time period that the first major expansion of the “lay psychology” literature occurred, with books and periodicals appearing on the shelves at an ever-increasing rate. As the focus of most of this literature was on the notion of “self-improvement,” and because the concept of self-esteem was prominent in academic psychology, it seems only natural that self-esteem began to occupy a central place in the lay literature in psychology. Indeed, it could be argued that this coincidental pairing of cultural change and concept greatly increased the “recognition factor” of self-esteem among a large segment of the population, many of whom would have never had the chance to read an academic journal article or a psychology textbook. Within a few short years, self-esteem had become a cultural buzzword. This cultural notoriety was to have significant effects for both academic and lay psychology for the next two decades and beyond.

One effect of this cultural notoriety was that self-esteem was given the credit – or blame – for a wide range of social outcomes (Baumeister et al. 2003). Without the hindrance of the sort of critical examination that might take place in an academic context, a number of authors writing for the popular press were able to make a variety of unverified claims concerning the power of self-esteem both to create profound difficulties for individuals who lacked it, and to miraculously improve the lives of individuals who acquired it. At the same time, assumptions about the negative impacts of self-esteem had become a popular belief. An example of such a belief is the commonly held notion that gang members and other violent criminals engage in violent and destructive behavior because they have low self-esteem. If they had greater regard for themselves, the argument suggests, then these

individuals would not want to behave in such a manner.

The growth of the self-esteem movement reached its apex in the mid-1980s, when the California State Assembly, led by Assemblyman John Vasconcellos, organized and funded a program called the Task Force on Self-Esteem and Personal Responsibility (Mecca et al. 1989), on the premise that raising self-esteem, particularly in children and adolescents, would solve a wide range of problems faced by residents of the state, such as crime, early pregnancy, substance abuse, and poor educational achievement. In their initial proposal, Vasconcellos and colleagues suggested that self-esteem enhancement might serve as an appropriate developmental intervention, a kind of social vaccine, which would protect the individual from a variety of adverse outcomes, and reduce the overall burden of adverse behavioral outcomes to the state. The proposal proved compelling enough for the Task Force to be funded with a budget of \$245,000 for several years, and the authors set to work assembling scholars to examine the data emerging from more rigorous experimental and field studies regarding self-esteem. Perhaps not surprisingly, the Task Force discovered that the data were considerably less compelling than they had originally thought, and that many of the claims that had been made for self-esteem had very little empirical evidence to support them (Mecca et al. 1989).

Issues with the Links Between Self-esteem and Outcomes

One of the major findings of the Task Force on Self-Esteem was that the rampant growth of the importance of the concept in the 1970s and 1980s had taken place with very little empirical evidence to serve as a foundation. Across a range of outcomes, the review found only limited associations between self-esteem and outcomes, and very little support for claims regarding the broad causal powers attributed to self-esteem in some quarters. The Task Force was not isolated in its findings, however. A review of the empirical findings both past and present gives way to a more balanced

view of the academic literature on self-esteem, suggesting that the available evidence requires that more modest claims be made about self-esteem and its possible effects (Baumeister et al. 2003).

There were several reasons why the inflated claims, and in particular causal claims, about self-esteem turned out to be largely groundless. The two most important of these reasons are that: (a) the observed associations between self-esteem and a range of outcomes were generally weaker than had been assumed originally and (b) there was little evidence to suggest that the associations between self-esteem and a range of adverse life outcomes were in fact causal.

Baumeister and colleagues examined the literature regarding the links between self-esteem and a range of outcomes, showing that, in most cases, the evidence suggested that the links between self-esteem and outcomes were weak at best, and that there was in most cases insufficient evidence to support causal claims regarding self-esteem (Baumeister et al. 2003). While the review examined the empirical evidence for links between self-esteem and a range of outcomes, for the purposes of this essay, a few key themes emerging from the literature, of particular relevance to adolescence, will be discussed.

Self-esteem and educational achievement. Much of the early research on self-esteem and outcomes pertained to school performance and educational achievement, with consistent links being drawn between higher levels of achievement (higher grades, greater likelihood of attaining qualifications) and self-esteem. On the basis of this early work, it was considered almost a point of fact that high self-esteem was a key component in educational attainment, whereas low self-esteem would lead to educational failure. However, as Baumeister and colleagues pointed out, there were serious flaws in this reasoning (Baumeister et al. 2003). The primary flaw with much of the early research was that causal conclusions were drawn from correlational data, in many cases cross-sectional data, from which causal conclusions were not warranted. It could be argued, for example, that the observed links between self-esteem and educational achievement

could be due to a causal process in which educational success increases self-esteem, or educational failure damages self-esteem, rather than vice versa. Alternatively, it could be argued that both self-esteem and educational achievement were linked via third or confounding variables that were associated with both self-esteem and educational achievement. Indeed, later research tended to support these alternative interpretations of the findings. Analyses of longitudinal data suggested that the causal links between self-esteem and educational achievement could either be attributed to: (a) the influence of confounding factors or (b) represent a somewhat weak causal process in which higher levels of educational achievement at one point in time were associated with higher levels of self-esteem at a later point in time. On the basis of this evidence, there is very little reason to expect that interventions designed to raise self-esteem would in turn improve academic performance and raise overall levels of educational achievement.

Self-esteem and interpersonal relationships. One of the areas of considerable interest to researchers in self-esteem has been the sphere of interpersonal relationships. It seems logical to assume that the extent to which a person values himself or herself would correspond to success in interpersonal relationships: having more friends, having closer friends, reporting more satisfying and meaningful relationships, and greater success and satisfaction with intimate relationships. As was the case with educational achievement, earlier research in the area of self-esteem and interpersonal relationships tended to support this notion, with a number of studies concluding that high self-esteem led to greater success in the interpersonal arena, whereas low self-esteem led to less success (Baumeister et al. 2003). In particular, a number of studies suggested that self-esteem was associated with social skills and popularity, such that high self-esteem led to an improvement in social skills and higher levels of popularity, while low self-esteem led to the opposite. Again, however, the issue of a possible alternative explanation in which interpersonal success or failure predicted self-esteem level, rather than vice versa, proved to be a key feature of the debate

concerning self-esteem and interpersonal relationships. More refined analyses, using longitudinal data in which the causal effects of self-esteem on interpersonal relationship success, social skills, and popularity were tested, revealed that there was very little evidence to suggest that self-esteem predicted relationship success and relationship skills. There was, however, evidence to suggest that interpersonal success and relationship skills predicted self-esteem.

Furthermore, evidence suggested that the links between self-esteem and interpersonal success were, in a sense, in the “eye of the beholder.” Several studies showed that self-esteem levels were linked with self-reported popularity level, such that high self-esteem individuals rated themselves as more popular while low self-esteem individuals rated themselves as less popular. At the same time, however, self-esteem was unrelated to objective measures of popularity, such as peer and teacher ratings of popularity. These and related findings suggested that there was very little evidence to support the putative causal role of self-esteem in enhancing or diminishing the quality and number of interpersonal relationships (Baumeister et al. 2003).

Self-esteem and violence. One of the key areas of self-esteem research in the last three decades has been the examination of the links between self-esteem and antisocial behavior, and in particular violent criminal behavior. As with the areas noted above, one of the key concepts in this area has been the notion that violent and antisocial behavior arises from processes in which the self is undervalued, or unvalued, which results in a kind of violent retaliation against the world. As with the hypotheses in other domains, the putative links between low self-esteem and violence made a certain intuitive sense; certainly, if one viewed the violent behavior of members of street gangs, it would be difficult to understand how individuals who routinely engage in such behavior have any regard for themselves at all. It is perhaps unsurprising then, that primarily on the basis of clinical observation and impression, that a commonly held belief formed among both psychologists and lay people in which low self-esteem served as a primary driver of aggressive and violent

behavior, particularly among young people. This belief, in turn, proved to be quite influential in psychological and lay circles for at least two decades.

One of the difficulties with this hypothesis, however, is that, as Baumeister and colleagues pointed out (Baumeister et al. 2003), the general patterns of behavior observed among low self-esteem individuals do not correspond to the behavior of individuals who routinely act in a violent and aggressive manner. Indeed, low self-esteem people tend to be less inclined to take risks, and are more likely to behave in ways that try to smooth over social and interpersonal difficulties. In order to examine this issue more closely, Baumeister et al. (1996) reviewed the literature spanning psychology, sociology, criminology, and other related fields to examine the case for low self-esteem being related to violence and aggression. What they discovered was that there was almost no evidence to support this assertion. The evidence did suggest, however, that it was high self-esteem that was more likely to be related to violent and aggressive behavior than low self-esteem. On the basis of this evidence, Baumeister et al. (1996) formulated the “threatened egotism” hypothesis, in which they suggested that it was a combination of unstable high self-esteem (similar to narcissism) and a threat to the ego of the individual that would be more likely to result in violent and aggressive behavior.

Following the publication of the review, the “threatened egotism” hypothesis was tested in a large number of studies that have provided support for the hypothesis (Baumeister et al. 2003). As an example, several studies have shown that unstable high self-esteem, in which the individual not only frequently reports high levels of self-esteem but also shows a high degree of variability in these reports, is strongly linked to increased risks of violent and aggressive behavior both in the laboratory and in real-world outcomes (Bushman and Baumeister 2002). Also, several studies have shown that bullying among school children is more often carried out and assisted by young people who report having higher levels of self-esteem (Baumeister et al. 2003).

Critics have argued, of course, that variable or unstable high self-esteem actually represents low self-esteem, and that the links observed between high self-esteem and violent and aggressive behavior are actually indicative of low self-esteem. However, there is very little evidence to suggest that this is actually the case. On the basis of the evidence, it would appear that the purported links between low self-esteem and violence were not only incorrect, but in fact were rather the opposite of the actual state of affairs; violent and aggressive people are in fact more likely to report higher levels of self-esteem, and it is a combination of an unstable form of high self-esteem and a threat to the self that results in much of the violent and aggressive behavior that takes place (Baumeister et al. 2003).

Recent Evidence from Longitudinal Cohort Studies

One of the primary difficulties that has plagued the study of self-esteem over the past several decades has been problems inherent in the methodologies by which self-esteem, and its links to various outcomes, has been studied (Baumeister et al. 2003; Boden et al. 2008). The primary sources of evidence regarding self-esteem were, for a long period of time: (a) laboratory studies examining the relationship between varying levels of self-esteem, laboratory manipulations, and lab-based tasks in which such variables as task persistence was measured and (b) correlational studies of self-esteem and real-world outcomes, with data that were usually cross-sectional in nature. At the root of these difficulties has been the fact that the kinds of hypotheses that were being formulated about the effects of self-esteem across a wide variety of life outcomes could not in fact be tested using these designs, for the following reasons.

In terms of laboratory studies, there are two major methodological issues that call into question the extent to which the results of these studies can be generalized to a wider population. The first of these issues is the extent to which experimental tasks and variables are ecologically valid, and have a close relationship to tasks and

processes outside of the laboratory. This is a well-known problem in experimental behavioral research, and while it is not generally considered a fatal flaw in this research, it does mean that the conclusions based on such methodologies must be qualified to some extent. The second major methodological issue is perhaps more serious in nature. Laboratory studies that use an individual difference variable, such as self-esteem, are generally referred to methodologically as quasi-experiments, because at least one of the independent variables cannot be manipulated, and participants cannot be randomly assigned to some level of the independent variable. This means that there is an increased chance of confounding, in which the effects of the independent variable on the dependent variable may in fact be attributable to the effects of a third, unmeasured variable that is related to both the independent and dependent variables. Both of these methodological issues raise questions as to the validity of laboratory findings regarding the links between self-esteem and outcomes.

Correlational field studies, usually undertaken in the form of surveys, do not necessarily suffer from the same limitations as laboratory studies. The questions are generally ecologically valid, in that they sample respondents' real-world behavior, and issues of confounding can be addressed through the measurement of a variety of covariate factors. One main difficulty with correlational studies, however, is that it can be very difficult to ascertain a causal relationship between variables, particularly when the study has been carried out cross-sectionally, with contemporaneous measures. In a cross-sectional study of self-esteem and educational outcomes, it would be impossible to determine the direction of causality; for example, it would be difficult to determine whether self-esteem played a causal role in determining educational outcomes, or whether educational outcomes played a causal role in determining self-esteem. Again, this is a well-known problem in behavioral research, but it does create difficulties again in terms of assessing the validity of the findings arising from such studies.

One way of addressing each of the problems encountered in the use of laboratory and

correlational studies in the field of self-esteem research is through the use of longitudinal cohort studies. In these studies, prospective measures of self-esteem, a range of outcomes, and a variety of covariate factors can be obtained, improving the ecological validity of the research. To address questions of causality, the power of the longitudinal design can be employed, on the assumption that *earlier events cause later events*. In order to test causal hypotheses concerning self-esteem, the associations between self-esteem and outcomes can be modeled at varying points in time (e.g., self-esteem measured prior to outcomes, or vice versa), and these models can be extended to account for a range of confounding factors that may exert an influence on both self-esteem and outcomes. Furthermore, advanced statistical techniques using repeated measures of self-esteem and the outcome can be employed to examine whether there are changes in the nature and magnitude of these associations over time.

In recent years, several studies using data from longitudinal birth cohorts have examined the associations between self-esteem and a range of life outcomes. Three of these studies were conducted by Boden and colleagues, using data from the Christchurch Health and Development Study, a study of a longitudinal birth cohort of over 1,000 individuals born in Christchurch, New Zealand, in 1977, and followed to age 30 (Boden et al. 2007, 2008; Boden and Horwood 2006). In these studies, Boden and colleagues used a robust methodology to test some of the long-standing causal hypotheses about the effects of self-esteem in childhood and adolescence on a range of later outcomes. The studies examined whether self-esteem in childhood and adolescence (measured at ages 10 and 15) was related to a variety of life outcomes in early adulthood (ages 18–25), including: mental health disorders; substance dependence; relationship outcomes; life satisfaction; hostility; self-reported violent offending; and risky sexual behavior. In these studies, the associations between self-esteem in childhood and adolescence and later outcomes were adjusted for a variety of factors that could have confounded the association because of their own relationships with either self-esteem or life

outcomes. These factors included: exposure to socioeconomic deprivation in childhood; childhood disruptive and inattentive behavior; family dysfunction and instability; parental adjustment; parental attachment; intelligence and school grades; personality; and several other related factors. In addition, tests of mediation were undertaken, in which covariates pertaining to life circumstances in early adulthood (employment; relationship status; welfare dependence; life stress) were entered into the models to determine whether any effects of self-esteem on later life outcomes could be explained by causal pathways corresponding to either positive or negative life circumstances.

The results of these studies largely failed to provide evidence for a causal role of self-esteem. Bivariate associations between self-esteem and later life outcomes, in which only self-esteem and the outcome variable were accounted for, showed an association between lower levels of self-esteem and higher rates of adverse outcomes, including poorer mental health, greater risks of substance dependence, lower levels of life and relationship satisfaction, greater hostility and self-reported violent offending, and greater levels of risky sexual behavior. However, control for a range of potentially confounding factors reduced the magnitude of these associations, such that they became very small and statistically nonsignificant. The only exceptions to this pattern were findings of a persistent association between self-esteem and life satisfaction, and a persistent association between self-esteem and relationship satisfaction. Also, congruent with the threatened egotism hypothesis, Boden and colleagues found a persistent association between unstable self-esteem in childhood and adolescence and hostility/offending in early adulthood. In general, there was very little evidence to suggest that there was a causal relationship between one's level of self-esteem in childhood and a range of adverse life outcomes among these data; instead, the observed associations between self-esteem level and outcomes could be attributed to the effects of common confounding factors that exerted a causal influence on both self-esteem and the outcomes in question.

On the basis of these findings, Boden and colleagues concluded that the data from the Christchurch Health and Development Study provided very little support to long-standing assertions about the importance of self-esteem in influencing later outcomes, and suggested that a reconceptualization of the concept of self-esteem might be in order. In their view, self-esteem might be more appropriately viewed as a *risk marker*, in that it was related to poorer outcomes and could perhaps indicate persons who are at greater risk of those outcomes, but that attempting to reduce the risk of poor outcomes via influencing self-esteem was likely to be a wasted effort, as self-esteem seemed to have very little causal power of its own (Boden et al. 2007, 2008; Boden and Horwood 2006).

Interestingly, two other studies employing a longitudinal cohort design similar to that used by Boden and colleagues arrived at a somewhat different set of conclusions. Donnellan and colleagues (Donnellan et al. 2005), and Trzesniewski and colleagues (Trzesniewski et al. 2006), used data from the Dunedin Multidisciplinary Health and Development Study, a longitudinal cohort study that is in many ways similar to the Christchurch study data used by Boden and colleagues. The studies using the Dunedin data examined the links between self-esteem measured in childhood and early adolescence, and a range of life outcomes including aggression, criminal behavior, delinquency, mental health, physical health, and unemployment in early adulthood, controlling for a number of potentially confounding factors. Unlike the studies by Boden and colleagues, both Donnellan and colleagues and Trzesniewski and colleagues found that the associations between self-esteem and a range of adverse life outcomes remained statistically significant after controlling for confounding factors, suggesting that, in contrast to Boden and colleagues' findings, self-esteem in fact *does* play a causal role in later outcomes, with lower levels of self-esteem being associated with increased risks of adverse outcomes (Donnellan et al. 2005; Trzesniewski et al. 2006).

The differing conclusions that have been drawn from these two similar studies raise questions as to the source and nature of these differences. One major reason for the differences in the

two studies may be differences in the statistical models employed. In their analyses of the Christchurch data, Boden and colleagues controlled the associations between self-esteem and outcomes using a large and diverse set of covariate factors. The analyses of the Dunedin data, on the other hand, used a rather more limited range of covariate factors in their analyses. It could be argued, therefore, that any differences in the findings between the two data sets may be due at least in part to methods of covariate control, and the possible influence of unmeasured confounding in the Dunedin data. It should be noted, however, that although both studies using the Dunedin data concluded that self-esteem played a causal role in outcomes, both studies noted that the effect sizes were in fact quite small. Trzesniewski and colleagues suggested, for example, that attempts to address the increased risks of adverse life outcomes via increasing self-esteem would likely be ineffectual, given the small magnitude of associations found in their data (Trzesniewski et al. 2006). Furthermore, data from both the Christchurch and Dunedin studies clearly suggest that the low self-esteem may be more usefully construed as a risk marker for maladjustment, than as a powerful causal agent.

Why Have There Not Been More Robust Findings for Self-esteem?

Although a number of claims have been made about the causal power and importance of self-esteem, the results of more rigorous studies with strong methodologies show that there is very little evidence to support these claims. The evidence shows that, at best, any causal powers held by self-esteem are weak in nature, and these causal powers may be limited to certain areas of interpersonal life, such as life and relationship satisfaction. Yet, the intuitive sense that an overall positive or negative evaluation of the self should somehow affect one's life outcomes still remains, to some extent. The question arises as to why the findings for self-esteem have not been robust, or more precisely, why the evaluative component of the self seems to have very little causal power.

One important reason why self-esteem may have less causal power than expected is that the all known measures of self-esteem are, for all intents and purposes, attitudinal measures, with the target of the attitude in this case being the self. One of the hallmark findings in the field of social psychology is that, for attitudes to have any degree causal power, the attitudes in question must be closely linked to specific instances of behavior; otherwise, attitude-behavior inconsistency results (Ajzen and Fishbein 1977). This raises two serious issues for studies of self-esteem. The first issue is that most self-esteem measures provide only general descriptions of behavior, and in fact rely primarily on globally favorable or unfavorable impressions, which do not lend themselves to attitude-behavior consistency (Baumeister et al. 2003). The second issue is that while more domain-specific measures of self-esteem, such as measures of academic and social self-esteem, use items with greater behavioral specificity, these measures have strong links in predicting only domain-relevant behavior (Baumeister et al. 2003). Most of the causal assertions made regarding self-esteem are not limited to specific domains; indeed, it could be argued that the attractiveness of the thesis lies in the fact that it predicts ubiquitous effects for self-esteem across a range of domains.

Where Does the Field Go from Here?

If self-esteem is not the powerful causal force that many believe it is, a further question arises as to the future of the construct in the field of psychology. Despite the evidence of the limited causal powers of self-esteem presented above, the construct may still be of some value, for a number of reasons.

The first reason is that, as noted above, while self-esteem may not have strong causal powers, it does serve as a risk marker; those individuals who are at greater risk of later mental health disorders, substance abuse, and violence and aggression, for example, generally display lower levels of self-esteem at an early age. This inference suggests that one potential value for self-esteem is its

potential for use in the prevention of adverse life outcomes. While it is unclear how such preventative measures might best be implemented, what is clear is that self-esteem level in childhood and adolescence may provide important clues as to an individual's future life course (Boden et al. 2008).

A second reason is that, while the evidence concerning one's level of self-esteem has provided very little evidence of causal associations, there is evidence to suggest that the variability of self-esteem may be causally related to outcomes. Research by Kernis and colleagues has suggested, for example, that those individuals who display an unstable level of self-esteem (as opposed to more stable high self-esteem, or stable low self-esteem) are more likely to behave aggressively and show symptoms of mental health disorders (Kernis and Waschull 1995). Indeed, as noted above, Boden and colleagues, using the Christchurch data, found a persistent association between self-esteem instability and increased risks of self-reported hostility and violent behavior (Boden et al. 2007). What these findings suggest is that there may be a causal relationship between self-esteem and outcomes, but only in terms of whether one's self-evaluation is stable or unstable. However, this work is still very much in its preliminary stages, and further research is needed to elucidate the possible links between self-esteem stability and outcomes.

Conclusions

The concept of self-esteem is clearly one of the most successful of psychological constructs, at least in terms of its penetration into everyday discourse. As a subject of an extensive and rich body of research, self-esteem has had rather more mixed fortunes, however, with relatively scant evidence to support many of the causal claims made about it. It is clear, however, that interest in, and discussion of, the role of self-esteem in the development of the individual will continue long into the future, and research will continue to address some of the key questions concerning the role of self-esteem in the psychological

landscape. As it stands now, the evidence suggests that self-esteem may play a rather limited causal role in the lives of most adolescents, but the potential remains that a more refined conceptualization of self-esteem may provide valuable insight into an individual's possible future paths.

Cross-References

► Self-Perception

References

- Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin*, *84*, 888–918.
- Baumeister, R. F., Smart, L., & Boden, J. M. (1996). Relation of threatened egotism to violence and aggression: The dark side of high self-esteem. *Psychological Review*, *103*(1), 5–33.
- Baumeister, R. F., Campbell, J. D., Krueger, J. I., & Vohs, K. D. (2003). Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyles? *Psychological Science in the Public Interest*, *4*, 1–44.
- Boden, J. M., & Horwood, L. J. (2006). Self-esteem, risky sexual behavior, and pregnancy in a New Zealand Birth Cohort. *Archives of Sexual Behavior*, *35*(5), 549–560.
- Boden, J. M., Fergusson, D. M., & Horwood, L. J. (2007). Self-esteem and violence: Testing links between adolescent self-esteem and later hostility and violent behavior. *Social Psychiatry and Psychiatric Epidemiology*, *42*, 881–891.
- Boden, J. M., Fergusson, D. M., & Horwood, L. J. (2008). Does adolescent self-esteem predict later life outcomes? A test of the causal role of self-esteem. *Development and Psychopathology*, *20*, 319–339.
- Bushman, B. J., & Baumeister, R. F. (2002). Does self-love or self-hate lead to violence? *Journal of Research in Personality*, *36*(6), 543–545.
- Donnellan, M., Trzesniewski, K. H., Robins, R. W., Moffitt, T. E., & Caspi, A. (2005). Low self-esteem is related to aggression, antisocial behavior, and delinquency. *Psychological Science*, *16*(4), 328–335.
- Kernis, M. H., & Waschull, S. B. (1995). The interactive roles of stability and level of self-esteem: Research and theory. In M. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 27, pp. 93–141). New York: Academic.
- Leary, M. R., & Baumeister, R. F. (2000). The nature and function of self-esteem: Sociometer theory. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 32, pp. 1–62). New York: Academic.

- Mecca, A. M., Smelser, N. J., & Vasconcellos, J. (Eds.). (1989). *The social importance of self-esteem*. Berkeley: University of California Press.
- Roberts, B. W., & Robins, R. W. (2004). Person-environment fit and its implications for personality development: A longitudinal study. *Journal of Personality, 72*(1), 89–110.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton: Princeton University Press.
- Trzesniewski, K. H., Donnellan, M., Moffitt, T. E., Robins, R. W., Poulton, R., & Caspi, A. (2006). Low self-esteem during adolescence predicts poor health, criminal behavior, and limited economic prospects during adulthood. *Developmental Psychology, 42*(2), 381–390.

Self-Evaluations

► Self-Perception

Self-Monitoring

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Self-monitoring involves the extent to which individuals observe their own behaviors and adjust them to avoid or control undesirable actions. The psychological construct of self-monitoring, as initially proposed by Snyder (1974, 1979), seeks to differentiate individuals according to their sensitivity to social cues and their willingness to adapt their behavior to conform to the expectations of social situations. Snyder postulated that, in an attempt to uncover exactly what a particular situation calls for, high self-monitors will study situations and typical behavioral responses more often and for longer periods of time than will low self-monitors (Snyder 1987). High self-monitors are sensitive to others' messages, including detecting them better, registering them, and responding to them. High monitors, for example, are more likely to endorse socially acceptable attitudes that they do not privately espouse, and use these attitudes to guide their behaviors (Snyder 1987; Graziano et al. 1987). Whether or

not self-monitoring is a healthy trait, and even whether it will manifest itself or not, depends on situations. Traits like self-monitoring only influence behaviors in relevant situations.

Although relevant to any part of the life span, self-monitoring tendencies are of particular significance to adolescents. As might be expected, the tendencies help highlight reasons for the potential importance of social pressure, especially peer pressure, during adolescence. For example, self-monitoring has been shown to influence the relationship between peer influence and problem behavior during adolescence. An important longitudinal study of over 350 adolescents found, for example, that high self-monitoring adolescents who believed that cigarette smoking was a normative behavior eventually were more than three and a half times more likely to progress from complete nonsmoker to current smoker than were high self-monitors who did not believe that smoking was a normative behavior. On the other hand, normative beliefs did not influence the onset of smoking among adolescents who were deemed low self-monitors (Perrine and Aloise-Young 2004). Given the significance of self-monitoring, it is not surprising that it now figures prominently in therapeutic and educational interventions involving youth (see, e.g., Mooney et al. 2005; Briesch and Chafoouleas 2009).

References

- Briesch, A., & Chafoouleas, S. M. (2009). Review and analysis of literature on self-management interventions to promote appropriate classroom behaviors (1988–2008). *School Psychology Quarterly, 24*, 106–118.
- Graziano, W. G., Leone, C., Musser, L. M., & Lautenschlager, G. J. (1987). Self-monitoring in children: A differential approach to social development. *Developmental Psychology, 23*, 571–576.
- Mooney, P., Ryan, J. B., Uhing, B. M., Reid, R., & Epstein, M. H. (2005). A review of self-management interventions targeting academic outcomes for students with emotional and behavioral disorders. *Journal of Behavioral Education, 14*, 203–221.
- Perrine, N. E., & Aloise-Young, P. A. (2004). The role of self-monitoring in adolescents' susceptibility to passive peer pressure. *Personality and Individual Differences, 37*, 1701–1716.

- Snyder, M. (1974). Self-monitoring of expressive behavior. *Journal of Personality and Social Psychology*, 30, 526–537.
- Snyder, M. (1979). Self-monitoring processes. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 12, pp. 85–128). New York: Academic.
- Snyder, M. (1987). *Public appearances/private realities*. San Francisco: WH Freeman.

Self-Perception

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Synonyms

[Self-competence](#); [Self-concept](#); [Self-descriptions](#); [Self-efficacy](#); [Self-esteem](#); [Self-evaluations](#); [Self-worth](#)

Overview

Self-perceptions, or different beliefs we have about ourselves, exert a powerful influence on the kinds of activities we engage in, the amount of effort we will expend on that activity, and the likelihood that we will engage in that activity in the future. Understanding how self-perceptions influence behavioral outcomes, and ultimately contribute to healthy adolescent development, has been a long-standing goal of researchers. Unfortunately, the literature on topics related to self-perception is rife with inconsistency and confusion over the definition and measurement of constructs. The purpose of this entry is to unpack and review different aspects of self-perceptions, and how they are related developmental outcomes. This understanding will allow us to develop interventions and educational programs to intervene when maladaptive patterns in understandings of self are evident.

Self-Perception

Issues around self and self-reflection can be considered one of the major organizing factors of all psychological research. Indeed, the ability to think objectively about ourselves and our actions is what distinguishes humans from other animal species (Leary and Tangney 2003). It is not surprising, then, that there is a vast amount of literature in the social sciences on the topic of self. Nor should it be surprising that, given the myriad approaches and frameworks available, this topic is “bogged down in a conceptual quagmire as muddy as any in the behavioral and social sciences” (Leary and Tangney, p. 6). Not only do some researchers use the same terms differently, others who are talking about the same construct label it differently (Byrne 1996). According to Byrne (1996) part of the problem lies in the fact that because we are talking about something we all know about (the self), researchers often fall short of providing precise, academic definitions.

In addressing self-perceptions, several researchers have gone back to the distinction William James (1890) drew over a century ago. Specifically, he parsed self into the subjective self (I-self) and the objective self (me-self). Essentially, the I-self can be considered the active knower and observer of self, whereas the me-self can be considered the observed object, or as Lewis (1994) suggests, the “idea of me.” The purpose of this entry is to focus on the latter conception of self, namely, the perceptions, descriptions, evaluations, etc., that we have about ourself. Ideally, this entry will synthesize some of the adolescent-based research done in this area, as well as provide a reference for unraveling the conceptual ambiguity around terms.

Definitional Issues

Historically, self-perception was considered a unidimensional construct and was measured by summing or averaging item scores of self-evaluations across several facets or domains of life (Butler and Gasson 2005; Shapka and Keating 2005). However, in 1979 Wylie critiqued this approach by

arguing that simply combining item scores masked the distinctions that individuals make in assessing their unique competencies and the importance of these competencies across different areas of their lives. Indeed, several decades of research have now confirmed the inadequacy of a nomothetic model and provided evidence for a multidimensionality perspective of self-perception (e.g., Byrne 1996; Harter 1999, 2015; Marsh 1990). In fact, since Shavelson et al. (1976) proposed of a multidimensional, hierarchical model of self-concept, most researchers have embraced this approach and moved in this direction (Butler and Gasson 2005; Harter 2015; Marsh 2014).

That said, there continues to be confusion in the literature about the distinction between self-descriptions (e.g., self-concept) and self-evaluations (e.g., self-esteem), as well as the global versus domain-specific nature of these components (Brown 2014). Some self-researchers distinguished between the two by viewing self-concept as the information-based appraisal of different aspects of ourselves or the abilities we have (the description) and self-esteem as the global subjective evaluation (positive or negative) of these appraisals (e.g., “how good I am”) (Brown 2014; Hattie 1992). Attempts have been made by researchers to parse the evaluative component from the descriptive component of domain-specific self-perceptions, for example, by weighing domain-specific perceptions of competency according to the reported amount of importance placed on them (Byrne 1996; Marsh 2014; Shapka and Keating 2003). However, these attempts have been largely unsuccessful, and to date, there has been little empirical evidence for discriminating between the two components (Byrne 1996; Marsh 2014).

Most researchers now recognize that self-descriptions are not valence free and cannot be separated from the evaluative component (e.g., Harter 2003, 2015; Marsh and Hattie 1996; Marsh and O’Mara 2008; Marsh 2014). Indeed, as Kernis and Goldman (2003) aptly state: “. . .most self-representations have an evaluative component to them, as people are especially prone to attach positive and negative values to their self-

aspects” (p. 107). As such, researchers now tend to distinguish between domain-specific and global components of self-perception. From this perspective, self-concept is considered the domain-specific evaluation of competencies (which are both descriptive and evaluative), and self-esteem is the global component representing one’s overall sense of self-worth (Harter 1999; Marsh and O’Mara 2008; Hughes et al. 2011). Stated more concretely, self-concept can be defined as the way in which we assess our competencies across different dimensions of our lives, such as our academic ability, our physical appearance, our athletic ability, and our social skills, and self-esteem is our overall sense of worth as a person (e.g., Harter 1999, 2015; Marsh and Hattie 1996). As described in the next section, models of self-perception that endorse a hierarchical, multidimensional approach seem to have the most relevancy for adolescent development.

Attributes of Self-Perceptions

Perhaps the two most prominent contemporary researchers who examine self-perceptions in children and adolescents, from a multidimensional, hierarchical perspective, are Herbert Marsh and Susan Harter. Although there are unique aspects to Marsh and Harter’s models, there is also much overlap. Specifically, both models have adopted Shavelson’s view that self-perceptions are (1) multidimensional, (2) hierarchical, and (3) become more differentiated with age (Marsh and Hattie 1996). For the purposes of this entry, this last point is notable. Essentially, although it is universally recognized that our self-assessments are compiled through our experiences and social interactions, both Harter and Marsh’s models describe the mechanisms for how this happens. More specifically, one of the central features of both Harter and Marsh’s models is a developmental framework – both theorists recognize that the ways in which we think about ourselves changes across childhood and adolescence. Moreover, both Harter and Marsh have prioritized this by incorporating a developmental perspective in how they measure self-perceptions. Below is a

more detailed description of the three attributes of these models of self-perception as they apply to an adolescent population.

Multidimensional. As noted above, there is consensus in the field that self-perceptions are multidimensional – that children and adolescents have specific self-descriptions for each of the unique environmental contexts in which they find themselves operating within (e.g., Bracken 1992, 1996; Byrne 1996). Harter (1999, 2015) and Marsh (1990, 2014; Marsh and Hattie 1996) have each developed models that identify specific domains of functioning for adolescents. Harter's work has identified nine domains, including scholastic competence, social acceptance, close friendships, romantic relationships, athletic competence, physical appearance, behavioral conduct, job competence, and global self-worth (Harter 1999, 2015). Marsh's model tends to be more specific and detailed than Harter's model and identifies 13 domains of functioning: academic domains (English, mathematics, general school), peer relationships (same sex friendships, opposite sex friendships), physical ability, physical appearance, parental relationships, emotional stability, problem solving/creative thinking, religion/spirituality, and honesty/reliability (Marsh and Hattie 1996; Marsh 2014). It is recognized in the literature that these domains are not mutually exclusive and that they are likely interrelated (Bracken 1996; Hughes et al. 2011). However, psychometric testing and construct validation studies have provided evidence that adolescents do organize their self-perceptions such that they are categorized along discrete domains (Harter 1998, 1999, 2015; Rose et al. 2012).

Hierarchical. In addition to being multidimensional, self-perceptions are hierarchical in nature, with overall self-worth at the apex and the various domains (e.g., cognitive, social, physical appearance) and more specific sub-domains (e.g., academic achievement, close friendships, and athleticism) below it (Marsh and Martin 2011). As described above, self-worth/self-esteem is considered to be global and distinct from these domains and is the most relevant to emotional well-being, but is influenced by the self-evaluations in the subordinate domains (Harter 1999, 2015). For

example, low self-perceptions of one's physical ability might not be detrimental to that person's overall self-worth if they place more value on scholarly abilities than on physical prowess (Harter 1999, 2015).

Extant research has shown that there are commonalities in the influence of certain domains on an individuals' overall self-worth (Shapka and Keating 2005). Specifically, it appears that physical appearance tends to be the most predictive of overall self-worth, which is not surprising given our society's focus on appearances (see Hagger et al. 2010). Social acceptance and scholastic competence are also closely related to a person's evaluation of him- or herself, and as individuals move through adolescence, scholastic competence becomes more important (Shapka and Keating 2003).

Differentiated with Age. A third aspect of the multidimensional, hierarchical model of self-concept is that it becomes increasingly differentiated with age. According to Bracken (1992), domain-specific differentiation likely starts during early childhood, increases significantly throughout adolescence, and continues to develop into adulthood, as the individual continues to experience new environments. Similarly, Crain (1996) suggests that as children get older, they are exposed to a broader range of people and environments; they accumulate new experiences of success and failures and the reactions from other people that permit them to assess their behaviors within each new situation. As noted, Harter and Marsh's models are the only two models that have truly incorporated a developmental perspective, by adjusting their models appropriately for different age groups (e.g., children, adolescents, adults; Marsh and Ayotte 2003; Dusek and Guay McIntyre 2003). For example, in describing self-perceptions for children, Harter (2015) only includes six domains of functioning, whereas, for adolescents, there are nine domains (the additional domains are romantic relationships, job competence, and close friendships).

According to Harter (2015), the developmental changes in self-perceptions can be interpreted using a Piagetian framework. For example, the finding that the young child is more likely to describe him- or herself in terms of concrete,

observable characteristics (such as “I have two dolls” or “I have brown eyes”) is congruent with the cognitive abilities and limitations of the pre-operational stage. Similarly, the older child describing him- or herself in terms of traits (such as being smart, honest, or helpful) requires hierarchical organizational skills that surfaces during the concrete operation stage. With regard to adolescent development, the emergence of the formal operation stage and the capacity to think in an abstract fashion allow adolescents to hold complex views about themselves – for example, recognizing that they could simultaneously be intelligent and an “airhead” (Harter 2003).

Although a Piagetian theory provides a framework for understanding the development of self-perceptions, it is recognized that this theoretical perspective focuses primarily on cognitive changes and therefore does not do justice to the complexity of self-development. Theorists from the information-processing perspective, neo-Piagetian, and social constructivist emphasize that the development of self is also influenced by social and contextual factors (see Case 1992; Rogoff 1990). To this end, children’s family environment, culture, and social setting help dictate what features of the events and objects are most relevant to their self-theories (Harter 2003). In addition, work in the field of neuroscience has shown that there is heightened neural plasticity during adolescents (Fuhrmann et al. 2015) and that neural areas pertinent to processing self-related information continue to develop at least until an individual is at least 20 years old (Sebastian et al. 2008). Indeed, several neuroimaging studies have shown differences in self-related processing between adolescents and adults (Blakemore et al. 2007) and have argued that changes in self-evaluations are connected with biological maturation, and not just social or other contextual factors (Pfeifer et al. 2013).

Development of Self-Perceptions During Adolescence

Early Adolescence. In early adolescence (ages 12–14), interpersonal relations and the

concomitant social skills that influence one’s interaction with others become highly salient (Smetana and Villalobos 2009). With this comes the recognition that selves vary according to the social context. Although advancement in cognitive development leads to greater differentiation in different relational contexts, the differentiation is compartmentalized and the adolescent is still only capable of thinking of each trait as an isolated characteristic of the self (Harter 1999, 2015). Furthermore, the ability to apply and integrate hypothetic-deductive thinking to one’s self-system is not fully developed. These cognitive limitations result in all-or-nothing thinking which can be unrealistic at times, for example, feeling very intelligent at some moments, but at another point very dumb.

Middle Adolescence. As adolescents move into middle adolescence (ages 15–16), self-descriptors become less compartmentalized. As such, middle adolescence is characterized by a preoccupation with discrepancies between the real and ideal self, as well as a concern over what significant others think of the self. Also referred to as the looking-glass self, an increasing awareness of others’ perspectives may provide additional information from which to construct one’s self-concept. That said, due to further advances in cognitive processes, adolescents are increasingly able to integrate self-representations with these opposing views, confusions, and conflicts (Harter 1999, 2015). As noted above, however, neural imaging has confirmed that self-related information is processed uniquely from adults (Sebastian et al. 2008).

Late Adolescence. By late adolescence, adolescents are cognitively able to integrate abstract ideas, which afford them the capacity to develop an integrated sense of self. They are also able to integrate and internalize society’s standards, beliefs, and values. In addition, they are focused on the future, which gives them a sense of purpose and direction and further facilitates the integration process. Much of the conflicts and confusions of earlier stages are resolved due to this ability to construct higher order abstractions (Nurmi 2004), and adolescents are now fully capable of thinking of the self as being flexible and adaptive

depending on the social context and relation (Harter 1999, 2015).

Patterns of Change Across Adolescence

In addition to understanding how the structure and complexity of self-perceptions develop, there is also a burgeoning body of literature which explores the patterns of gains and losses in different domains of self-perception over the course of adolescence, as well as how these patterns are influenced by gender and other factors (e.g., Cole et al. 2001; Kuzucu et al. 2014; Shapka and Keating 2003). Although self-researchers have postulated that self-perceptions become more stable with age and tend to increasingly reflect reality (Crain 1996; Shavelson et al. 1976; Wylie 1979), the historically prevailing view of adolescent development as an intense period of storm and stress leads many theorists to make assumptions about the instability of self-perceptions during adolescence. In general, it was felt that adolescents were susceptible to dramatic and incapacitating changes in how they viewed themselves (Crain 1996). However, more contemporary views about the changes occurring during adolescent development suggest that it is not as turbulent as originally thought – that the majority of adolescents weather the developmental changes without very much upheaval (Arnett 1999). As such, the view of how self-perceptions change has also been moderated, and this shift has been supported by several longitudinal studies (e.g., Huang 2010; Kuzucu et al. 2014). It is now recognized that during adolescence, the changes in self-perceptions appear to evolve very gradually, in small increments (Crain 1996; Kuzucu et al. 2014).

According to Adams et al. (1994), however, self-perceptions are likely to be least stable during early adolescence, due to the psychosocial impact of substantial bodily changes brought about by puberty. In support for this, it does appear that self-perceptions in most domains of functioning drop during early adolescence, but then very slowly recover through late adolescence, in a U-shaped fashion (Crain 1996; Harter 1998; Shapka and Keating 2005; Marsh et al. 2015).

Other researchers have argued that this U-shaped pattern is due to the negative emotional impact of transitioning to bigger, more formal education environments. Dubbed the “big-fish-little-pond effect” (Marsh 1987), the argument is that self-perceptions are negatively impacted when a person’s reference group becomes bigger and more competent (Preckel and Brüll 2010).

Gender. In looking at gender differences in self-perception, it is important to keep in mind that, in general, as with many gender differences, there is greater variance within-gender than between-gender. Much of the work that has explored gender differences in self-perceptions has found that any differences that do exist tend to be along gender stereotypical lines, with boys having higher perceptions of themselves in the domains of physical appearance and abilities (Crain 1996; Harter 1999; Wilgenbusch and Merrell 1999; Jackson et al. 2011; Kuzucu et al. 2014) and girls having higher perceptions of their social acceptance and close friendships (Shapka and Keating 2005; Wilgenbusch and Merrell 1999). Many of these gender differences exist in early childhood (Cole et al. 2001) and are surprisingly stable over time, although in a meta-analysis by Wilgenbusch and Merrell (1999), they showed that girls lowered perceptions of their physical appearance become more prominent during adolescence – likely the result of pubertal changes and a focus on appearance in the media. Regarding perceptions of global self-esteem and self-worth, most studies find no gender disparities (Crain 1996; Harter 2015; Wylie 1979).

Culture. Historically, much of the research looking at culture has focused on identifying differences in global self-worth scores (self-esteem) and has focused on racial differences in North America (Crain 1996). Two meta-analyses have concluded that African-American youth score higher on measures of self-esteem than White youth (Gray-Little and Hafdahl 2000; Twenge and Crocker 2002), and regarding other ethnicities, work has found that Asians report the lowest level of self-esteem (Schmitt and Allik 2005; Twenge and Crocker 2002), with Latinos falling between Whites and Asians (Twenge and Crocker 2002). Still other work has shown that

Arab-Americans have lower self-esteem (Kovach and Hillman 2002; Tabbah et al. 2012) than African-Americans or European-Americans.

In trying to understand these ethnic differences, Bachman et al. (2011) argue that some of these differences can be attributed to socialization differences. For example, African-Americans tend to be socialized to express pride, whereas Asians tend to value the expression of humility. In addition, researchers have found evidence that self-esteem is negatively influenced by experiences of discrimination (Kovach and Hillman 2002; Tabbah et al. 2012; Twenge and Crocker 2002). For example, Tabbah et al. (2012) investigated Arab-American students' self-esteem (as well as two domains of self-concept) and found them to be positively related to perceived peer support and belonging. Related to this, work is emerging showing that having a strong cultural identity is positively linked to self-esteem (Abdukeram et al. 2015; Tabbah et al. 2012; Osborne and Taylor 2010), as well as self-concept clarity (Osborne and Taylor 2010).

Although there is some work emerging in this important area, more work is needed to explore how culture influences the development and expression of an individual's (or society's) self-concept. Ultimately, humans are fundamentally embedded in culture and society, and according to Joerchel (2007), construction of self-perception relies heavily on this environment. In a world of global immigration and changing societal norm, ignoring the role of culture will leave us less informed about this construct, and our studies will likely be biased.

Causes and Correlates of Self-Perceptions

In addition to understanding how self-perceptions change across the life span, clinicians and researchers alike have long been interested in explicating the role that self-perceptions play in well-being (Butler and Gasson 2005; Palacios et al. 2015). A core tenet guiding much of this work is the notion that having a positive sense of self is critical for healthy, adaptive

functioning – that if we feel better about ourselves, we will function at a higher level and be more successful (Haney and Durlak 1998). Understanding the impact of self-perceptions for adolescents is particularly important given the amplified focus on self-exploration and growth during this developmental period (Dusek and Guay McIntyre 2003). More specifically, the gains afforded by adolescents in abstract and complex reasoning (Flavell et al. 2002) equip them with the ability to approach one of the major developmental tasks of adolescence, namely, to begin to answer the question of “Who am I,” of which a major part is an understanding of self.

Much research has focused on understanding the specific role self-perceptions play in maladaptive behavior (e.g., Marsh et al. 2004). To this end, self-perceptions have been linked to various aspects of well-being. For example, self-concept and sense of self-worth have been implicated in predicting externalizing and internalizing problems (Lee and Stone 2012; Ybrandt 2008) such as depression (e.g., Harter 2015) and anxiety (e.g., Orth et al. 2008; Pyszczynski et al. 2004), as well as antisocial and delinquent behavior (e.g., Leve 1997; Trzesniewski et al. 2006) and poorer job prospects (Trzesniewski et al. 2006). A large body of work has also linked conceptions of self with educational outcomes. For example, a great deal of work has linked both low self-worth (for a review, see Dusek and Guay McIntyre 2003) and low academic self-concept with poorer school achievement (e.g., Byrne 1996; Marsh and Craven 2006; Shapka and Keating 2003).

It is important to recognize, however, that self-perceptions and behaviors influence each other in reciprocal fashion (Marsh and Craven 2006). In other words, self-perceptions influence the way we act, and our actions in turn influence our self-perceptions (Marsh and O'Mara 2008). For example, research has shown that self-concept and academic achievement reciprocally influence each other over time (Marsh and Martin 2011; for a review, see Huang 2011). As such, it is recognized that self-concept is an aspect of mental health and has been investigated as an outcome in its own right (Marsh and O'Mara 2008; Winters et al. 2002). For example, work has explored the

direct and indirect impact on self-perceptions (both domain-specific and global self-worth) of such things as peer victimization (Callaghan and Joseph 1999), depression (Cole et al. 1997), attention-deficit/hyperactivity disorder (ADHD; Foley-Nicpon et al. 2012; Houck et al. 2011), weight gain and thin-ideal internalization (O’Dea 2006; Vartanian and Dey 2013; Zimetkin et al. 2004), exposure to sexually explicit Internet material (Owens et al. 2012), and socioeconomic status (Twenge and Campbell 2002), as well as more positive influences such as physical activity (for a review, see Babic et al. 2014; Strong et al. 2005) and extracurricular activities (Blomfield and Barber 2011; Kort-Butler and Hagewen 2011).

In general, it appears that self-perceptions are related to several markers of healthy development in a reciprocal fashion (Marsh and Craven 2006), suggesting that it is important to understand how they function both as a predictor and an outcome. With this in mind, much work has also looked at the effectiveness of interventions that are focused on improving self-esteem. In a review of studies that were focused on changing self-perceptions in children and adolescents, Haney and Durlak (1998) found that programs directly focused on improving self-esteem were more effective than programs where self-perceptions gains were only a secondary goal, with the primary focus being something else, such as behavioral change. They also noted that self-esteem/self-concept improvements did moderate adjustment in other areas, such as risk behaviors and mental health. This is compatible with Huang (2011), who argues that for academic outcomes, interventions that target both self-perceptions and skills are the most effective.

Self-Perception in an Online World

As noted above, as part of normative development, adolescents go through a process that involves the identification and integration of a set of beliefs and values into an internalized cohesive sense of self. The primary source of information for this task is received via social interactions with peer groups (Harter 2015). As we move into

a digital age, much of this is happening in an online context (Boyd 2014), and in particular on social network sites (Corey, Blomfield and Barber 2014). Initially, as the Internet became more prolific in adolescents’ lives, it was theorized that the anonymous and detached nature of online socializing might negatively impact the development of a unified, consistent view of self (Turkle 2005). However, research in this area by Valkenburg and Peter (2009) has shown that online socializing does not impact self-concept unity. Furthermore, several studies have shown that online socializing is linked to higher reported levels of self-esteem (Khan et al. 2016; Wilcox and Stephen 2012), as well as higher perceptions of social self-concept (Blomfield Neira and Barber 2014; Valkenburg et al. 2006).

Other work, however, has looked at the role that compulsive or problematic Internet use and found that when Internet use becomes addictive or the adolescent is heavily invested in their online world, both self-esteem (Blomfield Neira and Barber 2014; Leménager et al. 2013; Widyanto and Griffiths 2012) and self-concept clarity do appear to be negatively impacted (Israeashvili et al. 2012; Quinones and Kakabadse 2015). Related to this, work is also showing that being involved in or the victim of cyberbullying is linked to lowered levels of self-esteem (Brighi et al. 2012; Brewer and Kerslake 2015; Patchin and Hinduja 2010). In addition, Bickham et al. 2014 found that adolescents who sought out sexually explicit Internet behaviors were at an increased risk for developing negative body and sexual self-perceptions. In general, it appears that being online is not necessarily maladaptive for adolescents; however, when adolescents become obsessed with their online worlds, or engage in risky behaviors online, their perceptions of self may be impacted.

Methods and Measures

Measuring self-perceptions, given their subjective nature, has traditionally used self-report methodology (Butler and Gasson 2005). Although this is likely the best way to get at self-perceptions, it

does make response biases, such as social desirability, an issue (Butler and Gasson 2005). The instrument usually involves having participants decide, on a Likert scale, how true (or false) a given statement is about them (Dusek and Guay McIntyre 2003). Alternatively, participants are requested to choose between two bipolar statements (Dusek and Guay McIntyre 2003).

Despite there being over 200 existing measures that examine children and adolescent self-perceptions, many of these are not credible as they were developed for a specific research study and therefore lack a theoretical framework (Butler and Gasson 2005). Moreover, most were never replicated or examined for their psychometric properties (Byrne 1996; Keith and Bracken 1996; Marsh and Hattie 1996). Unfortunately, this proliferation of potentially unsound measures precludes the field from being consistent in terminology and likely contributes to instances of mixed findings in the literature (Byrne 1996). Furthermore, almost all of the measures (psychometrically sound or not) are of Western origin, where individuality and self as independent from others is highlighted. Unfortunately, this may contribute to invalid findings when these instruments are used with cultures that view self as in relation to others and interdependent (Butler and Gasson 2005).

Another important aspect that is often not factored into most measures of self-perceptions is a developmental perspective. As articulated above, self-perceptions become increasingly differentiated and more complex with age. As such, a “one size fits all” measure is not likely to be valid. As noted above, the models postulated by both Harter (e.g., 1999, 2015) and Marsh (e.g., 1990) have incorporated a developmental approach. In creating their measures of self-concept, they have created different measures for different age ranges. For example, Marsh’s series of self-description questionnaires (SDQ) involves three different instruments: SDQ I for primary-aged schoolchildren, SDQ II for secondary-aged schoolchildren, and SDQ III for adults. Similarly, Harter has developed separate self-perception profiles for children, adolescents, college-aged students, and the elderly. Both Harter (1999,

2015) and Marsh (Marsh and Hattie 1996) have provided good evidence that the scales they have developed for each age group measure equivalent constructs (Harter 1999, 2015; Marsh and Hattie 1996).

Although both Harter and Marsh offer scales that encompass the evaluative, descriptive, global, and domain-specific aspects of self-perception (Marsh and Hattie 1996; Harter 1999, 2015), there are other stand-alone measures that measure different aspects of self-perceptions or self-perceptions in specific domains of functioning. For example, Rosenberg’s Self-Esteem Scale, which is a short scale that solely looks at global self-worth (Bagley and Mallick 2001; Rosenberg 1965, 1979). Although most self-perception scales were developed for use with normal populations, some claim to be appropriate for clinical populations as well (e.g., Tennessee Self-Concept Scale; Byrne 1996). In general, when choosing a measure of self-perception, it is important to be conceptually and theoretically clear about the intended use of that measure. For example, it is important to recognize that different measures of self-perception measure theoretically and psychometrically different aspects of the self-structure, that the domains of functioning that are explored differ according to the instrument in question, and that different measures are appropriate for different ages, have been validated on different populations, vary in how recently the psychometric properties have been explored, and vary in the length of the instrument (Butler and Gasson 2005). Fortunately, as guidance, there are several more recent (Butler and Gasson 2005; Winters et al. 2002) and older reviews (e.g., Marsh and Hattie 1996) that exist which summarize the more popular and psychometrically sound measures, as well as discuss the strengths and weaknesses of each.

Future Directions

Going forward, it is important for researchers to continue to be diligent at providing clear operationalization of any self-related terms at the outset of any research programs, especially if the study

of self-perception is a central component of the work (Harter 2015). There is consistency emerging about the different aspects of the self-structure, but there continues to be a tendency for some researchers to use domain-specific (e.g., self-concept) and global (e.g., self-esteem) terms interchangeably (Brown 2014). As such, continued clarification of terms is important. Related to this, Harter (2015) argues that researchers should be approaching questions of self from a theoretical perspective, and not a “let’s see what we get.” According to her, many researchers include a multidimensional measure of self-concept as an addition, with no a priori sense of how it will be relevant. To move the field forward, Harter encourages a more planful, theory-based approach. As part of this, given that work is emerging showing that self-concept is reciprocally related to many outcomes, a priori identification of whether self-concept functions as a predictor or outcome is important.

A gap that continues to exist in the literature is an understanding of how specific domains of self-perception influence behavioral outcomes. There is a plethora of research linking global measures of self-worth to risk behaviors in adolescents, as well as studies which link perceptions in a specific domain with how one functions in that domain (e.g., it is known that scholastic competence is linked to academic achievement and perseverance; Eccles 2004). However, there is a lack of understanding about the relationship between specific domains and risk behaviors. For example, it is plausible that individuals who perceive of themselves as highly competent athletes are likely less inclined to experiment with smoking or inhaled drugs. Conversely, it is known that obesity is linked to lowered evaluations of physical appearance, but it would be interesting to know what the direct and indirect effects are on risk behaviors (e.g., engagement in smoking to lose weight).

Regarding cultural issues, although there is a growing body of work in this area, there continue to be gaps in our understanding of ethnic differences, including the role of potential mediators such as discrimination. An important part of future cross-cultural work requires the validation of both the measurement and structure of existing

self-concept models. More specifically, we need to move beyond translations of existing measures and develop culturally specific measures that take into account such considerations as being part of a collective vs individualistic culture (Kitayama et al. 2000). For example, it is likely that in Western culture, where autonomy and individuality are highlighted, dimensions of the self that are most salient are those related to physical attributes and academic success. In contrast, in non-Western societies, the self, as it is in relation to others, is likely to be most central to one’s self-perceptions.

Finally, we need to continue to explore how emerging digital technologies may be directly or indirectly influencing the development of self-perceptions. Initial concerns about the impact on self-development from online socializing have not borne out (Valkenburg and Peter 2007); however, work is beginning to show the negative impact of compulsive Internet use on self-esteem (Blomfield Neira and Barber 2014), as well as the consequences to physical self-concept (e.g., body image) from exposure to sexually explicit material (Bickham et al. 2014). Future work needs to continue to explore these issues.

In conclusion, self-perceptions continue to be an important construct for understanding adolescent developmental well-being. It is known that lowered perceptions of self-worth are linked to a whole host of maladaptive outcomes (Emler 2001) and that high perceptions of self act as protective factors (Harter 2015). Continuing to collect longitudinal data to identify the causes and correlates of how the self-systems change during adolescence to harness the benefits of high self-regard will help mitigate the damage from maladaptive perceptions of self.

References

- Abdukeram, Z., Mamat, M., Luo, W., & Wu, Y. (2015). Influence of culture on tripartite self-concept development in adolescence: A comparison between Han and Uyghur cultures. *Psychological Reports, 116*(1), 292. <https://doi.org/10.2466/17.07.PR0.116k12w8>.
- Adams, G. R., Gullotta, T. P., & Markstrom-Adams, C. (1994). *Adolescent life experiences* (3rd ed.). Pacific Grove: Brooks/Cole.

- Arnett, J. J. (1999). Adolescent storm and stress, reconsidered. *American Psychologist*, *54*, 317–326.
- Ashmore, R. D., Deaux, K., & McLaughlin-Volpe, T. (2004). An organizational framework for collective identity: Articulation and significance of multidimensionality. *Psychological Bulletin*, *130*, 80–114.
- Babic, M. J., Morgan, P. J., Plotnikoff, R. C., Lonsdale, C., White, R. L., & Lubans, D. R. (2014). Physical activity and physical self-concept in youth: Systematic review and meta-analysis. *Sports Medicine*, *44*(11), 1589–1601. <https://doi.org/10.1007/s40279-014-0229-z>.
- Bachman, J. G., O'Malley, P. M., Freedman-Doan, P., Trzesniewski, K. H., & Donnellan, M. B. (2011). Adolescent self-esteem: Differences by race/ethnicity, gender, and age. *Self and Identity*, *10*(4), 445–473. <https://doi.org/10.1080/15298861003794538>.
- Bagley, C., & Mallick, K. (2001). Normative data and mental health construct validity for the Rosenberg's self-esteem scale in British adolescents. *International Journal of Adolescence and Youth*, *9*, 117–126.
- Bickham, D. S., Vanwesenbeeck, W. M. A., Doornwaard, S., ter Bogt, T., van den Eijnden, R., & Rich, M. (2014). Sex-related online behaviors and adolescents' body and sexual self-perceptions. *Pediatrics*, *134*(6), 1103.
- Blakemore, S. J., den Ouden, H., Choudhury, S., & Frith, C. (2007). Adolescent development of the neural circuitry for thinking about intentions. *Social Cognition and Affective Neuroscience*, *2*, 130–139.
- Blomfield, C. J., & Barber, B. L. (2011). Developmental experiences during extracurricular activities and Australian adolescents' self-concept: Particularly important for youth from disadvantaged schools. *Journal of Youth and Adolescence*, *40*, 582–594.
- Blomfield Neira, C. J., & Barber, B. L. (2014). Social networking site use: Linked to adolescents' social self-concept, self-esteem, and depressed mood. *Australian Journal of Psychology*, *66*(1), 56–64. <https://doi.org/10.1111/ajpy.12034>.
- Boyd, D. (2014). *It's Complicated: The Social Lives of Networked Teens*. New Haven: Yale University Press.
- Bracken, B. A. (1992). *Multidimensional SELF-concept scale: Examiner's manual*. Austin TX: ProEd.
- Bracken, M. R. (1996). Clinical applications of a context-dependent multidimensional model of self-concept. In B. A. Bracken (Ed.), *Handbook of self-concept: Developmental, social, and clinical considerations* (pp. 395–420). New York: Wiley.
- Brewer, G., & Kerslake, J. (2015). Cyberbullying, self-esteem, empathy and loneliness. *Computers in Human Behavior*, *48*, 255–260.
- Brighi, A., Melotti, G., Guarini, A., Genta, M. L., Ortega, R., Mora-Merchán, J., Smith, P. K., & Thompson, F. (2012). Self-esteem and loneliness in relation to cyberbullying in three European countries. In Q. Li, D. Croos, & P. K. Smith (Eds.), *Cyberbullying in the global playground: Research from international perspectives* (pp. 32–56). New York: Wiley.
- Brown, J. D. (2014). Self-esteem and self-evaluation: Feeling is believing. In *Psychological perspectives on the self* (Vol. 4, pp. 27–58). New York: Psychology Press.
- Butler, R. J., & Gasson, S. L. (2005). Self-esteem/self-concept scales for children and adolescents: A review. *Child and Adolescent Mental Health*, *10*, 190–201.
- Byrne, B. M. (1996). *Measuring self-concept across the life span: Issues and instrumentation*. Washington, DC: APA.
- Callaghan, S., & Joseph, S. (1999). Self-concept and peer victimization among school children. *Personality and Individual Differences*, *18*, 161–163.
- Case, R. (1992). *The mind's staircase*. Hillsdale: Erlbaum.
- Cole, D. A., Martin, J. M., & Powers, B. (1997). A competency-based model of child depression: A longitudinal study of peer, parent, teacher, and self-evaluations. *The Journal of Child Psychology and Psychiatry*, *38*, 505–514.
- Cole, D. A., Maxwell, S. E., Martin, J. M., Lachlan, G. P., Seroczynski, A. D., Tram, J. M., et al. (2001). The development of multiple domains of child and adolescent self-concept: A cohort sequential longitudinal design. *Child Development*, *72*, 1723–1746. New York: Wiley.
- Craig, S. L., McInroy, L. B., McCready, L. T., Di Cesare, D. M., & Pettaway, L. D. (2015). Connecting without fear: Clinical implications of the consumption of information and communication technologies by sexual minority youth and young adults. *Clinical Social Work*, *43*, 159–168. <https://doi.org/10.1007/s10615-014-0505-2>.
- Crain, M. R. (1996). The influence of age, race, and gender on child and adolescent multidimensional self-concept. In B. A. Bracken (Ed.), *Handbook of self-concept: Developmental, social, and clinical considerations* (pp. 395–420). New York: Wiley.
- Dusek, J. B., & Guay McIntyre, J. (2003). Self-concept and self-esteem development. In G. R. Adams & M. D. Berzonsky (Eds.), *Blackwell handbook of adolescence* (pp. 290–310). Malden: Blackwell.
- Eccles, J. E. (2004). Schools, academic motivation, and stage-environment fit. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent development* (pp. 125–153). Hoboken: Wiley.
- Emler, N. (2001). *Self-esteem: The costs and causes of low self worth*. York: Joseph Rowntree Foundation/York Publishing Services Ltd.
- Fioravanti, G. (2012). Adolescent Internet addiction: Testing the association between self-esteem, the perception of Internet attributes, and preference for online social interactions. *Cyberpsychology, Behavior and Social Networking*, *5*(6), 318. <https://doi.org/10.1089/cyber.2011.0358>.
- Flavell, J. H., Miller, P. H., & Miller, S. A. (2002). *Cognitive development* (4th ed.). Upper Saddle River: Prentice Hall. Chapter 8.
- Foley-Nicpon, M., Rickels, H., Assouline, S. G., & Richards, A. (2012). Self-esteem and self-concept examination among gifted students with ADHD. *Journal for the Education of the Gifted*, *35*(3), 220–240. <https://doi.org/10.1177/0162353212451735>.
- Fuhrmann, D., Knoll, L. J., & Blakemore, S. J. (2015). Adolescence as a sensitive period of brain

- development. *Trends in Cognitive Science*, 19, 558–566. <https://doi.org/10.1016/j.tics.2015.07.008>.
- Goodson, P., Buih, E. R., & Dunsmore, S. C. (2006). Self-esteem and adolescent sexual behaviors, attitudes, and intentions: A systematic review. *Journal of Adolescent Health*, 38, 310–319.
- Gray-Little, B., & Hafdahl, A. R. (2000). Factors influencing racial comparisons of self-esteem: A quantitative review. *Psychological Bulletin*, 126, 26–54.
- Hagger, M. S., Stevenson, A., Nikos, L. D. C., Gaspar, P. M. P., Ferreira, J. P. L., & Ravé, J. M. G. (2010). Physical self-concept and social physique anxiety: Invariance across culture, gender and age. *Stress and Health*, 26(4), 304.
- Haney, P., & Durlak, J. A. (1998). Changing self-esteem in children and adolescents: A meta-analytic review. *Journal of Clinical Child Psychology*, 27, 423–433.
- Harter, S. (1996). Historical roots of contemporary issues involving self-concept. In B. A. Bracken's (Ed.), *Handbook of self-concept: Developmental, social, and clinical considerations* (pp. 1–37). New York: Wiley.
- Harter, S. (1998). The development of self-representations. In N. Eisenberg & W. Damon (Eds.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 102–132). New York: Wiley.
- Harter, S. (1999). *The construction of the self: A developmental perspective*. New York: Guilford.
- Harter, S. (2003). The development of self-representations during childhood and adolescence. In M. R. Leary & J. P. Tangney (Eds.), *Handbook of self and identity* (pp. 610–642). New York: Guilford.
- Harter, S. (2015). *The construction of the self: Developmental and sociocultural foundations* (2nd ed.). New York: Guilford.
- Hattie, J. (1992). *Self-concept*. Hillsdale: Lawrence Erlbaum.
- Houck, G., Kendall, J., Miller, A., Morrell, P., & Wiebe, G. (2011). Self-concept in children and adolescents with attention deficit hyperactivity disorder. *Journal of Pediatric Nursing*, 26(3), 239–247. <https://doi.org/10.1016/j.pedn.2010.02.004>.
- Huang, C. (2010). Mean-level change in self-esteem from childhood through adulthood: Meta-analysis of longitudinal studies. *Review of General Psychology*, 14(3), 251–260. <https://doi.org/10.1037/a0020543>.
- Huang, C. (2011). Self-concept and academic achievement: A meta-analysis of longitudinal relations. *Journal of School Psychology*, 49(5), 505–528. <https://doi.org/10.1016/j.jsp.2011.07.001>.
- Hughes, A., Galbraith, D., & White, D. (2011). Perceived competence: A common core for self-efficacy and self-concept? *Journal of Personality Assessment*, 93(3), 278–289. <https://doi.org/10.1080/00223891.2011.559390>.
- Israelashvili, M., Kim, T., & Bukobza, G. (2012). Adolescents' over-use of the cyber world – Internet addiction or identity exploration? *Journal of Adolescence*, 35(2), 417–424. <https://doi.org/10.1016/j.adolescence.2011.07.015>.
- Jackson, L. A., von Eye, A., Fitzgerald, H. E., Witt, E. A., & Zhao, Y. (2011). Internet use, videogame playing and cell phone use as predictors of children's body mass index (BMI), body weight, academic performance, and social and overall self-esteem. *Computers in Human Behavior*, 27(1), 599–604. <https://doi.org/10.1016/j.chb.2010.10.019>.
- James, W. (1890). *Principles of psychology*. Chicago: Encyclopedia Britannica.
- Joerchel, A. C. (2007). A dance between the general and the specific: Implications for the self concept. *Integrative Psychological and Behavioral Science*, 41, 254–261.
- Keith, L. K., & Bracken, B. A. (1996). Self-concept instrumentation: A historical and evaluative review. In B. A. Bracken (Ed.), *Handbook of self-concept: Developmental, social, and clinical considerations* (pp. 91–170). New York: Wiley.
- Kernis, M. H., & Goldman, B. M. (2003). Stability and variability in self-concept and self-esteem. In M. R. Leary & J. P. Tangney (Eds.), *Handbook of self and identity* (pp. 106–127). New York: Guilford.
- Khan, S., Gagne, M., Yang, L., & Shapka, J. (2016). Exploring the relationship between adolescent's self-concept and their offline and online social worlds. *Computers in Human Behavior*, 55, 940–945. <https://doi.org/10.1016/j.chb.2015.09.046>.
- Kitayama, S., Markus, H. R., & Kurokawa, M. (2000). Culture, emotion, and well-being: Good feelings in Japan and the United States. *Cognition & Emotion*, 14, 93–124.
- Kort-Butler, L. A., & Hagemen, K. J. (2011). School-based extracurricular activity involvement and adolescent self-esteem: A growth-curve analysis. *Journal of Youth and Adolescence*, 40(5), 568–581. <https://doi.org/10.1007/s10964-010-9551-4>.
- Kovach, B. S., & Hillman, S. B. (2002). African and Arab American achievement motivation: Effects of minority membership. Paper presented at the Annual Conference of the American Psychological Association, Chicago. (ERIC Document Reproduction Service No.ED472929).
- Kuzucu, Y., Bontempo, D. E., Hofer, S. M., Stallings, M. C., & Piccinin, A. M. (2014). Developmental change and time-specific variation in global and specific aspects of self-concept in adolescence and association with depressive symptoms. *The Journal of Early Adolescence*, 34(5), 638–666. <https://doi.org/10.1177/0272431613507498>.
- Leary, M. R., & MacDonald, G. (2003). Individual differences in self-esteem: A review and theoretical integration. In M. R. Leary & J. P. Tangney (Eds.), *Handbook of self and identity* (pp. 401–420). New York: Guilford.
- Leary, M. R., & Tangney, J. P. (2003). The self as an organizing construct in the behavioral and social sciences. In M. R. Leary & J. P. Tangney (Eds.), *Handbook of self and identity* (pp. 3–14). New York: Guilford.
- Lee, E. J., & Stone, S. I. (2012). Co-occurring internalizing and externalizing behavioural problems: The mediating effect of negative self-concept. *Journal of Youth and Adolescence*, 41, 717–731.

- Leménager, T., Gwodz, A., Richter, A., Reinhard, I., Kämmerer, N., Sell, M., & Mann, K. (2013). Self-concept deficits in massively multiplayer online role-playing games addiction. *European Addiction Research, 19*(5), 227.
- Leve, K. St. C. (1997). The contribution of self-concept in the etiology of adolescent delinquent behaviors. *Adolescence, 32*, 23–45.
- Lewis, M. (1994). Myself and me. In S. T. Parker, R. W. Mitchell, & M. L. Boccia (Eds.), *Self-awareness in animals and humans: Developmental perspectives* (pp. 20–34). New York: Cambridge University Press.
- Marsh, H. W. (1987). The big-fish-little-pond effect on academic self-concept. *Journal of Educational Psychology, 79*, 280–295.
- Marsh, H. W. (1990). A multidimensional, hierarchical self-concept: Theoretical and empirical justification. *Educational Psychology Review, 2*, 77–171.
- Marsh, H. W. (2014). Academic self-concept: Theory, measurement, and research. In *Psychological perspectives on the self, volume 4: The self in social perspective* (p. 59). Vol 4, New York, Psychology Press.
- Marsh, H. W., & Ayotte, V. (2003). Do multiple dimensions of self-concept become more differentiated with age? The differential distinctiveness hypothesis. *Journal of Educational Psychology, 95*, 687–706.
- Marsh, H. W., & Craven, R. G. (2006). Reciprocal effects of self-concept and achievement: Competing multidimensional and unidimensional perspectives. *Perspectives on Psychological Science, 1*, 133–193.
- Marsh, H. W., & Hattie, J. (1996). Theoretical perspectives on the structure of self-concept. In B. A. Bracken (Ed.), *Handbook of self-concept: Developmental, social, and clinical considerations* (pp. 38–90). New York: Wiley.
- Marsh, H. W., & Martin, A. J. (2011). Academic self-concept and academic achievement: Relations and causal ordering. *British Journal of Educational Psychology, 81*, 59–77. <https://doi.org/10.1348/000709910X503501>.
- Marsh, H. W., & O'Mara, A. (2008). Reciprocal effects between academic self-concept, self-esteem, achievement, and attainment over seven adolescent years: Unidimensional and multidimensional perspectives on self-concept. *Personality and Social Psychological Bulletin, 34*, 542–552.
- Marsh, W. W., & Shavelson, R. J. (1985). Self-concept: Its multifaceted, hierarchical structure. *Educational Psychologist, 20*, 107–125.
- Marsh, H. W., Parada, R. H., & Ayotte, V. (2004). A multidimensional perspective of relations between self-concept (Self Description Questionnaire II) and adolescent mental health (Youth Self Report). *Psychological Assessment, 16*, 27–41.
- Marsh, H. W., Morin, A. J., Parker, P. D., & Institute for Positive Psychology and Education, Australian Catholic University, Strathfield, NSW, Australia. (2015). Physical self-concept changes in a selective sport high school: A longitudinal cohort-sequence analysis of the big-fish-little-pond effect. *Journal of Sport & Exercise Psychology, 37*(2), 150–163. <https://doi.org/10.1123/jsep.2014-0224>.
- Nurmi, J. (2004). Socialization and self development. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent development* (pp. 85–124). Hoboken: Wiley.
- O'Dea, J. A. (2006). Self-concept, self-esteem and body weight in adolescent females. *Journal of Health Psychology, 11*, 599–611.
- Orth, U., Rubias, R. W., & Roberts, B. W. (2008). Low self-esteem prospectively predicts depression in adolescence and young adulthood. *Journal of Personality and Social Psychology, 95*, 695–708.
- Owens, E. W., Behun, R. J., Manning, J. C., & Reid, R. C. (2012). The impact of internet pornography on adolescents: A review of the research. *Sexual Addiction & Compulsivity, 19*, 99–122.
- Palacios, E. G., Echanic, I. E., Fernandez, A. R., & de Baroon, I. C. (2015). Personal self-concept and satisfaction with life in adolescence, youth and adulthood. *Psicothema, 27*, 52–58. <https://doi.org/10.7334/psicothema2014.105>.
- Patchin, J. W., & Hinduja, S. (2010). Cyberbullying and self-esteem. *Journal of School Health, 80*, 614–621.
- Pfeifer, J. H., et al. (2007). 'I know you are but what am I?!': Neural bases of self- and social knowledge retrieval in children and adults. *Journal Cognitive Neuroscience, 19*, 1323–1337.
- Pfeifer, J. H., Kahn, L. E., Merchant, J. S., Peake, S. J., Veroude, K., Masten, C. I., et al. (2013). Longitudinal changes in the neural bases of adolescent social self-evaluations: Effects of age and pubertal development. *Journal of Neuroscience, 33*, 7415–7419.
- Preckel, F., & Brüll, M. (2010). The benefit of being a big fish in a big pond: Contrast and assimilation effects on academic self-concept. *Learning and Individual Differences, 20*(5), 522–531. <https://doi.org/10.1016/j.lindif.2009.12.007>.
- Pyszczynski, T., Greenberg, J., Solomon, S., Arndt, J., & Schimel, S. (2004). Why do people need self-esteem? A theoretical and empirical review. *Psychological Bulletin, 130*, 435–468.
- Quinones, C., & Kakabadse, N. K. (2015). Self-concept clarity, social support, and compulsive internet use: A study of the US and the UAE. *Computers in Human Behavior, 44*, 347–356.
- Rogoff, B. (1990). *Apprenticeship in thinking*. New York: Oxford University Press.
- Rose, E., Larkin, D., & Hands, B. (2012). Reliability and validity of the self-perception profile for adolescents: An Australian sample. *Australian Journal of Psychology, 63*(2), 92.
- Rosenberg, M. (1965). *Society and the adolescent self image*. Princeton: Princeton University Press.
- Rosenberg, M. (1979). *Conceiving the self*. New York: Basic Books.
- Schmitt, D. P., & Allik, J. (2005). Simultaneous administration of the Rosenberg self-esteem scale in 53 nations: Exploring the universal and culture-specific features of global self-esteem. *Journal of Personality and Social Psychology, 88*, 149–161.

- Psychology*, 89(4), 623–642. <https://doi.org/10.1037/0022-3514.89.4.623>.
- Sebastian, C., Burnett, S., & Blakemore, S. (2008). Development of the self-concept during adolescence. *Trends in Cognitive Sciences*, 12(11), 441–446. <https://doi.org/10.1016/j.tics.2008.07.008>.
- Shapka, J. D., & Keating, D. P. (2003). Effects of a girls-only curriculum during adolescence: Performance, persistence, and engagement in mathematics and science. *American Educational Research Journal*, 40(4), 929–960. <https://doi.org/10.3102/00028312040004929>.
- Shapka, J. D., & Keating, D. P. (2005). Structure and change in self-concept during adolescence. *Canadian Journal of Behavioural Science*, 37, 83–96.
- Shavelson, R. J., Hubner, J. J., & Stanton, G. C. (1976). Validation of construct interpretations. *Review of Educational Research*, 46, 407–441.
- Smetana, J. G., & Villalobos, M. (2009). Social cognitive development in adolescence. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent development: Individual bases of adolescent development* (Vol. 1, pp. 187–228). Hoboken: Wiley.
- Strong, W. B., Malina, R. M., Blimkie, C. J. R., Daniels, S. R., Dishman, R. K., & Gutin, B. (2005). Evidence based physical activity for school-age youth. *Journal of Pediatrics*, 55, 732–737.
- Tabbah, R., Miranda, A. H., & Wheaton, J. E. (2012). Self-concept in Arab American adolescents: Implications of social support and experiences in the schools. *Psychology in the Schools*, 49(9), 817–827. <https://doi.org/10.1002/pits.2164>.
- Tajfel, H. (1978). *Differentiation between social groups: Studies in the social psychology of intergroup relations*. London: Academic.
- Trzesniewski, K. H., Donnellan, M. B., Moffitt, T. E., Robias, R. W., Poulton, R., & Caspi, A. (2006). Low self-esteem during adolescence predicts poor health, criminal behavior, and limited economic prospects during adulthood. *Developmental Psychology*, 42, 381–390.
- Turkle, S. (2005). *The second self: Computers and the human spirit* (20th anniversary, 1st MIT Press ed.). Cambridge, MA: MIT Press.
- Twenge, J. M., & Campbell, W. K. (2002). Self-esteem and socioeconomic status: A meta-analytic review. *Personality and Social Psychology Review*, 6, 59–71.
- Twenge, J. M., & Crocker, J. (2002). Race and self-esteem: Meta-analyses comparing whites, blacks, Hispanics, Asians, and American Indians and comment on Gray-Little and Hafdahl (2000). *Psychological Bulletin*, 128(3), 371–408. <https://doi.org/10.1037/0033-2909.128.3.371>.
- Usborne, E., & Taylor, D. M. (2010). The role of cultural identity clarity for self-concept clarity, self-esteem, and subjective well-being. *Personality and Social Psychology Bulletin*, 36(7), 883–897.
- Valkenburg, P. M., & Peter, J. (2007). Preadolescents' and adolescents' online communication and their closeness to friends. *Developmental Psychology*, 43(2), 267–277.
- Valkenburg, P. M., & Peter, J. (2009). Social consequences of the internet for adolescents: a decade of research. *Current Directions in Psychological Science*, 18(1), 1–5.
- Valkenburg, P. M., Peter, J., & Schouten, A. P. (2006). Friend networking sites and their relationship to adolescents' well-being and social self-esteem. *Cyber Psychology & Behavior*, 9(5), 584–590. <https://doi.org/10.1089/cpb.2006.9.584>.
- Vartanian, L. R., & Dey, S. (2013). Self-concept clarity, thin-ideal internalization, and appearance-related social comparison as predictors of body dissatisfaction. *Body Image*, 10(4), 495. <https://doi.org/10.1016/j.bodyim.2013.05.004>.
- Widyanto, L., & Griffiths, M. (2012). An empirical study of problematic Internet use and self-esteem. In *Evolving psychological and educational perspectives on cyber behavior* (pp. 82–95). Pennsylvania: IGI Global.
- Wilcox, K., & Stephen, A. T. (2012). Are close friends the enemy? Online social networks, self-esteem, and self-control. *Journal of Consumer Research*, 40, 90–103.
- Wilgenbusch, T., & Merrell, K. W. (1999). Gender differences in self-concept among children and adolescents: A meta-analysis of multidimensional studies. *School Psychology Quarterly*, 14, 101–120.
- Winters, N. C., Myers, K., & Proud, L. (2002). Scales assessing suicidality, cognitive style, and self-esteem. *Journal of the American Academy of Child and Adolescent Psychiatry*, 41, 1150–1181.
- Wylie, R. C. (1979). *The self-concept: vol II. Theory and research on selected topics* (Rev. ed.). Lincoln: University of Nebraska Press.
- Ybrandt, H. (2008). The relation between self-concept and social functioning in adolescence. *Journal of Adolescence*, 31(1), 1–16. <https://doi.org/10.1016/j.adolescence.2007.03.004>.
- Zametkin, A. J., Zoon, C. K., Klein, H. W., & Munson, S. (2004). Psychiatric aspects of child and adolescent obesity: A review of the past 10 years. *Journal of the American Academy of Child and Adolescent Psychiatry*, 43, 134–150.

Self-Reflection

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Overview

Self-reflection involves the capacity to consciously reflect on one's sense of self. The capacity is assumed to be an important aspect of self-awareness and relies on several cognitive and

emotional abilities, particularly those that emerge during the period of adolescence. These abilities are important to understand, as they influence adolescents' behaviors, choices, and social interactions. Although self-reflection impacts the ability of adolescents to function effectively in their world and determine their future, the construct has not been the subject of rigorous investigations as much as it would seem warranted. Ironically, adolescents typically are viewed as limited in self-reflection or too concerned about thinking about themselves, and research (with some notable exceptions) has struggled to develop more nuanced and informative understandings of the role of self-reflection.

Self-Reflection and Adolescence

Self-reflection refers to the capacity to exercise introspection and the willingness to learn more about one's purpose, essence, and true self. The capacity to self-reflect is considered one of the hallmarks of adolescents' cognitive and social development. For example, Erik Erikson (1968) proposed that the period of adolescence concerned itself with identity issues, which fundamentally involved a period of questioning, exploration, and self-reflection with respect to a sense of identity. Although adolescents' ability to self-reflect has long been accepted as an important development, considerable controversy has attached to this ability in terms of whether it contributes to problematic or beneficial outcomes.

One of the striking aspects of literature relating to self-reflection is how it can be viewed as a problem for adolescents. Some researchers view self-reflection as not generally something positive for adolescents, as conventional wisdom and research suggest that adolescents tend to be prone to rumination rather than enlightenment. This view suggests that the time adolescents appear to spend thinking about themselves rarely leads to any particular insights. Indeed, adolescent rumination can have surprisingly negative effects. Self-reflection has been related to both depression and physical symptoms, as well as lower self-

esteem. This is possibly because adolescents' self-reflection may focus on worrying about negative issues rather than thinking about positive ones or working on self-improvement. The negative effects of introspection are consistent with stereotypical images of adolescents as egocentric, with egocentrism characterized as individuals focusing on themselves (with perceptions of themselves as being unique and as being the object of others' thoughts) resulting in heightened self-consciousness that contributes to such negative outcomes as inappropriate risk taking and substance use (for reviews, see Elkind 1967; Vartanian 2000).

Despite negative views of self-reflection during adolescence, engaging in self-reflection can be critical to positive development (see, e.g., Damon 2000). Self-examination can contribute to adolescents' successful individuation, as they ponder who they really are and what makes them distinct from their peers. Creating their own narrative allows adolescents' personalities to grow. Introspection also can relate to stronger relationships with friends, possibly due to the development of empathy. These probabilities are supported by research finding that, among late adolescents, information-oriented identity processing is related to reduced diffuse or avoidant personality styles (Berzonsky and Sullivan 1992). In fact, even recurrent thoughts, such as rumination, have been conceptualized as a positive process of problem-solving or self-regulation that can increase self-knowledge and facilitate psychological adjustment (see Takano and Tanno 2009).

The different images that arise from self-reflection render it a problematic concept for understanding adolescents. From some perspectives, it is an excuse for adolescents to wallow in their own issues and drag them into negative affect. From others, it is a necessary and invaluable aspect of personal development. Importantly, recognition that self-reflection has both positive and negative aspects permeates the study of self-reflection in other age groups as well (see Watkins 2008). Not surprisingly, the study of self-reflection tends to focus on two of its core aspects, one that centers on rumination (which is a

negative, chronic, and persistent self-focus motivated by perceived threats, losses, or injustices to the self and contributing to neuroticism and depression) and a more healthy form of self-reflection (which is motivated by curiosity or epistemic interest in the self and associates with openness to experiences and the promotion of self-knowledge and positive mental health) (see, e.g., Trapnell and Campbell 1999).

Despite these tendencies, few studies have focused on the positive aspects of reflection. Yet, recent studies reveal the potential of such investigations. For example, borrowing from a line of work performed primarily with adults, researchers have conducted experiments in which they found the ability to self-distance or “take a step back” when one reflects on negative emotional experiences allows adolescents to work through the negative experiences in ways that promote meaning making rather than problematic emotional reactivity (see White et al. 2015). But, these studies consistently point to the general failure to address these abilities as they relate directly to adolescents. Studies also generally conclude that self-reflection likely has important effects on adolescents and that there is much potential for research.

Conclusion

Self-reflection is an important part of the adolescent experience. The adolescent period is actually one in which adolescents have new abilities to engage in this form of reflection. Research does indicate that reflection can relate to many adolescent outcomes, many of which are negative. But, research remains strikingly limited as it has yet to address more fully the nature and mechanisms that contribute to negative outcomes as well as, equally importantly, reflections’ role in fostering positive experiences and development.

Cross-References

► [Rumination](#)

References

- Berzonsky, M. D., & Sullivan, C. (1992). Social-cognitive aspects of identity style: Need for cognition, experiential openness, and introspection. *Journal of Adolescent Research, 7*, 140–155.
- Damon, W. (2000). Setting the stage for the development of wisdom: Self-understanding and moral identity during adolescence. In W. S. Brown (Ed.), *Understanding wisdom* (pp. 339–360). Philadelphia: Templeton.
- Elkind, D. (1967). Egocentrism in adolescence. *Child Development, 38*, 1025–1034.
- Erikson, E. H. (1968). *Identity: Youth and crisis*. New York: W.W. Norton.
- Takano, K., & Tanno, Y. (2009). Self-rumination, self-reflection, and depression: Self-rumination counteracts the adaptive effect of self-reflection. *Behaviour Research and Therapy, 47*, 260–264.
- Trapnell, P. D., & Campbell, J. D. (1999). Private self-consciousness and the five-factor model of personality: Distinguishing rumination from reflection. *Journal of Personality and Social Psychology, 76*, 284–304.
- Vartanian, L. R. (2000). Revisiting the imaginary audience and personal fable constructs of adolescent egocentrism: A conceptual review. *Adolescence, 35*, 639–661.
- Watkins, E. R. (2008). Constructive and unconstructive repetitive thought. *Psychological Bulletin, 134*, 163–206.
- White, R. E., Kross, E., & Duckworth, A. L. (2015). Spontaneous self-distancing and adaptive self-reflection across adolescence. *Child Development, 86*(4), 1272–1281.

Self-Regulation

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Overview

Scholars of adolescence vary considerably along disciplinary lines in terms of conceptual definitions and theoretical frameworks, but there is general agreement that self-regulation consists of being able to flexibly control and direct one’s behavior, attention, and emotions in response to direction from internal cues and external

feedback, in order to follow social conventions and/or reach personally meaningful goals (Moilanen 2007). By adolescence, self-regulation is both intentional/volitional (i.e., the youth is cognizant of and purposeful in their regulatory pursuits) and organismic in nature (i.e., the teen is not aware of automatic regulatory processes; Eisenberg 2015; Gestsdottir and Lerner 2008). A number of theoretical perspectives describe the developmental antecedents of self-regulation, primarily emphasizing biological and familial socialization forces, with limited acknowledgement of extrafamilial correlates (e.g., Bridgett et al. 2015; Gottfredson and Hirschi 1990; Morris et al. 2007; Nigg 2017; Rothbart and Ahadi 1994). Although important throughout the lifespan, the ability to self-regulate is particularly vital in the promotion of optimal psychological adjustment during this period (Gestsdottir and Lerner 2008). While adapting to the typical physical, cognitive, and socio-emotional changes of adolescence, teens also begin to make adult-like decisions which can tax their self-regulatory skills and can carry significant immediate and long-term consequences. There is extensive evidence linking self-regulation to outcomes, such as internalizing and externalizing problems, delinquency, substance use, and sexual risk-taking behaviors, but also social and academic competence, stress resilience, prosocial behavior, positive youth development, and overall well-being (Baker and Hoerger 2012; Carlo et al. 2012; Criss et al. 2016; Eisenberg 2015; Gestsdottir et al. 2009; Heylen et al. 2017; King et al. 2013; Moilanen 2007, 2015; Moilanen and Manuel (2017b); Otterpohl and Wild 2015; Schäfer et al. 2017; Snyder et al. 2015; Tangney et al. 2004; Wills et al. 2008). Prior self-regulation also predicts these types of outcomes into adulthood, such as experiencing unemployment and engaging in substance use and criminal behaviors (Daly et al. 2015; Flexon et al. 2016).

Populations Generally Studied/Sources of Data

Much of what is known about adolescent self-regulation has come from investigations conducted with typically developing and relatively socioeconomically advantaged samples of

youth. Historically, a great deal of the empirical research on self-regulation during adolescence has been cross-sectional in nature, though longitudinal inquiries are becoming increasingly common. Contemporary studies vary in size and geographic contexts (e.g., Finkenauer et al.'s (2005) single-wave study of 1359 Dutch youth ages 10–14 years; Moilanen et al.'s (2015) two-wave inquiry involving 489 young adolescents from Seattle), as well as secondary analyses of existing datasets (e.g., Gestsdottir and colleagues' ongoing work with a large sample of typically developing adolescents from the 4-H Study of Positive Youth Development). There is growing emphasis on understanding self-regulation in other adolescent populations, including youth from low socioeconomic status (SES) environments (e.g., Moilanen and Rambo-Hernandez 2017), adolescents in diverse racial/ethnic and cultural contexts (e.g., Griffin et al. 2015; Scott et al. 2008), as well as teens with specific physical health limitations (e.g., type 1 diabetes: Berg et al. 2014) and various forms of developmental psychopathology and disorders (e.g., internalizing problems: Betts et al. 2009; autism spectrum and attention deficit disorders: Lawson et al. 2015).

Key Definitions

The empirical and theoretical literature on adolescent self-regulation is plagued by persistent theoretical diffusion. Because there is no commonly accepted theory of adolescent self-regulation, different theories are typically referenced in the discrete disciplines of developmental science (Bridgett et al. 2013; Eisenberg and Zhou 2016). Further, models concerning the components or processes of self-regulation are distinct from those that describe developmental antecedents and outcomes of individual differences in self-regulation (as discussed below). However, many of these frameworks share common tenets and measurement strategies despite featuring model- or discipline-specific terminology (for an overview, see Nigg 2017).

There is general agreement that self-regulatory components and processes involve purposeful and conscious self-control, resistance to temptation, and delay of gratification. Scholars who study its

discrete dimensions cite these types of abilities in investigations of emotion regulation (Betts et al. 2009) and delay of gratification (Wulfert et al. 2002), for example. In particular, behavioral impulsivity (i.e., poor self-regulation) has received extensive attention in developmental and health sciences (e.g., Dir et al. 2014; Stautz and Cooper 2013). Impulsivity can be defined as a stable personality trait or decomposed into impulsive behaviors, including lacking perseverance (e.g., giving up before completing a task), acting without planning or forethought, and acting rashly in response to negative or positive emotions (Whiteside and Lynam 2001). Others treat the regulation of attention, emotion, and behavior as correlated indicators of self-regulation (Moilanen et al. 2015; Nigg 2017). Many of those who view temperament as the basis of individual differences in self-regulation refer to effortful control, which is widely defined as individuals' capacities for inhibiting "a dominant response in the service of performing a subdominant response" (Pérez-Edgar 2015, p. 80). Effortful control involves subcomponents of effortful attention, inhibitory control, and activation control (Bridgett et al. 2013; King et al. 2013), all of which act to modulate individuals' emotional reactivity (Rothbart and Ahadi 1994). As discussed below, the temperamental framework overlaps considerably with executive functioning (EF) perspectives, which stipulate that self-regulation is possible due to EF processes such as working memory, inhibitory control, set shifting/flexibility, and so forth (Bridgett et al. 2013; Hofmann et al. 2012). Working memory facilitates self- and environmental monitoring to occur, by permitting teens to recall their goals and to focus their attention on those pursuits instead of distractors (Hofman et al. 2012). Inhibition involves behavioral control, with explanations corresponding to the common definition of effortful control referenced above (Pérez-Edgar 2015). Set shifting permits purposeful movement between tasks or stimuli, including changing strategies or disengaging from the pursuit of an objective and alternating between several goals (Bridgett et al. 2013; Hofman et al. 2012). While there is value in studying discrete regulatory components and employing diverse

frameworks, it has produced a diffuse literature that is difficult to synthesize, resulting in several calls for integrative models (Bridgett et al. 2015; Hofmann et al. 2012; Zhou et al. 2012). Definitional controversies notwithstanding, there is growing agreement among researchers that compared to children, adolescents are capable of self-regulating over short and long periods of time and in both automatic and intentional ways (Eisenberg 2015; Moilanen 2007).

Short-term self-regulation has received the most attention in developmental research throughout the lifespan. Short-term self-regulation can be likened to the control of impulses, behaviors, attention, or feelings in the "heat of the moment" (Moilanen 2007). This resembles what Gestsdottir and Lerner (2008) refer to as "organismic regulation," which they define as the automatic, temperamentally based processes that assist individuals in their typical environmental interactions. Even very young children are capable of short-term regulation, which has a finite capacity and is oriented toward the present moment in time. Adolescents demonstrate short-term self-regulation when they suspend inappropriate behaviors and emotions or initiate constructive actions in order to act properly in the immediate context. They may have explicit, personal goals for particular instances of short-term self-regulation (e.g., teens may stop themselves from yelling at a friend because they know it will ruin their conversation) or they may regulate their actions automatically to follow engrained social conventions (e.g., teens may stop themselves from yelling at a friend because they understand that public displays of anger are rude).

Unlike children, teenagers are better able to plan or prepare for events that are temporally near and distant due to experience, an understanding of time, and cognitive development (Barkley 1997). Though posited many years ago (e.g., Demetriou 2000; Gottfredson and Hirschi 1990), it is only quite recently that scholarly attention has shifted to include adolescents' capacities for regulating their momentary actions and emotions in order to attain long-term outcomes. Per Moilanen (2007), long-term self-regulation involves the purposeful control or direction of behavioral,

emotional, and attentional effort over longer periods of time, specifically weeks, months, or years, in order to attain goals. This is similar to Gestsdottir and Lerner's (2008) conceptualization of intentional self-regulation, which includes goal-directed behaviors that are consciously initiated in order to meet individual objectives within contextual constraints. For example, an adolescent might save their wages from an after-school job for many weeks or months in order to buy a new smartphone. Long-term self-regulation may also involve substantial planning, such as designing a course of study in college, in order to attain distant career goals.

Short-term or automatic self-regulation likely makes it possible for long-term or intentional self-regulation to occur (Gestsdottir and Lerner 2008), but to date, there are limited empirical data about how short- and long-term regulatory elements are developmentally connected. Conceptually, it seems possible that youth with better short-term self-regulation abilities in childhood and early adolescence will be well positioned to develop superior long-term self-regulation skills during the adolescent years. For example, preteens who have mastered strategies for controlling their negative feelings "in the moment" will then be able to learn techniques for controlling stress due to ongoing challenges, such as preparing for college entrance examinations. This notion is supported in research on attention deficit hyperactivity disorder (ADHD), which is by definition a disorder of self-regulation: individuals who struggle to control their attention often make impulsive decisions that prevent them from attaining their ultimate goals (Barkley 1997; Toplak et al. 2005). Turning to empirical evidence, Moilanen's (2007, 2015) cross-sectional research reveals strong, positive correlations between these two factors in adolescence and emerging adulthood. Longitudinal investigations with repeated-measure designs are necessary to explore how these components influence each other over time.

Theoretical Explanations of Development

As mentioned previously, theoretical models of how self-regulation develops and its implications for outcomes are quite separate from conceptual

models of its dimensions. Lacking a model specific to adolescence, researchers have drawn upon childhood- or adulthood-era frameworks (e.g., the general theory of crime: Gottfredson and Hirschi 1990) or models that are not age-specific (e.g., the tripartite model of the impact of the family on children's emotion regulation and adjustment: Morris et al. 2007). Again, scholars in distinct disciplines tend to employ different models with similar explanations about these associations, which primarily refer to short-term forms of regulation. The review below focuses on key models present in the contemporary literature on adolescent development; space limitations precluded the inclusion of other theoretical perspectives that are commonly cited in other related social scientific disciplines (e.g., the self-regulatory strength model of self-control; for a review, see de Ridder et al. 2012).

One model that is gaining in stature in psychologically oriented scholarship is the tripartite model of the impact of the family on children's emotion regulation and adjustment (Morris et al. 2007). This model posits bidirectional associations between children's emotion regulation, problem behaviors, and experiences in the family context. Children and youth learn how to regulate their affect through three means, with the first being observation of their family members (e.g., modeling). The second concerns discrete parenting practices, which explicitly and implicitly socialize standards for expressing feelings and strategies for emotion regulation. The third involves the family's emotional climate (e.g., parent-child attachment, conflict, etc.), which may directly facilitate children's regulation or dysregulation: chaotic, conflict-ridden environments heighten youth's negative affect that then requires modulation. Youth's emotion regulation abilities mediate these effects of the family context on adjustment outcomes (e.g., internalizing and externalizing problems, social competence, etc.). Finally, parents' individual characteristics (e.g., mental health) shape the family context and are associated with their children's individual characteristics (e.g., reactivity) that moderate associations between the family context and the child's regulation and outcomes.

Gottfredson and Hirschi's (1990) general theory of crime is frequently cited by researchers in sociology, criminology, and other related areas of social and developmental sciences. These scholars conceptualize self-regulation as self-control, which is defined as "relatively stable differences across individuals in the propensity to commit criminal (or equivalent) acts" (Gottfredson and Hirschi 1990, p. 137). These characteristics include traits such as high impulsivity, low social competence, limited foresight, and concern about future consequences (Gottfredson and Hirschi, 1990). Sources of self-control include familial and community socialization (for more information, see Siegmunt 2016). Criminal behaviors are the result of individuals' lacking self-control, which is attributed to inadequate social controls (e.g., lackluster parental monitoring). Gottfredson and Hirschi (1990) were initially dismissive of potential genetic or biological forces on the development of self-control; acknowledging this model's simplicity as a limitation, scholars working from this framework have recently demonstrated noteworthy effects of experiences such as birth complications and developmental psychopathology (for a review, see Buker 2011).

The biobehavioral models that are employed by many include the temperamental perspective that is favored by developmental psychologists and the EF frameworks which have been widely adopted by researchers in the areas of neurological, clinical, and cognitive science (Bridgett et al. 2013; Eisenberg and Zhou 2016). These two orientations have considerable overlap, yet there is disagreement about whether these models can or should be combined (Liew 2012; Zhou et al. 2012). From the temperamental perspective, regulation serves to regulate emotional reactivity, two dispositional traits that are present and fairly stable from early in life (Rothbart and Ahadi 1994). Genetics, accumulated experiences in social contexts (e.g., supportive parenting practices), and gene by environment interactions (Rothbart and Bates 2006) shape the structure and functioning of the brain that manifest as individual differences in attentional, inhibitory, and effortful control (for a summary, see Pérez-Edgar

2015). Voluntary attentional and inhibitory control abilities are also represented in EF frameworks (for reviews, see Nigg 2017; Zhou et al. 2012). Per both perspectives, the executive functions of working memory, inhibition, and shifting each shape self-regulation in a "top-down" fashion, thus making purposeful self-regulation possible. Simultaneously, "bottom up" or automatic regulatory processes can facilitate or impair executive functions (e.g., strong stress reactions can undermine attentional focus; Blair and Ursache 2011; Eisenberg and Zhou 2016; Nigg 2017). Recent efforts to integrate such theoretical perspectives are challenged to address the ways in which the models vary. Most notably, EF models emphasize working memory, an element that is largely absent in temperamental perspectives of effortful control (Hofman et al. 2012; Liew 2012); similarly, emotion regulation and its accompanying physiological indicators are featured more prominently in conceptualizations of effortful control than in EF (Eisenberg and Zhou 2016). Further complicating the development of integrative models, effortful control demonstrates considerable stability from early in childhood, while higher-order executive functions emerge later in development and remain amenable to training during adolescence (Staiano et al. 2012). Overall, while these two perspectives have some common components, they are not redundant and cannot be easily combined.

Bridging these explanations, Bridgett et al.'s (2015) integrative model explains the multiple processes through which self-regulation is transmitted across generations. In many ways, this theory is similar to Morris et al. (2007), in that it stipulates that children's self-regulation predicts multiple adjustment-related outcomes and that children's self-regulation is due to their proximal environments and individual and parental characteristics. Bridgett et al. (2015) are explicit concerning the specific individual child and parental characteristics, as well as how they may interact over time, positing the possibility of genetic, socialization, and social-neural pathways in the transmission of self-regulation from parent to child. Bridgett et al. (2015) highlight parental self-regulation at the genetic and

behavioral levels as crucial parental factors, in that these shape children's genetics and the prenatal environment. In turn, both influence children's reactivity and the neurological developments that underlie their self-regulatory capacities. Parental self-regulation also influences the proximal developmental contexts in which children are reared (i.e., collapsing across the three dimensions of the family context in Morris et al. 2007), which also shape children's reactivity and neurological development. Though Bridgett et al. (2015) provide a comprehensive synthesis of the evidence of the model's individual pathways, it has not yet been tested in a comprehensive fashion.

Stability and Change

Although contemporary theories provide explanations for individual differences in self-regulatory abilities, the models fall short in terms of providing parallel hypotheses concerning stability and growth over time, beyond acknowledging biological propensities and consistency in environments (Bridgett et al. 2015; Friedman et al. 2016; Morris et al. 2007). Self-regulation demonstrates considerable developmental continuity: children with ample self-control tend to develop into well-regulated adolescents and adults, a notion that has abundant support from studies of rank-order stability of short-term self-regulation, effortful control, and executive functioning (Bridgett et al. 2015; de Kemp et al. 2009; Eisenberg et al. 2005; Friedman et al. 2016; Moilanen and Rambo Hernandez 2017; Moilanen et al. 2010; Moilanen et al. 2015; Tiberio et al. 2016) and for intentional self-regulation between ages 14 and 16 in one study (Gestsdottir et al. 2009). At the same time, individuals' self-regulatory abilities appear to expand between childhood and adulthood: in their cross-sectional inquiry, Hagler et al. (2016) described subtle improvements in emotional regulation, anger management, and psychological endurance between ages 12–13 and 20–21 years. In a separate cross-sectional investigation, adolescents were much less adept at planning ahead, anticipating future consequences and delaying gratification than were adults (Steinberg et al. 2009).

Such comparisons by age group and investigations of rank-order stability do not answer questions about the degree and timing of changes in self-regulation. This separate issue has been addressed in several studies revealing subtle growth in adolescents' self-regulatory abilities. In a 3-year longitudinal study, Lengua (2006) established that children's average levels of effortful control were initially rather low but increased gradually between ages 9 and 12 years. Growth rates were not correlated with initial levels, and thus the degree of change was not attributable to individual variations at the study's onset (Lengua 2008). Echoing this, King et al. (2013) revealed linear increases in effortful control and decreases in impulsivity over 3 years in preadolescence. Paradoxically, there is also evidence of declines in self-regulation during adolescence. Self-control had a negative slope in Ng-Knight et al.'s (2016) 1-year study of young adolescents, a trend they attributed to the study's timing coinciding with the stressful transition to secondary school. Yet two other studies of longitudinal trajectories demonstrate that large numbers of youth report decreasing levels of self-regulation. In Jo and Bouffard's (2014) study on self-control in young Korean adolescents, approximately half of boys and two-thirds of girls followed declining trajectories between ages 10 and 14 years. Bowers et al. (2011) identified a similar pattern for intentional regulation between grades 5 and 11. However, this downward trend may reflect increasing accuracy in self-perceptions of regulatory capacities versus actual degradations in self-regulation due to development. These investigations collectively indicate that there is both continuity and change in self-regulation during adolescence. Regardless, more information about the course and timing of self-regulatory shifts across the entire second decade of life are needed in order to refine theories and to target critical opportunities for intervention.

Antecedents and Covariates of Self-Regulation

Among the various models, many details are also lacking in the theories describing the antecedents and outcomes of self-regulation. Though much of

this work stems from cross-sectional studies, it is clear that self-regulation covaries with many other constructs during adolescence. Space limitations preclude an exhaustive review; for more information, see Bridgett et al. (2015), Kiff et al. (2011), and Morris et al. (2007).

Demographic Characteristics

Youths' individual-level and familial demographic characteristics have been widely included as control variables, with youth sex/gender most regularly considered. Regardless of how self-regulation is conceptualized, there is abundant evidence that girls are advantaged over boys in self-regulatory abilities throughout childhood and adolescence (e.g., Jo and Bouffard 2014; Moilanen et al. 2015). Although race/ethnicity and SES are often controlled, few studies have revealed substantive differences during adolescence. For example, Black youth had modestly higher levels of self-regulation than European American and Hispanic teens at age 12–13 years, but this effect was mitigated to non-significance when prior levels of self-regulation were controlled (Moilanen and Rambo-Hernandez 2017). In two separate longitudinal survey-based studies in the same dataset, adolescents' levels of self-regulation were high in families reporting high incomes (Moilanen et al. 2015); a similar pattern is present for executive control and attention (for a review, see Raizada and Kishiyama 2010).

Biological Propensities

Considerable changes occur at the level of the brain during adolescence, and it has long been postulated that such developments have implications for self-regulation (for reviews, see Ahmed et al. 2015; Blakemore and Choudhury 2006; Casey et al. 2008). For example, Rothbart and colleagues cite the executive attention network in temperamental effortful control (e.g., Rothbart and Bates 2006). There is mounting support for the notion that growth in areas of the frontal cortex is linked to improvements in regulatory abilities during adolescence and emerging adulthood (e.g., Vijayakumar et al. 2014).

Simultaneously, and consistent with Bridgett et al.'s (2015) integrative model, there is expanding evidence that self-regulation is a heritable trait: parents who perform highly on EF tasks have adolescents who perform similarly (Jester et al. 2009). Further, children's performance correlates with their biological parents' and siblings' scores but not with those of adoptive family members (Deater-Deckard 2014). Twin studies also suggest genetic effects for effortful control (Mullineaux et al. 2009). Other investigations identify physiological mechanisms for such intergenerational consistencies implicating specific dopamine transporter and receptor genes as underlying individual differences in inhibitory control (for a review, see Barnes et al. 2011). While gene by environment interactions have been studied extensively in the area of child temperament (Rothbart and Bates 2006), these are not yet well researched in relation to individual differences in adolescent-era self-regulation (Kiff et al. 2011). Notwithstanding, there are signs of such complex associations at earlier points of development (e.g., Propper et al. 2008) and for correlates of self-regulation during adolescence (e.g., Nobile et al. 2016).

Youths' Other Individual Characteristics

Per Morris et al. (2007), it is also important to consider youths' other individual characteristics that directly or interactively shape self-regulation, including age/development, gender (discussed above), and temperamental reactivity. Simply put, individuals with high reactivity (e.g., more intense emotional responses to stimuli) have greater need for effective regulation strategies, but they may also have difficulty acquiring these capacities (Morris et al. 2007); for example, highly reactive and poorly regulated offspring tend to elicit parenting practices that likely make it harder for youth to develop strategies for regulating negative affect (Kiff et al. 2011; Moilanen et al. 2015; Slagt et al. 2016). Although specified at a different level of Morris et al.'s (2007) model, adjustment difficulties may also shape the developmental course of self-regulation during adolescence. There are mixed results concerning the contributions of adjustment problems to later

regulation, as few studies have considered this question. On one hand, Otterpohl and Wild (2015) linked problem behaviors to rank-order increases in boys' emotion dysregulation over 1 year. Rasmussen et al. (2014) revealed a similar pattern over 1 year: adolescent high delinquency predicted rank-order decreases in emotion regulation, high depression explained rank-order decreases in emotion and cognitive regulation, and high gratitude linked to improvements in behavioral regulation. On the other hand, recent research indicated that heavy drinking in adolescence did not predict impaired executive functioning (Boelema et al. 2015). Overall, more attention is needed in order to understand how youths' other qualities contribute to the development of self-regulation.

Familial Socialization Experiences

In addressing questions about socialization in adolescence, many researchers have sought to determine whether associations evident in childhood persist into adolescence. Much of this research has involved cross-sectional designs and has focused on identifying (largely maternal) parenting practices that correlate with short-term self-regulation. Such inquiries have revealed consistent findings, indicating that high levels of parental acceptance/warmth, high parental knowledge, and low levels of psychological control and physical punishment are correlates of high levels of self-regulation (Baker and Hoerger 2012; Farley and Kim-Spoon 2017; Finkenauer et al. 2005; King et al. 2013; Moilanen 2007; Moilanen and Manuel 2017a). Only some of these associations remained when prior levels of self-regulation were controlled in longitudinal inquiries: for example, high maternal harsh parenting and discipline predicted slower rank-order change in self-regulation over 2 years in early adolescence (Moilanen et al. 2010; Moilanen and Rambo-Hernandez 2017). A similar pattern emerged for poor parental discipline and effortful control between ages 11–12 and 13–14 years (Tiberio et al. 2016) and for maternal criticism and emotional dysregulation over 4 years of adolescence (Skripkauskaitė et al. 2015). Finally, high levels of child-reported maternal inconsistent discipline

and physical punishment were independently associated with increasing impulsivity over 3 years in early adolescence (King et al. 2013). Such an exclusive focus on discrete practices has come at the cost of limited attention to other components of the family context that may exert important independent effects or moderate the impact of parenting practices on youth's self-regulation (Morris et al. 2007). Of the elements included in this part of the model, only the quality of parent-child relationships has received any attention during adolescence. When mothers and children have close ties, there are benefits for adolescents' self-regulation. In two studies, rank-order improvements in youths' short-term self-regulation during early adolescence were attributable to high levels of mother-child relationship quality or closeness, with maternal parenting practices controlled (Moilanen and Rambo-Hernandez 2017; Moilanen et al. 2010). In a third investigation of authoritative, authoritarian, and permissive-indulgent maternal and paternal parenting styles, only high maternal authoritarian parenting predicted slower rank-order change over 1 year in early to middle adolescence (Moilanen et al. 2015). Although studied less heavily than in childhood, attachment insecurity is similarly associated with poorer emotion regulation and effortful control during adolescence and emerging adulthood (Heylen et al. 2017; Tangney et al. 2004).

Other Social Experiences and Environmental Effects

While maternal parenting practices and relational qualities have been studied most widely, youth are also likely to acquire self-regulation via extra-familial relationships (e.g., peers and romantic partners; Farley and Kim-Spoon 2014; teachers; Jo and Bouffard 2014) and other environmental influences (e.g., neighborhood contexts; King et al. 2013). It is surprising that peer relationships have received so little attention in self-regulation research, particularly in light of such abundant evidence supporting peer effects on adjustment outcomes related to self-regulation. Nevertheless, there is some limited evidence of peer effects: for example, Criss et al. (2016) revealed a strong

association between youth and peer emotion regulation. This could indicate selection or socialization processes (e.g., highly regulated peers model effective strategies for self-control; von Salisch 2001). Other studies reveal that insecure attachment to peers is linked to low levels of young adolescents' attentional control (Muris and Dietvorst 2006) and that longitudinal increases in self-control were linked to declines in affiliation with deviant peers (Jo and Bouffard 2014). Concerning other extrafamilial influences, Jo and Bouffard (2014) demonstrated a beneficial effect of attachment to teachers. High teacher discipline is also linked to elevated self-control (Moon et al. 2014). A small number of other environmental influences have been explored, albeit in a scatter-shot manner. For example, King et al. (2013) linked the experience of stressful life events during early adolescence to lower initial levels of effortful control and higher levels of impulsivity; neighborhood risk was not associated with any of their self-regulation variables in multivariate models. In a longitudinal study of African-American teens, high initial levels and faster growth in experiences with racial discrimination predicted low initial levels and slow growth in self-control over four waves (Gibbons et al. 2012). Sleep restrictions also undermine youths' capacities for regulating negative affect (Baum et al. 2014). On a more encouraging note, there is growing evidence that self-regulation can be taught during adolescence: for example, one individual training intervention led to short-term improvements in EFs (e.g., Staiano et al. 2012), while another group-based mindfulness intervention had benefits for adolescents' emotion regulation (Deplus et al. 2016).

Outcomes of Individual Differences in Self-Regulation

Self-regulation is consistently associated with a range of adjustment-related outcomes during adolescence. Well-regulated teenagers report high levels of academic achievement, prosocial behaviors, empathy, positive youth development, physical activity, and social competence with peers and romantic partners (Allom et al. 2016; Carlo et al. 2012; Farley and Kim-Spoon 2017; Gestsdottir

et al. 2009; King et al. 2013; Lawson and Farah 2017; Li et al. 2015; Moilanen 2007; Moilanen and Manuel 2017a; Snyder et al. 2015; Tangney et al. 2004). At the same time, their peers who struggle with regulation are more likely to experience internalizing and externalizing difficulties, aggression, and eating disorders and to engage in substance use and antisocial and sexual risk-taking behaviors (Baker and Hoerger 2012; de Kemp et al. 2009; Farley and Kim-Spoon 2017; Griffin et al. 2015; Heylen et al. 2017; Moilanen 2007, 2015; Otterpohl and Wild 2015; Schäfer et al. 2017; Slagt et al. 2016; Tangney et al. 2004; Wills et al. 2016). A number of studies demonstrate that self-regulation mediates and/or moderates the effects of other distal risk factors such as parenting on such outcomes (for reviews, see Kiff et al. 2011; Rothbart and Bates 2006).

Measures and Measurement Issues

Measurement strategies largely correspond to theoretical traditions. Researchers working from the EF framework primarily use neurological assessments such as stroop and go/no go tasks, with different tasks used to assess specific components (Hofmann et al. 2012; Zhou et al. 2012). Some EF scholars employ questionnaires such as the Behavior Rating Inventory of Executive Functioning (BRIEF; Gioia et al. 2001). In addition to EF-based tests and physiological measures (e.g., vagal tone; McLaughlin et al. 2015), a small number of developmentally appropriate task- or observation-based measures exist but are rarely adopted (e.g., the adapted delay of gratification paradigm for adolescents; Wulfert et al. 2002). For those working from non-EF theoretical perspectives, as is typical in the temperament and personality literatures, adolescent self-regulation is largely assessed using self-report questionnaires, which are likely favored because of their ease and simplicity (Rothbart and Bates 2006). Most of these questionnaires focus on youths' self-perceptions of their self-regulatory abilities, and a subset assess the specific strategies teens use for regulation (e.g., how frequently teenagers use positive reappraisal to manage negative emotions; for a review, see Schäfer et al. 2017). While the reports of parents and teens correlate at least

moderately (e.g., Moilanen 2007), the possibility of inaccurate responding cannot be dismissed (e.g., adolescents with poor self-regulation may be particularly likely to provide inflated reports of their regulatory abilities; Kruger and Dunning 1999).

It is notable that self-regulation questionnaires share a near-exclusive focus on momentary or short-term control, but that items rarely specify a temporal context (i.e., teens may interpret these questions in unique ways). Further, items with vague references to time are often combined with those tapping either short- or long-term regulation into single indices. The collective shortcomings make it difficult to understand whether observed associations are applicable to one or both forms of self-regulation. Researchers have begun to address this limitation by using measures with disaggregated factors of short- and long-term regulation (e.g., the Adolescent Self-Regulatory Inventory; Moilanen 2007, 2015), of distinct processes of selection, optimization, and compensation (Gestsdottir et al. 2009) and by measuring self-regulation in terms of personal goal processes (e.g., Scott et al. 2008). While several of these questionnaires of short-term and/or long-term self-regulation have been validated extensively, not all of these measures have received such scrutiny, and there is limited data on the degree of overlap of the various measures presently in use. Similarly, while there are correlations in the expected directions when measures are from the same modality (e.g., between questionnaire-based self-reports of effortful control and intentional regulation; Liu and Chang 2016), there is lackluster evidence of such associations when multiple modalities are employed (Allom et al. 2016; Duckworth and Kern 2011). As evidenced in Fine et al. (2016) and Gestsdóttir et al. (2017), scores from EF tasks are inconsistently correlated with those from questionnaire-based assessments. Further exploration of areas of confluence is necessary while the field builds toward a fully integrative theoretical framework. Thus, for future studies, scholars should strive to include reports from multiple informants and to use other developmentally appropriate methodologies beyond self-report questionnaires.

Gaps in Knowledge

Impressive strides have been made since the publication of the first edition of this encyclopedia, and several of the gaps identified by Moilanen (2012) have been addressed to some degree. Yet a number of pressing issues remain and require attention in future research. Given the importance of self-regulation in the development of adolescents' psychological and behavioral adjustment, these lingering questions must be answered in order to inform the timing, content, and scope of prevention and intervention efforts. Some of these gaps cannot be addressed in the absence of new longitudinal data collection efforts.

Although there has been noteworthy progress in terms of describing developmental changes, as noted above, many of these inquiries have focused on rank-order stability over relatively short durations of time and/or involved short-term forms of self-regulation. Thus there remains a need to explore the developmental course and timing of changes in long-term elements of self-regulation (as suggested by Moilanen 2012). Relatedly, longitudinal designs are also required to test understudied hypotheses about whether self-regulation is a cause or consequence of its correlates during the teen years. Several theoretical models discussed above describe how heritable individual propensities, socialization efforts, and other antecedents shape self-regulation, which in turn leads to individual differences in adjustment-, academic-, and health-related outcomes (e.g., Deater-Deckard 2014; Morris et al. 2007). At the same time, it is widely assumed that internal and external covariates continue to impact the development of self-regulation and that improvements in self-regulatory abilities will be followed by desistence from risk behaviors and gains in positive forms of adjustment during adolescence (Moilanen et al. 2015). While the data for adjustment outcomes substantiate this assumption (e.g., Kuhnle et al. 2012; Wills et al. 2008), this has not been the case for parenting: neither Moilanen et al. (2015) nor Tiberio et al. (2016) uncovered convincing evidence that maternal or paternal parenting practices lead to subsequent changes in self-regulation during early adolescence. Similarly, the degree to which self-regulation is itself

undermined by involvement in risk behaviors or psychopathology remains obscure, with some investigations demonstrating effects (e.g., Rasmussen et al. 2014), effects for some youth only (e.g., boys: de Kemp et al. 2009), and others finding none (e.g., Kuhnle et al. 2012). Cumulatively, these gaps introduce uncertainty about the potential value of some types of intervention and prevention efforts: on one hand, parenting interventions aimed at improving adolescents' self-regulation and preventing risk behaviors are unlikely to be effective if parenting has minimal effects after childhood. On the other hand, new information about if and how self-regulation may be undermined by maladjustment or involvement in risk behaviors could point to novel intervention avenues; treating initial problems may support growth in self-regulatory capacities, which may then indirectly prevent other problems and promote healthy development.

This area of research would greatly benefit if researchers shifted their attention to novel antecedents and to studying established antecedents in new ways. In the first edition of this encyclopedia, Moilanen (2012) urged researchers to explore extrafamilial influences, particularly those of peers. This gap remains acute, addressed only in a few studies that included peer, teacher, and neighborhood effects, such as those discussed above. Although information is needed about the main effects of these potential antecedents, there is a similar need for data about the degree to which all pathways may be contingent upon other factors. Though the mainstream temperament literature has an extensive tradition of exploring how children's self-regulation interacts with environmental influences to predict developmental outcomes, such approaches have received scanty attention in the adolescent self-regulation literature (Rothbart and Bates 2006). Environmental factors (e.g., parenting practices) may be advantageous only for certain types of youth, and self-regulation may only be protective in specific situational contexts: for example, high levels of maternal discipline in early adolescence were more detrimental for highly regulated teens than for their less-regulated counterparts (Moilanen and Rambo-Hernandez 2017). In turn, Slagt

et al. (2016) revealed that low parental responsivity was particularly harmful for school-aged children with poor regulation. While Gardner et al. (2008) found that self-regulation moderated the association between peer and youth delinquency in a diverse sample, McDermott et al. (2017) revealed that high self-control was only beneficial for protecting against internalizing and externalizing problems in moderately disadvantaged neighborhoods. Such nuanced data would also be useful for targeting prevention and intervention efforts.

Although the strength and consistency of the associations between self-regulation and adjustment outcomes is impressive, there is little understanding of the precise processes underlying those links. Two possibilities are worthy of exploration. First, considering the multifaceted nature of the construct, it may be that one or more specific regulatory skills is crucial for preventing one or more forms of maladjustment, while the same processes may or may not be implicated in promoting positive adjustment. The groundwork for such explorations is already provided by studies revealing that measures of "cool" EF processes (i.e., tasks that require cognitive effort and but are unlikely to arouse affect) explain less variance in adjustment outcomes than do assessments of "hot" regulatory processes (i.e., questionnaires that tap control of negative emotions; Fine et al. 2016; Gestsdóttir et al. 2017). Further, Rasmussen et al. (2014) demonstrated that having poor momentary inhibition of negative emotions was detrimental in the development of depression, which was unrelated to individuals' behavioral control and cognitive regulation. Similarly, being able to restrain sexual impulses was strongly and consistently predictive of a range of sexual risk-taking behaviors in emerging adulthood (Moilanen and Manuel 2017b). Disentangling such associations may be difficult given the degree to which these components of regulation are collinear, but having such detailed information on specific processes may also support targeted intervention efforts. Second, it is also likely that self-regulation influences adjustment via other mediating mechanisms. In other words, one outcome of self-regulation may create a pathway to a

secondary outcome. This possibility was strongly suggested in Moilanen and Manuel (2017b), who identified substance use and social competence with romantic partners as mechanisms linking self-regulation to involvement in risky sexual behaviors: poor regulation was a risk factor for high substance use and low social competence, but high levels of each mediator predicted high numbers of sexual partners in the last year. Though originally described to explain linkages between personality and sexual behaviors (Cooper 2010), self-regulation may predispose individuals to choose situations and contexts that lead to or away from involvement in high- or low-risk behaviors. More attention to this question is needed in relation to outcomes beyond sexual risk-taking during adolescence.

Finally, as of yet, there have been few attempts to explore the possibility of situational variations in self-regulation from developmental frameworks, despite extensive understanding of contextual effects outside of the developmental literature. For example, it is known that specific regulatory strategies are more effective in controllable versus uncontrollable situations, with consequences for individual well-being (Haines et al. 2016). Similarly, individuals are less able to inhibit negative behaviors once their finite regulatory capacities are depleted, but this is particularly true for young adults with low trait-level self-regulation (DeWall et al. 2007). Discipline-specific measurement trends may be one reason for this gap: social psychologists who study self-regulation tend to favor experimental manipulations of situations and to minimize the use of general questionnaires of self-regulatory abilities that are so dominant in this area of developmental science. Such general questionnaires typically eschew the consideration of contextual variations and thus would require substantial modifications to answer questions about contextual or situational effects. Adolescence researchers will need to leave the “questionnaire comfort zone” in order to fill this gap, which will likely include employing experimental manipulations. From a qualitative perspective, Conover and Daiute (2017) surmounted this shortcoming by analyzing text messages in order to identify the

circumstances in which adolescents used self-regulatory strategies. Ultimately, this revealed variations across situational and relational contexts (e.g., there was greater motivation to regulate in conflict situations with peers than with family members). Although a challenging lacuna, this avenue is a promising one for generating new understanding about situational constraints and effective strategy use during adolescence. Paying attention to this gap may help to create new cohesion in the disparate self-regulation literature.

Major Theorists and Researchers

The proliferation of conceptual frameworks in this area makes it difficult to identify a limited number of key theorists and researchers specific to the study of adolescent self-regulation. Many prominent developmental scholars focus on regulation in children and/or adults in addition to teenagers. For example, Amanda Sheffield (e.g., Morris et al. 2007) focused on childhood in the family contextual model described above, yet Morris conducts research on emotion regulation during childhood and adolescence (e.g., Criss et al. 2016). Similarly, although Bridgett et al.’s (2015) intergenerational model has promise for advancing the field in adolescence, David J. Bridgett specializes in childhood-era research. Steinunn Gestsdottir and Richard Lerner (2008) are exceptions, as their model of intentional regulation is specific to adolescence. The situation is comparable to the EF area, in that researchers tend to focus on discrete elements at specific developmental periods: for example, Adele Diamond has emphasized inhibitory control in early childhood, with some studies continuing into early adolescence (for a review, see Blair and Ursache 2011). Finally, within each theoretical camp, individual researchers have established unique niches for understanding self-regulation. For example, Gestsdottir and colleagues have published seminal works on intentional self-regulation and positive youth development, while Kristin Moilanen (2015; Moilanen and Manuel 2017b) has attained prominence in the area of short- and long-term self-regulation and sexual risk-taking. The breadth and depth of this literature preclude the easy identification of a small number of prominent

theorists and researchers particular to adolescent-era self-regulation.

Conclusion

As in other periods of development, the importance of self-regulation for adolescent adjustment is well established and understood. Yet this literature remains underdeveloped in comparison to the rich scholarship on childhood-era regulation. Ultimately, extending knowledge of self-regulation will continue to be of great benefit to scholars of typical and atypical development during the teen years.

Cross-References

- ▶ Delay of Gratification
- ▶ Emotional Reactivity
- ▶ Impulsivity
- ▶ Temperament

References

- Ahmed, S. P., Bittencourt-Hewitt, A., & Sebastian, C. L. (2015). Neurocognitive bases of emotion regulation development in adolescence. *Developmental Cognitive Neuroscience, 15*, 11–25. <https://doi.org/10.1016/j.dcn.2015.07.006>.
- Allom, V., Panetta, G., Mullan, B., & Hagger, M. S. (2016). Self-report and behavioural approaches to the measurement of self-control: Are we assessing the same construct? *Personality and Individual Differences, 90*, 137–142. <https://doi.org/10.1016/j.paid.2015.10.051>.
- Baker, C. N., & Hoerger, M. (2012). Parental child-rearing strategies influence self-regulation, socio-emotional adjustment, and psychopathology in early adulthood: Evidence from a retrospective cohort study. *Personality and Individual Differences, 52*, 800–805. <https://doi.org/10.1016/j.paid.2011.12.034>.
- Barkley, R. A. (1997). *ADHD and the nature of self-control*. New York: Guilford.
- Barnes, J. M., Dean, A. J., Nandam, L. S., O'Connell, R. G., & Bellgrove, M. A. (2011). The molecular genetics of executive function: Role of monoamine system genes. *Biological Psychiatry, 69*, e127–e143. <https://doi.org/10.1016/j.biopsych.2010.12.040>.
- Baum, K. T., Desai, A., Field, J., Miller, L. E., Rausch, J., & Beebe, D. W. (2014). Sleep restriction worsens mood and emotion regulation in adolescents. *Journal of Child Psychology and Psychiatry, 55*, 180–190. <https://doi.org/10.1111/jcpp.12125>.
- Berg, C. A., Wiebe, D. J., Suchy, Y., Hughes, A. E., Anderson, J. H., Godbey, E. I., & ... , White, P. C. (2014). Individual differences and day-to-day fluctuations in perceived self-regulation associated with daily adherence in late adolescents with type 1 diabetes. *Journal of Pediatric Psychology, 39*, 1038–1048. <https://doi.org/10.1093/jpepsy/jsu051>.
- Betts, J., Gullone, E., & Allen, J. S. (2009). An examination of emotion regulation, temperament, and parenting style as potential predictors of adolescent depression risk status: A correlational study. *British Journal of Developmental Psychology, 27*, 473–485. <https://doi.org/10.1348/026151008X314900>.
- Blair, C., & Ursache, A. (2011). A bidirectional model of executive functions and self-regulation. In K. D. Vohs & R. F. Baumeister (Eds.), *Handbook of self-regulation: Research, theory, and applications* (2nd ed., pp. 300–320). New York: Guilford.
- Blakemore, S.-J., & Choudhury, S. (2006). Development of the adolescent brain: Implications for executive function and social cognition. *Journal of Child Psychology and Psychiatry, 47*, 296–312. <https://doi.org/10.1111/j.1469-7610.2006.01611.x>.
- Boelema, S. R., Harakeh, Z., van Zandvoort, M. J. E., Reijneveld, S. A., Verhulst, F. C., Ormel, J., & Vollebergh, W. A. M. (2015). Adolescent heavy drinking does not affect maturation of basic executive functioning: Longitudinal findings from the TRAILS study. *PLoS One, 10*(10), e0139186. <https://doi.org/10.1371/journal.pone.0139186>.
- Bowers, E. P., Gestsdottir, S., Geldhof, G. J., Nikitin, J., von Eye, A., & Lerner, R. M. (2011). Developmental trajectories of intentional self regulation in adolescence: The role of parenting and implications for positive and problematic outcomes among diverse youth. *Journal of Adolescence, 34*, 1193–1206. <https://doi.org/10.1016/j.adolescence.2011.07.006>.
- Bridgett, D. J., Oddi, K. B., Laake, L. M., Murdock, K. W., & Bachmann, M. N. (2013). Integrating and differentiating aspects of self-regulation: Effortful control, executive functioning, and links to negative affectivity. *Emotion, 13*, 47–63. <https://doi.org/10.1037/a0029536>.
- Bridgett, D. J., Burt, N. M., Edwards, E. S., & Deater-Deckard, K. (2015). Intergenerational transmission of self-regulation: A multidisciplinary review and integrative conceptual framework. *Psychological Bulletin, 141*, 602–654. <https://doi.org/10.1037/a0038662>.
- Buker, H. (2011). Formation of self-control: Gottfredson and Hirschi's general theory of crime and beyond. *Aggressive Behavior, 16*, 265–276. <https://doi.org/10.1016/j.avb.2011.03.005>.
- Carlo, G., Crockett, L. J., Wolff, J. M., & Beal, S. J. (2012). The role of emotional reactivity, self-regulation, and puberty in adolescents' prosocial behaviors. *Social Development, 21*, 667–685. <https://doi.org/10.1111/j.1467-9507.2012.00660.x>.

- Casey, B. J., Jones, R. M., & Hare, T. A. (2008). The adolescent brain. *Annals of the New York Academy of Sciences*, *1124*, 111–126. <https://doi.org/10.1196/annals.1440.010>.
- Conover, K., & Daiute, C. (2017). The process of self-regulation in adolescents: A narrative approach. *Journal of Adolescence*, *57*, 59–68. <https://doi.org/10.1016/j.adolescence.2017.03.006>.
- Cooper, M. L. (2010). Toward a person \times situation model of sexual risk-taking behaviors: Illuminating the conditional effects of traits across sexual situations and relationship contexts. *Journal of Personality and Social Psychology*, *98*, 319–341. <https://doi.org/10.1037/a0017785>.
- Criss, M. M., Houlberg, B. J., Cui, L., Bosler, C. D., Morris, A. S., & Silk, J. S. (2016). Direct and indirect links between peer factors and adolescent adjustment difficulties. *Journal of Applied Developmental Psychology*, *43*, 83–90. <https://doi.org/10.1016/j.appdev.2016.01.002>.
- Daly, M., Delaney, L., Egan, M., & Baumeister, R. F. (2015). Childhood self-control and unemployment throughout the life span: Evidence from two British cohort studies. *Psychological Science*, *26*, 709–723. <https://doi.org/10.1177/0956797615569001>.
- de Kemp, R. A. T., Vermulst, A. A., Finkenauer, C., Scholte, R. H. J., Overbeek, G., Rommes, W. M., & Engels, R. C. M. E. (2009). Self-control and early adolescent antisocial behavior: A longitudinal analysis. *Journal of Early Adolescence*, *29*, 497–517. <https://doi.org/10.1177/0272431608324474>.
- de Ridder, D. D., Lensvelt-Mulders, G., Finkenauer, C., Stok, F. M., & Baumeister, R. F. (2012). Taking stock of self-control: A meta-analysis of how trait self-control relates to a wide range of behaviors. *Personality and Social Psychology Review*, *16*, 76–99. <https://doi.org/10.1177/1088868311418749>.
- Deater-Deckard, K. (2014). Family matters: Intergenerational and interpersonal processes of executive function and attentive behavior. *Current Directions in Psychological Science*, *23*, 230–236. <https://doi.org/10.1177/0963721414531597>.
- Demetriou, A. (2000). Organization and development of self-understanding and self-regulation. In M. Zeidner (Ed.), *Handbook of self-regulation* (pp. 209–251). San Diego: Academic.
- Deplus, S., Billieux, J., Scharff, C., & Philippot, P. (2016). A mindfulness-based group intervention for enhancing self-regulation of emotion in late childhood and adolescence: A pilot study. *International Journal of Mental Health and Addiction*. Advance online publication. <https://doi.org/10.1007/s11469-015-9627-1>.
- Dewall, C. N., Baumeister, R. F., Stillman, T. F., & Gailliot, M. T. (2007). Violence restrained: Effects of self-regulation and its depletion on aggression. *Journal of Experimental Social Psychology*, *43*, 62–76. <https://doi.org/10.1016/j.jesp.2005.12.005>.
- Dir, A. L., Coskunpinar, A., & Cyders, M. A. (2014). A meta-analytic review of the relationship between adolescent risky sexual behavior and impulsivity across gender, age, and race. *Clinical Psychology Review*, *34*, 551–562. <https://doi.org/10.1016/j.cpr.2014.08.004>.
- Duckworth, A. L., & Kern, M. L. (2011). A meta-analysis of the convergent validity of self-control measures. *Journal of Research in Personality*, *45*, 259–268. <https://doi.org/10.1016/j.jrp.2011.02.004>.
- Eisenberg, N. (2015). Self-regulation: Conceptual issues and relations to developmental outcomes in childhood and adolescence. In G. Oettingen & P. M. Gollwitzer (Eds.), *Self-regulation in adolescence* (pp. 57–77). Cambridge: Cambridge University Press.
- Eisenberg, N., & Zhou, Q. (2016). Conceptions of executive function and regulation: When and to what degree do they overlap? In J. A. Griffin, P. McCardle, L. S. Freund, J. A. Griffin, P. McCardle, & L. S. Freund (Eds.), *Executive function in preschool-age children: Integrating measurement, neurodevelopment, and translational research* (pp. 115–136). Washington, DC: American Psychological Association. <https://doi.org/10.1037/14797-006>.
- Eisenberg, N., Zhou, Q., Spinrad, T. L., Valiente, C., Fabes, R. A., & Liew, J. (2005). Relations among positive parenting, children's effortful control, and externalizing problems: A three-wave longitudinal study. *Child Development*, *76*, 1055–1071. <https://doi.org/10.1111/j.1467-8624.2005.00897.x>.
- Farley, J. P., & Kim-Spoon, J. (2014). The development of adolescent self-regulation: Reviewing the role of parent, peer, friend, and romantic relationships. *Journal of Adolescence*, *37*, 433–440. <https://doi.org/10.1016/j.adolescence.2014.03.009>.
- Farley, J. P., & Kim-Spoon, J. (2017). Parenting and adolescent self-regulation mediate between family socioeconomic status and adolescent adjustment. *The Journal of Early Adolescence*, *37*, 502–524. <https://doi.org/10.1177/0272431615611253>.
- Fine, A., Steinberg, L., Frick, P. J., & Cauffman, E. (2016). Self-control assessments and implications for predicting adolescent offending. *Journal of Youth and Adolescence*, *45*, 701–712. <https://doi.org/10.1007/s10964-016-0425-2>.
- Finkenauer, C., Engels, R. C. M. E., & Baumeister, R. F. (2005). Parenting behavior and adolescent behavioural and emotional problems: The role of self-control. *International Journal of Behavioral Development*, *29*, 58–69. <https://doi.org/10.1080/01650250444000333>.
- Flexon, J. L., Meldrum, R. C., Young, J. N., & Lehmann, P. S. (2016). Low self-control and the Dark Triad: Disentangling the predictive power of personality traits on young adult substance use, offending and victimization. *Journal of Criminal Justice*, *46*, 159–169. <https://doi.org/10.1016/j.jcrimjus.2016.05.006>.
- Friedman, N. P., Miyake, A., Altamirano, L. J., Corley, R. P., Young, S. E., Rhea, S. A., & Hewitt, J. K. (2016). Stability and change in executive function abilities from late adolescence to early adulthood: A longitudinal twin study. *Developmental Psychology*, *52*, 326–340. <https://doi.org/10.1037/dev0000075>.

- Gardner, T. W., Dishion, T. J., & Connell, A. M. (2008). Adolescent self-regulation as resilience: Resistance to antisocial behavior within the deviant peer context. *Journal of Abnormal Child Psychology*, *36*, 273–284. <https://doi.org/10.1007/s10802-007-9176-6>.
- Gestsdóttir, S., & Lerner, R. M. (2008). Positive development in adolescence: The development and role of intentional self-regulation. *Human Development*, *51*, 202–224. <https://doi.org/10.1159/000135757>.
- Gestsdóttir, S., Lewin-Bizan, S., von Eye, A., Lerner, J. V., & Lerner, R. M. (2009). The structure and function of selection, optimization, and compensation in middle adolescence: Theoretical and applied implications. *Journal of Applied Developmental Psychology*, *30*, 585–600. <https://doi.org/10.1016/j.appdev.2009.07.001>.
- Gestsdóttir, S., Birgisdóttir, F., & Steffanson, K. K. (2017, April). The relation between executive functions and intentional self-regulation in adolescence: Implications for healthy development. In S. Gestsdóttir (Chair), *Self-regulation in the school context: Theoretical issues spanning preschool through adolescence*. Symposium conducted at the Biennial Meeting of the Society for Research in Child Development, Austin.
- Gibbons, F. X., O'Hara, R. E., Stock, M. L., Gerrard, M., Weng, C., & Wills, T. A. (2012). The erosive effects of racism: Reduced self-control mediates the relation between perceived racial discrimination and substance use in African American adolescents. *Journal of Personality and Social Psychology*, *102*, 1089–1104. <https://doi.org/10.1037/a0027404>.
- Gioia, G. A., Isquith, P. K., Guy, S. C., & Kenworthy, L. (2001). *Behavior rating inventory of executive function*. Lutz: Psychological Assessment Resources.
- Gottfredson, M. R., & Hirschi, T. (1990). *A general theory of crime*. Stanford: Stanford University Press.
- Griffin, K. W., Lowe, S. R., Acevedo, B. P., & Botvin, G. J. (2015). Affective self-regulation trajectories during secondary school predict substance use among urban minority young adults. *Journal of Child & Adolescent Substance Abuse*, *24*, 228–234. <https://doi.org/10.1080/1067828X.2013.812530>.
- Hagler, M., Grych, J., Banyard, V., & Hamby, S. (2016). The ups and downs of self-regulation: Tracing the patterns of regulatory abilities from adolescence to middle adulthood in a rural sample. *Journal of Rural Mental Health*, *40*, 164–179. <https://doi.org/10.1037/rmh0000053>.
- Haines, S. J., Gleeson, J., Kuppens, P., Hollenstein, T., Ciarrochi, J., Labuschagne, I., & . . . , Koval, P. (2016). The wisdom to know the difference: Strategy-situation fit in emotion regulation in daily life is associated with well-being. *Psychological Science*, *27*, 1651–1659. <https://doi.org/10.1177/0956797616669086>.
- Heylen, J., Vasey, M. W., Dujardin, A., Vandevivere, E., Braet, C., De Raedt, R., & Bosmans, G. (2017). Attachment and effortful control: Relationships with maladjustment in early adolescence. *The Journal of Early Adolescence*, *37*, 289–315. <https://doi.org/10.1177/0272431615599063>.
- Hofmann, W., Schmiechel, B. J., & Baddeley, A. D. (2012). Executive functions and self-regulation. *Trends in Cognitive Science*, *16*, 174–180. <https://doi.org/10.1016/j.tics.2012.01.006>.
- Jester, J. M., Nigg, J. T., Pottler, L. I., Long, J. C., Fitzgerald, H. E., & Zucker, R. A. (2009). Intergenerational transmission of neuropsychological executive functioning. *Brain and Cognition*, *70*, 145–153. <https://doi.org/10.1016/j.bandc.2009.01.005>.
- Jo, Y., & Bouffard, L. (2014). Stability of self-control and gender. *Journal of Criminal Justice*, *42*, 356–365. <https://doi.org/10.1016/j.jcrimjus.2014.05.001>.
- Kiff, C. J., Lengua, L. J., & Zalewski, M. (2011). Nature and nurturing: Parenting in the context of child temperament. *Clinical Child and Family Psychology Review*, *14*, 251–301. <https://doi.org/10.1007/s10567-011-0093-4>.
- King, K. M., Lengua, L. J., & Monahan, K. C. (2013). Individual differences in the development of self-regulation during pre-adolescence: Connections to context and adjustment. *Journal of Abnormal Child Psychology*, *41*, 57–69. <https://doi.org/10.1007/s10802-012-9665-0>.
- Kruger, J., & Dunning, D. (1999). Unskilled and unaware of it: How difficulties in recognizing one's own incompetence lead to inflated self-assessments. *Journal of Personality and Social Psychology*, *77*, 1121–1134. <https://doi.org/10.1037/0022-3514.77.6.1121>.
- Kuhnle, C., Hofer, M., & Kilian, B. (2012). Self-control as predictor of school grades, life balance, and flow in adolescents. *British Journal of Educational Psychology*, *82*, 533–548. <https://doi.org/10.1111/j.2044-8279.2011.02042.x>.
- Lawson, G. M., & Farah, M. J. (2017). Executive function as a mediator between SES and academic achievement throughout childhood. *International Journal of Behavioral Development*, *41*, 94–104. <https://doi.org/10.1177/0165025415603489>.
- Lawson, R. A., Papadakis, A. A., Higginson, C. I., Barnett, J. E., Wills, M. C., Strang, J. F., & . . . , Kenworthy, L. (2015). Everyday executive function impairments predict comorbid psychopathology in autism spectrum and attention deficit hyperactivity disorders. *Neuropsychology*, *29*, 445–453. <https://doi.org/10.1037/neu0000145>.
- Lengua, L. J. (2006). Growth in temperament and parenting as predictors of adjustment during children's transition to adolescence. *Developmental Psychology*, *42*, 819–832. <https://doi.org/10.1037/0012-1649.42.5.819>.
- Lengua, L. J. (2008, October). *Growth in effortful control and impulsivity in middle-childhood as predictors of children's early-adolescent adjustment problems and positive adjustment*. Paper presented at the 17th Occasional Temperament Conference, San Rafael.
- Li, D., Zhang, W., & Wang, Y. (2015). Parental behavioral control, psychological control and Chinese adolescents' peer victimization: The mediating role of self-control. *Journal of Child and Family Studies*, *24*, 628–637. <https://doi.org/10.1007/s10826-013-9873-4>.

- Liew, J. (2012). Effortful control, executive functions, and education: Bringing self-regulatory and social-emotional competencies to the table. *Child Development Perspectives*, 6, 105–111. <https://doi.org/10.1111/j.1750-8606.2011.00196.x>.
- Liu, Y., & Chang, H. (2016). The role of effortful control in the relationships among parental control, intentional self-regulation, and adolescent obedience. *Journal of Child and Family Studies*, 25, 2435–2446. <https://doi.org/10.1007/s10826-016-0405-x>.
- McDermott, E. R., Donlan, A. E., Anderson, S., & Zaff, J. F. (2017). Self-control and adolescent internalizing and externalizing problems: Neighborhood-based differences. *Journal of Community Psychology*, 45, 297–314. <https://doi.org/10.1002/jcop.21848>.
- McLaughlin, K. A., Rith-Najarian, L., Dirks, M. A., & Sheridan, M. A. (2015). Low vagal tone magnifies the association between psychosocial stress exposure and internalizing psychopathology in adolescents. *Journal of Clinical Child and Adolescent Psychology*, 44, 314–328. <https://doi.org/10.1080/15374416.2013.843464>.
- Moilanen, K. L. (2007). The adolescent self-regulatory inventory: The development and validation of a questionnaire of short-term and long-term self-regulation. *Journal of Youth and Adolescence*, 36, 835–848. <https://doi.org/10.1007/s10964-006-9107-9>.
- Moilanen, K. L. (2012). Self-regulation. In R. J. R. Levesque (Ed.), *Encyclopedia of adolescence* (pp. 2586–2591). New York: Springer.
- Moilanen, K. L. (2015). Short- and long-term self-regulation and sexual risk-taking behaviors in unmarried heterosexual young adults. *Journal of Sex Research*, 52, 758–769. <https://doi.org/10.1080/00224499.2014.959881>.
- Moilanen, K. L., & Manuel, M. L. (2017a). Parenting, self-regulation and social competence with peers and romantic partners. *Journal of Applied Developmental Psychology*, 49, 46–54. <https://doi.org/10.1016/j.appdev.2017.02.003>.
- Moilanen, K. L., & Manuel, M. L. (2017b). *Mechanisms linking self-regulation and sexual behaviors in never-married young adults*. *Journal of Sex Research*. Advance online publication. <https://doi.org/10.1080/00224499.2017.1330394>
- Moilanen, K. L., & Rambo-Hernandez, K. E. (2017). Effects of maternal parenting and mother-child relationship quality on short-term longitudinal change in self-regulation in early adolescence. *Journal of Early Adolescence*, 37, 618–641. <https://doi.org/10.1177/0272431615617293>.
- Moilanen, K. L., Shaw, D. S., & Fitzpatrick, A. (2010). Self-regulation in early adolescence: Relations with maternal regulatory supportive parenting, antagonism, and mother-son relationship quality. *Journal of Youth and Adolescence*, 39, 1357–1367. <https://doi.org/10.1007/s10964-009-9485-x>.
- Moilanen, K. L., Rasmussen, K., & Padilla-Walker, L. M. (2015). Bidirectional associations between self-regulation and parenting styles in early adolescence. *Journal of Research on Adolescence*, 25, 246–262. <https://doi.org/10.1111/jora.12125>.
- Moon, B., McCluskey, J. D., Blurton, D., & Hwang, H. (2014). Parent and teacher practices as sources of low self-control: Evidence from Korea. *Youth Violence and Juvenile Justice*, 12, 167–187. <https://doi.org/10.1177/1541204013481982>.
- Morris, A. S., Silk, J. S., Steinberg, L., Myers, S. S., & Robinson, L. R. (2007). The role of the family context in the development of emotion regulation. *Social Development*, 16, 361–388. <https://doi.org/10.1111/j.1467-9507.2007.00389.x>.
- Mullineaux, P. Y., Deater-Deckard, K., Petrill, S. A., Thompson, L. A., & DeThorne, L. S. (2009). Temperament in middle childhood: A behavioral genetic analysis of fathers' and mothers' reports. *Journal of Research in Personality*, 43, 737–746. <https://doi.org/10.1016/j.jrp.2009.04.008>.
- Muris, P., & Dietvorst, R. (2006). Underlying personality characteristics of behavioral inhibition in children. *Child Psychiatry and Human Development*, 36, 437–445. <https://doi.org/10.1007/s10578-006-0014-9>.
- Ng-Knight, T., Shelton, K. H., Riglin, L., McManus, I. C., Frederickson, N., & Rice, F. (2016). A longitudinal study of self-control at the transition to secondary school: Considering the role of pubertal status and parenting. *Journal of Adolescence*, 50, 44–55. <https://doi.org/10.1016/j.adolescence.2016.04.006>.
- Nigg, J. T. (2017). Annual research review: On the relations among self-regulation, self-control, executive functioning, effortful control, cognitive control, impulsivity, risk-taking, and inhibition for developmental psychopathology. *Journal of Child Psychology and Psychiatry*, 58, 361–383. <https://doi.org/10.1111/jcpp.12675>.
- Nobile, M., Bianchi, V., Monzani, D., Beri, S., Bellina, M., Greco, A., & . . . , Moltini, M. (2016). Effect of family structure and TPH2 G-703T on the stability of dysregulation profile throughout adolescence. *Journal of Affective Disorders*, 190, 576–584. <https://doi.org/10.1016/j.jad.2015.10.057>.
- Otterpohl, N., & Wild, E. (2015). Cross-lagged relations among parenting, children's emotion regulation, and psychosocial adjustment in early adolescence. *Journal of Clinical Child & Adolescent Psychology*, 44, 93–108. <https://doi.org/10.1080/15374416.2013.862802>.
- Pérez-Edgar, K. (2015). Effortful control in adolescence: Individual differences within a unique developmental window. In G. Oettingen & P. Gollwitzer (Eds.), *Self-regulation in adolescence* (pp. 78–99). New York: Cambridge University Press.
- Propper, C., Moore, G. A., Mills-Koonce, W. R., Halpern, C. T., Hill-Soderlund, A. L., Calkins, S. D., & . . . , Cox, M. (2008). Gene-environment contributions to the development of infant vagal reactivity: The interaction of dopamine and maternal sensitivity. *Child Development*, 79, 1377–1394. <https://doi.org/10.1111/j.1467-8624.2008.01194.x>.

- Raizada, R. D. S., & Kishiyama, M. M. (2010). Effects of socioeconomic status on brain development, and how cognitive neuroscience may contribute to levelling the playing field. *Frontiers in Human Neuroscience*, *4*, 3. <https://doi.org/10.3389/neuro.09.003.2010>.
- Rasmussen, K., Moilanen, K. L., & Padilla-Walker, L. M. (2014, March). Exploring associations between emotional, behavioral, and cognitive regulation and adjustment outcomes. In S. Gestsdottir (Chair), *The role of self-regulation in healthy adolescent development: Exploring the complexities*. Symposium conducted at the Biennial Meeting of the Society for Research on Adolescence, Austin.
- Rothbart, M. K., & Ahadi, S. A. (1994). Temperament and the development of personality. *Journal of Abnormal Psychology*, *103*, 55–66. <https://doi.org/10.1037/0021-843X.103.1.55>.
- Rothbart, M. K., & Bates, J. E. (2006). Temperament. In W. Damon, R. Lerner, & N. Eisenberg (Eds.), *Handbook of child psychology: Social, emotional, and personality development* (Vol. 3, 6th ed., pp. 99–166). Hoboken: Wiley.
- Schäfer, J. Ö., Naumann, E., Holmes, E. A., Tuschen-Caffier, B., & Samson, A. C. (2017). Emotion regulation strategies in depressive and anxiety symptoms in youth: A meta-analytic review. *Journal of Youth and Adolescence*, *46*, 261–276. <https://doi.org/10.1007/s10964-016-0585-0>.
- Scott, W. D., Dearing, E., Reynolds, R. R., Lindsay, J. E., Baird, G. L., & Hamill, S. (2008). Cognitive self-regulation and depression: Examining academic self-efficacy and goal characteristics in youth of a northern plains tribe. *Journal of Research on Adolescence*, *18*, 379–394. <https://doi.org/10.1111/j.1532-7795.2008.00564.x>.
- Siegmunt, O. (2016). *Neighborhood disorganization and social control: Case studies from three Russian cities*. New York: Springer.
- Skripkauskaite, S., Hawk, S. T., Branje, S. T., Koot, H. M., van Lier, P. C., & Meeus, W. (2015). Reactive and proactive aggression: Differential links with emotion regulation difficulties, maternal criticism in adolescence. *Aggressive Behavior*, *41*, 214–226. <https://doi.org/10.1002/ab.21583>.
- Slagt, M., Dubas, J. S., & van Aken, M. A. G. (2016). Differential susceptibility to parenting in middle childhood: Do impulsivity, effortful control and negative emotionality indicate susceptibility or vulnerability? *Infant and Child Development*, *25*, 302–324. <https://doi.org/10.1002/icd.1929>.
- Snyder, H. R., Gulley, L. D., Bijttebier, P., Hartman, C. A., Oldehinkel, A. J., Mezulis, A., & . . . Hankin, B. L. (2015). Adolescent emotionality and effortful control: Core latent constructs and links to psychopathology and functioning. *Journal of Personality and Social Psychology*, *109*, 1132–1149. <https://doi.org/10.1037/pspp0000047>.
- Staiano, A. E., Abraham, A. A., & Calvert, S. L. (2012). Competitive versus cooperative exergame play for African American adolescents' executive function skills: Short-term effects in a long-term training intervention. *Developmental Psychology*, *48*, 337–342. <https://doi.org/10.1037/a0026938>.
- Stautz, K., & Cooper, A. (2013). Impulsivity-related personality traits and adolescent alcohol use: A meta-analytic review. *Clinical Psychology Review*, *33*, 574–592. <https://doi.org/10.1016/j.cpr.2013.03.003>.
- Steinberg, L., Graham, S., O'Brien, L., Woolard, J., Cauffman, E., & Banich, M. (2009). Age differences in future orientation and delay discounting. *Child Development*, *80*, 28–44. <https://doi.org/10.1111/j.1467-8624.2008.01244.x>.
- Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality*, *72*, 271–324. <https://doi.org/10.1111/j.0022-3506.2004.00263.x>.
- Tiberio, S. S., Capaldi, D. M., Kerr, D. R., Bertrand, M., Pears, K. C., & Owen, L. (2016). Parenting and the development of effortful control from early childhood to early adolescence: A transactional developmental model. *Development and Psychopathology*, *28*, 837–853. <https://doi.org/10.1017/S0954579416000341>.
- Toplak, M. E., Jain, U., & Tannock, R. (2005). Executive and motivational processes in adolescents with Attention-Deficit-Hyperactivity Disorder (ADHD). *Behavioral and Brain Functions*, *1*, 1–12. <https://doi.org/10.1186/1744-9081-1-8>.
- Vijayakumar, N., Whittle, S., Dennison, M., Yücel, M., Simmons, J., & Allen, N. B. (2014). Development of temperamental effortful control mediates the relationship between maturation of the prefrontal cortex and psychopathology during adolescence: A 4-year longitudinal study. *Developmental Cognitive Neuroscience*, *9*, 30–43. <https://doi.org/10.1016/j.dcn.2013.12.002>.
- von Salisch, M. (2001). Children's emotional development: Challenges in their relationships to parents, peers, and friends. *International Journal of Behavioral Development*, *25*, 310–319. <https://doi.org/10.1080/01650250143000058>.
- Whiteside, S. P., & Lynam, D. R. (2001). The Five Factor Model and impulsivity: Using a structural model of personality to understand impulsivity. *Personality and Individual Differences*, *30*, 669–689. [https://doi.org/10.1016/S0191-8869\(00\)00064-7](https://doi.org/10.1016/S0191-8869(00)00064-7).
- Wills, T. A., Ainette, M. G., Stoolmiller, M., Gibbons, F. X., & Shinar, O. (2008). Good self-control as a buffering agent for adolescent substance use: An investigation in early adolescence with time-varying covariates. *Psychology of Addictive Behaviors*, *22*, 459–471. <https://doi.org/10.1037/a0012965>.
- Wills, T. A., Simons, J. S., Sussman, S., & Knight, R. (2016). Emotional self-control and dysregulation: A dual-process analysis of pathways to externalizing/internalizing symptomatology and positive well-being in younger adolescents. *Drug and Alcohol Dependence*, *163*(Suppl 1), S37–S45. <https://doi.org/10.1016/j.drugalcdep.2015.08.039>.
- Wulfert, E., Block, J. A., Santa Ana, E., Rodriguez, M. L., & Colsman, M. (2002). Delay of gratification:

Impulsive choices and problem behaviors in early and late adolescence. *Journal of Personality*, 70, 533–552. <https://doi.org/10.1111/1467-6494.05013>.

Zhou, Q., Chen, S. H., & Main, A. (2012). Commonalities and differences in the research on children's effortful control and executive function: A call for an integrated model of self-regulation. *Child Development Perspectives*, 6, 112–121. <https://doi.org/10.1111/j.1750-8606.2011.00176.x>.

Self-Report

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Overview

Adolescents may face obstacles on their paths to adulthood including delinquency, substance use, early or unprotected sex, family conflict, and mental illness. Adolescent self-report is the primary source of information about these factors, and the only source for some factors, but adolescents may not answer surveys accurately. Adolescents' self-reported risk behaviors are collected by surveys including the Youth Risk Behavior Survey, Monitoring the Future, and the National Survey on Drug Use and Health, which are used by federal, state, and local governments to monitor risk behavior prevalence, set policy priorities, and promote legislation. Understanding the limitations of adolescent self-report is important for accurately measuring changes over time, determining geographic areas and demographics with greater risk behavior prevalence, and targeting and evaluating public health interventions. Inaccurate data can easily lead to mistakes in policy creation and evaluation.

The limitations of adolescent self-report are primarily found using two methodologies. First, researchers can compare adolescents' self-reported survey responses with the true answer, as determined by a gold standard. Second, several survey methods can detect inconsistent responses that suggest that the survey responses are inaccurate.

Like adults, adolescents' self-reported behavior is most accurate for easily recalled information that is not sensitive or deviant within their social context. Binary/dichotomous questions are more easily recalled and have greater accuracy than questions with many potential answers, such as recalling dates or number of times. The theories of adult self-report can generally be directly applied to adolescents. These theories are summarized in Stone et al. (2000), Sudman et al. (1996), Tanur (1992), and Turner (1984).

Inaccurate self-report does not only show the limitations of data: it can also be constructive. The limitations of adolescent self-report can also serve as a form of revealed preferences that may give researchers insight into respondents' attitudes about their behaviors. Adolescents who are surveyed twice separated by some time period and who retract their earlier reported risk behaviors reveal that they perceive themselves to have changed more effectively than a simple survey question could determine. Adolescents whose self-reports differ from the results of a gold standard assessment, such as a blood test or physical measurement, reveal lack of knowledge that may eventually represent a health risk.

Measures and Measurement Issues

The validity of some survey items can be evaluated by comparing the survey report with the true answer, as measured by a gold standard test. Survey item validity can be quantified using epidemiological methods for medical tests. The survey question is analogous to a medical test, with sensitivity, specificity, positive predictive values, and negative predictive values.

For test-retest data, changes between test and retest are evaluated using analysis methods for paired data, such as the McNemar test to detect prevalence changes. A standard z- or chi-squared test for prevalence cannot be used because these tests assume independence and test-retest data is paired.

Many agreement measures could be used to evaluate test-retest data, including raw agreement, Cohen's kappa, polychoric (tetrachoric)

correlation, Pearson correlation, Kendall's tau, and Spearman's rho (Adejumo et al. 2004). In practice, Cohen's kappa is the most commonly used measure of agreement in test-retest data. Raw agreement is the sum of the proportions of those who answer consistently positive and consistently negative, but it does not adjust for the fact that some agreement will be due to chance. Cohen's kappa is a chance-adjusted measure of agreement, but kappa is sensitive to marginal values: a binary question with prevalence farther away from 50% – where the behavior is either very rare or close to universal (100%) – will have lower kappa, so it does not allow questions with different prevalences to be compared. Low kappa values can indicate low agreement, but they can also indicate either low prevalence or prevalence change between waves. Kappa is considered to be fair to good if it is between 0.4 and 0.75 and excellent if it is above 0.75.

Polychoric correlation (PCC) is constructed to be independent of prevalence, so rare and common behaviors can be compared on the same scale and low agreement cannot be attributed to either low prevalence or prevalence change between waves. PCC assumes that discrete responses are based on an underlying normally distributed continuous variable. PCC corrects for the attenuation in correlations due to discretization of response options and is an agreement measure independent of prevalence, in contrast to the conventionally used kappa, and can be interpreted like the usual correlation, in which 0 is chance agreement and 1 is perfect agreement. PCC can also adjust for potential differences in response tendency by wave, such as if adolescents redefine risk behaviors on retest; PCC is high if the primary response tendency difference is a shift.

These three agreement measures examine only the similarity of responses without considering the direction of the consistency: retraction and apparent initiation measure the direction of consistency. These measures give easily interpretable means to compare observed inconsistency with inconsistency expected from chance. Absolute retraction is the proportion of the sample contradicting an earlier reported behavior: an affirmative answer followed by a negative.

Relative retraction is the proportion of those who initially reported the behavior who subsequently retract their report: absolute retraction divided by wave 1 prevalence. Absolute apparent initiation is the proportion of the sample which appears to initiate the behavior between waves by reporting the behavior at wave 2 but not at wave 1. Relative initiation is the proportion of wave 2 endorsers who did not report the behavior at wave 1: absolute initiation divided by wave 2 prevalence. Retraction and initiation depend on prevalence: absolute retraction and initiation are bounded from above by the prevalence of the risk behaviors; rare behaviors have more variable relative retraction and initiation because the denominator is small.

Some researchers make a distinction between consistency (retraction and apparent initiation) over a short period and a long period. For long periods such as 1 year, they refer to external consistency. For shorter periods like 2 weeks, they refer to internal consistency. Both measures are computed the same way; the only difference is in the data used.

Error due to inconsistency in test-retest data can be estimated as a standard error multiplier derived from an epidemiological model to estimate standard epidemiological quantities (e.g., sensitivity, specificity) for diseases with no gold standard test. This method has been applied to test-retest data using the Youth Risk Behavior Survey.

Populations Studied and Sources of Data

Information about the validity of adolescents' self-report comes from three collections of methods: comparison of survey responses against a gold standard, comparison of prevalence estimates obtained from survey data against known base rates (aggregate validity), and survey techniques. Survey techniques to identify misreport are extensive, including bogus and bona fide pipelines, fictitious questions, test-retest data, asking respondents whether they told the truth, and comparing prevalence estimates under different survey modes.

Comparison with a Gold Standard Assessment

“Gold standard” methods for establishing adolescents’ true behavior include administrative records such as school transcripts, biomarkers for drugs and semen exposure, and medical measurements such as blood pressure and height. Self-reported data is less expensive but may be less accurate than such sources of data.

Studies of survey response validity began in the late 1940s, just over a decade after the rise of polling data. The Denver Validity Survey of 1949 compared survey responses from a random sample of 920 adults against a gold standard for questions such as voting and registration status, having a library card, and car ownership and found inaccurate survey responses. It also found that adults misreported related items such as voter registration and voting, but not unrelated items, such as owning a library card, having a telephone, and voting, findings which were subsequently replicated in the 1980s. The political science literature has extensive data about overreport of voting because voting self-report can be compared with administrative data. Respondents who say that they value voting and view voting as a civic obligation and respondents with a third party in the room during the interview are more likely to overreport voting, suggesting that respondents are concerned both with their self-image of civic participation and with their appearance to others.

Similar to adults, adolescents misreport related items, such as math SAT score, verbal SAT score, and GPA.

Application to Health Status

In comparisons of self-report with the true answer, adolescents overreport height and underreport weight, underreport delinquency or arrest, and misreport their circumcision status. A 2003 study of a geographically dispersed and diverse convenience sample of US high school students to validate the YRBS ($n = 2,032$) found that adolescents overreported height by 2.7 in. and underreported weight by 3.5 lb, resulting in a

2.6 kg/m² higher body mass index when based on self-reported versus measured values, enough to move an individual’s classification from normal to overweight or from overweight to obese. A comparison of self-reported and measured height and weight among a nationally representative sample of adolescents (National Youth Physical Activity and Nutrition Study, 2010, $n = 7160$) found that self-reported weight and height are biased toward normal weight: underweight adolescents underreport height and overreport weight, and overweight adolescents overreport height and underreport weight, resulting in a 4% point difference between self-reported obesity and measured obesity.

A 2002 study of indigent youth in Houston ($n = 1,508$), of whom half were circumcised, found that only 65% of circumcised adolescents considered themselves circumcised, 23% did not know, and the remainder considered themselves uncircumcised; only 65% of uncircumcised adolescents considered themselves uncircumcised, 31% did not know, and the remainder considered themselves uncircumcised. Among the 73% of adolescents who thought they knew their circumcision status, the sensitivity of self-reported circumcision status was 90.5% and specificity 94.8%.

Application to Tobacco Use

A saliva test for cotinine detects smoking in the last 24 h. A 1991 RAND Corporation study conducted as part of Project ALERT compared survey responses with cotinine test results. This survey found almost no underreporting and some overreporting: 0.3% of the sample tested positive for cotinine but reported no tobacco use on the survey; 2–6% claimed to use tobacco but had no positive test for cotinine, which could be due to light and experimental smoking. These biomarker findings may not generalize to other testing conditions: if the biomarker were collected prior to survey administration or subjects were told before the survey that their answers would be verified, this knowledge may suppress underreporting. Other studies comparing survey responses with cotinine test results find that adolescents may

underreport smoking. A 1985 study of adolescents aged 12–14 ($n = 1,854$) used salivary cotinine, salivary thiocyanate, and alveolar carbon monoxide as gold standards for smoking and smokeless tobacco. Subjects were told about the biomarker collection. Of the 175 subjects who tested positive for cotinine and would be considered by other studies to be smokers, 40.8% tested negative for the other two indicators of smoked tobacco and were likely smokeless tobacco users. The population of adolescents and the sensitivity of the cotinine test to detect adolescent smoking likely affect whether a cotinine test reveals underreporting or overreporting.

Application to Drug Use

A 1996–1998 study of HIV-positive adolescents ($n = 182$) compared self-reported marijuana use with a urine test and found that more respondents reported using marijuana than the urine test detected. The researchers assumed that negligible numbers of nonusers claim to use marijuana, but this pattern is consistent either with low marijuana test sensitivity or with respondents who self-identify as marijuana users claiming to have used marijuana recently irrespective of actual recent use, which is similar to overreporting of other types of self-identification such as organization affiliation. The researchers recommended combining drug testing and self-report to avoid missing adolescents who would not be detected by either method alone.

Application to Diet

Obesity among adolescents has increased in recent decades, highlighting the need to assess adolescents' total energy intake. The gold standard assessment of total energy intake is the doubly labeled water technique. Participants drink water labeled with uncommon isotopes of hydrogen and oxygen so that their true energy expenditures can be measured; researchers take several urine samples over 7–14 days and measure the presence of these isotopes in the urine. Validation

studies of self-reported dietary intake in children use small samples – a systematic review of 15 studies included 664 participants using three methods of dietary self-report – and attempt inferences about subgroups, such as adolescents and obese children. These validation studies suggest that adolescents both overreport and underreport energy intake and lack the power to suggest that any method of dietary recall yields more accurate results.

Another method for assessing the validity of self-reported energy intake uses photographic images taken (e.g., with a phone that includes a camera) prior to food consumption. The validity of this method has not been evaluated in adolescents.

The intake of specific nutrients may be measured through the detection of metabolites in urine, but these studies focus on adults rather than adolescents. For instance, cruciferous vegetable consumption (e.g., broccoli) predicts lower incidence of cancer, but dietary recall methods may be limited. Cancer researchers supplement self-report measures of cruciferous vegetable consumption with the measurement of a metabolite of these vegetables (isothiocyanate) in urine. Such methods could be applied to adolescents.

Application to HIV Prevention

Biomarkers for unprotected sex are used in HIV prevention trials to address likely non-negligible differential misreporting of adherence to assigned treatment across treatment arms. The need for a biomarker for unprotected sex was highlighted when Jonathan Zenilman and colleagues found a null relationship between reported condom use and STI incidence in Baltimore STI clinic patients ($n = 598$). This null relationship was termed “Zenilman’s anomaly” and highlighted the substantial reporting bias suggesting overreporting of condom use among high-risk groups and the need for accurate biomarkers for unprotected sex. Unprotected vaginal sex is most commonly detected with two biomarkers for substances present in semen: prostate-specific antigen and Y chromosome DNA.

Prostate-specific antigen (PSA) is a biomarker for unprotected vaginal sex in women in the past 24–48 h. Due to its use as a marker for prostate cancer in men, many labs have the ability to test for the presence of PSA with a test that yields a positive or negative result, which costs about \$5 per test, as opposed to \$20 per test for quantitative tests. PSA is the most commonly used biomarker for vaginal semen exposure in women (Gallo et al. 2013). Unprotected receptive anal intercourse among men who have sex with men represents a substantial risk of HIV, but initial tests suggest that PSA is not a viable biomarker in this case: among ten men reporting unprotected receptive anal intercourse in the past 48 h, none tested positive; among three men reporting protected receive anal intercourse, one tested positive.

Y chromosome (Yc) DNA can be detected with a polymerase chain reaction (Yc-PCR) for 7–14 days after coitus, but the sensitivity of the test decays with time. Controlled studies of the rate of clearance of Yc DNA from vaginal secretion using unprotected vaginal intercourse estimated that the half-life of Yc is about 4 days and that Yc remains at detectable levels for as long as 14 days and that the estimated specificity is 92% (95% CI (80, 98)). That is, 92% of women in the calibration trial who had protected sex tested negative for Yc, and the positive result in the remaining 8% of women could be explained by epithelial cells left behind due to digital or oral genital contact with their male partner. Studies using inoculation with 1 mL of semen have estimated the sensitivity of Yc-PCR to be 49% at 24 h after inoculation and 12% at 7 days after inoculation (Jamshidi et al. 2013). In archived samples collected in 1992–1994 from a Baltimore sexually transmitted disease center patient sample reporting 100% condom use in the last 2 weeks ($n = 141$), 55% tested positive on the Yc-PCR.

Among African-American female adolescents ages 15–21 participating in a reproductive health intervention (Atlanta, 2002–2004) who reported 100% condom use in the last 2 weeks ($n = 186$), 34% tested positive for Y chromosome and so are suspected to be overreporters of condom use. Suspected overreporters of condom use are more

likely to have a history of STIs, suggesting that overreport is attributable to self-presentation bias. Suspected overreporters are also more likely to be pregnant 6 months after overreporting condom use, adjusting for reported condom and contraceptive use and reported frequency of sex. These studies illustrate how biomarkers can be used together with self-report to derive a more complex understanding of adolescents' behavior.

Aggregate Validity: Comparison with Known Base Rates

Another method of discovering inaccurate self-report is by comparing the proportions in a representative sample with gold standard administrative data that indicate the true population proportion. Examples of aggregate validity in adults include reports of voting in the most recent election compared with administrative records, reports of donating blood in the past year compared with quantity in blood banks, and reports of current membership in an organization with the actual membership numbers. The Harvard Injury Control Research Center has documented many such examples from extrapolation of nationally representative polls of adults including overreports of shooting a criminal in self-defense compared with the total number of people reporting to emergency departments for any reason or compared with the total number of burglaries. National random telephone surveys find 4–10% of respondents claim to belong to the National Rifle Association (NRA), but NRA figures report only 1.5% of American adults; 15% claim to subscribe to Sports Illustrated, but the magazine reports only 3% of American households purchase a subscription; 20 million Americans report that they have seen alien spacecraft, and 1.2 million report having been in actual contact with creatures from other planets, but the true number is (almost certainly) zero. Aggregate validity methods have not been used much if at all in adolescents, perhaps because of lack of gold standard administrative data about adolescents. The authors' analysis of the nationally representative Add Health data using the Harvard Injury Control

Research Center's methods finds that adolescents likely overreport having been shot or shooting others.

Bogus and Bona Fide Pipelines

Respondents may be more accurate if they believe their self-report will be verified. Two survey techniques attempt to elicit honesty through verification. A bogus pipeline is a survey technique of taking a physiological measurement or collecting a bio-sample which purports to verify respondents' reports without analyzing it. A bona fide pipeline actually measures or analyzes the sample. A bona fide pipeline is the gold standard method above, but the intent is to insure that the respondent knows about the test when answering the survey, and the test is sometimes used as a comparison group for a bogus pipeline group. If more respondents report a behavior on a survey accompanied by physiological measurements than without, researchers conclude that the respondents may conceal their behavior on an unverified self-reported survey, assuming most respondents find the pipeline believable (e.g., respondents may believe that a saliva swab could detect smoking but not, for instance, unprotected vaginal sex). Adult respondents subjected to a bogus pipeline produce higher prevalence of reporting deviant behavior than respondents not subjected to a bogus pipeline, and respondents who are asked to predict the bogus pipeline results estimate higher prevalence as well. These techniques have been used in adults to increase accuracy of women reporting of their sexual attitudes and behavior or food diary reporting in unsuccessful dieters.

Adolescents report more smoking when their answers are verified using physiological samples. Adolescent smokers enrolled in a smoking cessation program reported less cessation when their answers were verified with physiological tests or bogus pipeline condition compared with only a self-administered survey. Adolescents report more smoking and substance use in surveys in which respondents believe their lies can be detected using hair or breath samples.

Fictitious Drugs

Another method of approximating the proportion of respondents who are overreporting is used in surveys of drug use by placing names of fictitious drugs on the survey. It is hypothesized that adolescents who overreport drug use are more likely to claim to use the fictitious drugs. Adolescents who report use of fictitious drugs also reported using many other drugs. Respondents who report using fictitious drugs may, however, be indiscriminate drug users and not know the names of the drugs that they use.

Inconsistency: Test-Retest Data

In the absence of a gold standard test or a credible bogus pipeline, researchers can administer the same questions twice in a short time period and assess the reliability of adolescents' reports. If questions are specific enough that changing answers is logically impossible or very unlikely, administering a survey twice in a short time period can identify misreport: for example, an adolescent may state that they have engaged in a behavior and subsequently say that they have never engaged in the behavior. Retracting earlier reported behaviors – initially reporting having ever engaged in a behavior and subsequently reporting having never engaged in the behavior – implies logically that the respondent gave inaccurate information in at least one of the two surveys, although the data can't reveal which. The Centers for Disease Control and Prevention (CDC) does reliability studies of the Youth Risk Behavior Survey (YRBS) and publishes prevalences and kappas, but does not release the data publicly.

Most reliability studies are by-products of other longitudinal studies in which questions are separated by a larger interval; consistency over a longer time interval is sometimes called external consistency in the literature. Only inconsistent responses are clearly inaccurate because respondents could initiate behavior in a longer time interval. Depending on the questions asked and the time interval between surveys, researchers can detect different types of inconsistencies, including

denial of lifetime use after admitting use in previous wave, denial of use in the past year after admitting recent use in a survey within the past year, and admitting use in the distant past after having denied lifetime use in previous waves.

Studies of recanting have found that adolescents recant their earlier reports of engaging in sexual intercourse, cigarette smoking, the use of alcohol and illegal drugs, abortions, pregnancy, virginity pledges, having a permanent tattoo, driving for respondents under age 15, and pierced ears for men. Demographic factors associated with greater retraction include low education, African-American race, Latino ethnicity, male gender, and younger age. Most demographic factors may not be explanatory but rather could be indicators of an underlying factor which actually causes the retraction. For example, blacks and less educated respondents may be more concerned about self-presentation in front of white interviewers. Low education could be associated with retraction due to poor reading comprehension, which would add noise to the responses. One study that measured sentence complexity through sentence length finds that consistency is on average higher for questions with simpler sentences.

Mode Effects

Studies where researchers administer the same questions in two different survey modes have found that self-administered surveys yield larger proportions of self-reported risk behavior, including number of sex partners and frequency of unprotected sex.

Computer-assisted interviewing appears to elicit at least as many reports of sensitive behaviors as pen and paper surveys, but only if the computer terminals of respondents are separated so that respondents do not suspect that their neighbor can see their responses or if the survey is administered by audio computer-assisted self-administered interview (ACASI). School-based surveys appear to elicit systematically more reports of all behaviors than household-based surveys, both sensitive and nonsensitive behaviors. The theory for why school-based surveys elicit more reports of

sensitive behaviors is that adolescents may feel self-conscious about household members potentially seeing their responses, but the theories do not explain why respondents would report systematically more nonsensitive behaviors such as eating fruit and participating in exercise.

More adolescents report weight control practices in self-administered surveys than interviews: [almost] no adolescents admit unhealthy weight control practices such as vomiting and fasting in interviews, and few report healthy weight control practices such as diet and exercise.

Randomized Response

One method proposed to reduce underreporting is randomized response. Randomized response estimates prevalence at the population level but cannot yield correct data for the individual. Rates of reporting sensitive behaviors such as abortion are higher on randomized response surveys.

Controversies

The reasons for inaccurate self-report are not well understood. Proposed explanations include cognitive factors, social presentation, and self-presentation. These proposed explanations are not mutually exclusive: they may all be true to differing extents.

Cognitive Factors

Survey response can be modeled as four stages: question comprehension and interpretation, memory retrieval, translation into survey response, and editing for self-presentation. Inconsistency can occur due to errors at any of the four stages, and similar factors can cause inconsistency at multiple levels: respondents' interpretation of survey questions and translation of memories into survey response can be influenced by their beliefs and social context, especially in ambiguous situations. Respondents who misreport their risk behavior to peers and parents or on surveys may have formed

false memories, as rehearsal of incorrect responses can change respondents' memories. Salient behaviors – those respondents consider important to their identities, and possibly central – are more available in memory due to rehearsal, so respondents are likely to have more consistent self-presentation of salient behaviors, whether or not the self-presentation is accurate. Adolescence is a period of identity formation, and many adolescents define themselves by their risk behaviors. Adolescents who repeatedly present themselves as having engaged in a risk behavior or not are more likely to repeat that self-presentation to researchers consistently, but if they change their identity, they would be expected also to change their survey reporting, even of past behavior.

Social Factors: Self-Presentation to Others

Risk behaviors are considered to be sensitive, that is, respondents may be concerned about social undesirability of their answers, invasion of privacy, and risk of disclosure of their answers to third parties. Survey response psychologists have traditionally viewed social desirability as reflecting either most respondents' concern with the opinion of the researcher or the need by a subset of respondents for social approval. There is a third possibility: respondents could be concerned with their self-presentation as related to their own self-image.

Privacy invasion is conceptualized by researchers as a product of the question topic, as some topics are intrinsically invasive to ask about, irrespective of the answer. Assessing sensitivity is difficult to do. Some surveys have asked respondents which survey topics would make “most people” “very uneasy,” but these ratings change as social norms do. Although researchers have hypothesized a relationship between question sensitivity and nonresponse, the relationship has empirically been found to be weak. Unit non-response seems related to topic saliency (i.e., respondents' interest in the topic), motivation, and ability to complete the survey (e.g., literacy), rather than topic sensitivity.

Respondents' beliefs and social influences have empirically been shown to be associated with their survey reporting. Behavior that conflicts with respondents' beliefs is likely to be misreported.

Respondents who consider a behavior counter-normative are also less likely to report the behavior and more likely to skip those questions. Gold standard studies with adults show that respondents with greater levels of political interest are more likely to overreport voting and respondents who consider traffic violations and bankruptcy counter-normative report fewer of their traffic violations and bankruptcies. Adolescents may underreport stigmatized behavior due to self-presentation bias or question threat or overreport to improve social status.

Retraction of earlier reported risk behaviors is most common for intimate, deviant, or illegal behaviors and experimental behaviors initially reported as infrequent. Adolescents' retrospective reports of substance use are more highly correlated with self-reported present use than with self-reported use reported at the actual past time period.

Identity Factors

The identity theory of self-report is that respondents use surveys as an expression of their identities, so they will answer surveys according to their identities rather than their actual behavior. Several aspects of the literature of self-report give evidence for the identity theory of self-report. This theory complements the self-presentation theory and is not exclusive of it.

First, self-presentation theory predicts that adolescents will underreport stigmatized and deviant behavior, such as marijuana, smoking, and drug use, and for younger adolescents' sexual behavior. In fact, adolescents seem to overreport these behaviors. The self-presentation theory predicts that adolescents are only concerned with their appearance to others, and it predicts that adolescents are less likely to report deviant behaviors, even if they engaged in them. Self-presentation theory alone does not account for overreport of deviant behaviors.

Second, in short periods, adolescents are actually most consistent in their reports of behaviors such as alcohol and drug use, smoking, and sex, although self-presentation predicts that adolescents may conceal these behaviors (Rosenbaum 2009).

Third, adolescents change their reports of deviant behaviors over long periods, even for behaviors that are unlikely to change, such as having a tattoo and pierced ears for boys. Adolescents who take a virginity pledge or become a born-again Christian are more likely to retract earlier reports of having had sex, while adolescents who have sex or leave born-again Christianity are more likely to retract earlier reports of having taken a virginity pledge. Changed reports of pierced ears for boys and tattoos could indicate changed identity.

Fourth, adolescents seem to anchor on current behavior in reporting past behavior. Longitudinal studies of drug use find that adolescents' recollection of their level of past drug use is more similar to their current level of drug use than to their actual earlier reported drug use.

Fifth, respondents may interpret some survey questions as asking about group affiliation rather than actual behavior. For example, the factor of 5 difference between the 15% of the American population who claims to subscribe to Sports Illustrated subscribers and the 3% of the population who actually do subscribe may be explained by respondents interpreting the question whether they currently subscribe to Sports Illustrated as the identity question "Are you the type of person who subscribes to Sports Illustrated?" Likewise questions about actual past voting behavior may be interpreted as asking about group membership in the set of people who actively vote. Respondents who perceive their current behavior as aberrant from their "usual" behavior and discrepant with their self-image may respond according to identity rather than actual behavior, "to give the right idea" about themselves, in Jack Fowler's words (Fowler 1995).

The risk behaviors that adolescents engage in are a central part of their identities. The consistency of adolescents' survey behavior reveals adolescents' preferences for how to portray themselves to an adult outside their life. Revealed preferences in behaviors have been used

increasingly in economics to measure consumer preferences and attitudes instead of survey responses about hypothetical situations. Inconsistent survey responses may reveal a lack of commitment to a behavior, experimentation with a behavior, and the lack of salience to identity in a shorter period. In a longer period, inconsistent responses may indicate changed identity. Risk behaviors with high levels of inconsistency may be unimportant to adolescents or a domain where many adolescents change their behavior.

Inconsistent reports may also carry information about adolescents' beliefs and priorities. Inconsistent reports are more likely for behaviors that conflict with respondents' identities or values. Respondents are likely to report behavior that conflicts with their beliefs inaccurately: for example, adults with greater levels of political interest are more likely to overreport voting, and respondents with more negative views of traffic violations and bankruptcy report fewer of their own traffic violations and bankruptcies.

Adolescents' retraction of earlier reported risk behaviors is most common for intimate, deviant, or illegal behaviors and experimental behaviors initially reported as infrequent. Adolescents seem to revise their pasts as their current behavior changes: their retrospective reports of substance use are more highly correlated with self-reported present use than with actual past use, adolescents who take a virginity pledge or become born-again Christians are more likely to retract earlier reports of having had sex, and adolescents who have sex or stop being born-again Christians are more likely to retract earlier reports of having taken a virginity pledge. Adolescents' self-images may influence them to be less likely to report weight control practices in interviews than self-administered surveys, both healthy and unhealthy practices, including exercise, diet, vomiting, and fasting. Self-image may also play a role in adolescents' decisions to report using fictitious drugs.

Attempts to Improve Report

To allay respondents' concerns about disclosure of their answers to third parties, surveys give

elaborate confidentiality measures and assurances to respondents, but respondents may not pay attention to them; the wording of confidentiality statements is not associated with response rate for sensitive topics. For nonsensitive topics, confidentiality clauses can decrease response rate because they raise concerns that respondents had not considered. Question sensitivity is also not highly associated with item nonresponse, which may imply either that respondents may not edit their answers or that respondents answer regardless of question sensitivity but misreport if they are uncomfortable with the question.

Randomized response techniques seem to reduce misreporting, but not eliminate it: fewer respondents underreport and overreport of drug use, but 35% of those arrested for drunk driving did not report the arrest even with randomized response. Rates of reporting sensitive behaviors such as abortion are higher on randomized response surveys. Randomized response techniques may not be able to always elicit true answers due to rehearsal of false memories; adults arrested for drunk driving who rehearse an inaccurate self-presentation to their peers are more likely to give that inaccurate report to researchers, despite anonymity afforded by randomized response.

Self-Report Issues in Social Sciences

Researchers may not attend to issues of self-report because they are inconvenient and not easily remedied. In the words of Jack Fowler, researchers may refer to the validation of risk behavior survey instruments “as if having been validated was some absolute state, such as beatification” (Fowler 1995).

Major Theorists and Researchers

Adolescent self-report is studied by epidemiologists, survey methodologists, and subject area researchers, whose research often remains independent of each other due to disciplinary boundaries. Survey methodologists publish in journals for survey methodology and public opinion.

Public Opinion Quarterly, a journal of the American Association for Public Opinion Researchers (AAPOR), has published papers on the validity of self-report since the late 1940s. Survey methodologists working for the US federal government test the validity of their surveys by studying the accuracy of self-report and present their findings to the Federal Committee on Statistical Methodology. Subject area researchers specialize in studying adolescent self-report in their subject area. Separate bodies of research on the accuracy of self-report exist within many fields including substance abuse, sexual behavior, political science, and criminology. Despite thematic similarities, these areas of research often remain separated.

Conclusion

All researchers of adolescence need to understand the accuracy of adolescents’ self-report in order to interpret adolescents’ true behavior, design interventions to improve their behavior, and protect adolescents from risky behavior. Inconsistent self-report is not just an inconvenience to research; it can also serve as a window to adolescents’ norms, self-image, and how adolescents see their own behavior and interpret their pasts. The decreased cost of biomarkers allows researchers to supplement self-reported data with biomarkers.

Cross-References

- ▶ [Diary Methods](#)
- ▶ [Reliability](#)
- ▶ [Validity](#)

References

- Adejumo, A., Heumann, C., & Toutenburg, H. (2004). Review of agreement measure as a subset of association measure between raters. Technical report Sonderforschungsbereich 386, paper 385. Munich: University of Munich.
- Fowler, F. (1995). *Improving survey questions: Design and evaluation* (Applied social research methods series, Vol. 38). Thousand Oaks: Sage.

- Gallo, M. F., Steiner, M. J., Hobbs, M. M., Warner, L., Jamieson, D. J., & Macaluso, M. (2013). Biological markers of sexual activity: Tools for improving measurement in HIV/sexually transmitted infection prevention research. *Sexually Transmitted Diseases, 40*(6), 447–452.
- Jamshidi, R., Penman-Aguilar, A., Wiener, J., Gallo, M. F., Zenilman, J. M., Melendez, J. H., Snead, M., Black, C. M., Jamieson, D. J., & Macaluso, M. (2013). Detection of two biological markers of intercourse: Prostate-specific antigen and Y-chromosomal DNA. *Contraception, 88*(6), 749–757.
- Rosenbaum, J. E. (2009). Truth or consequences: The intertemporal consistency of adolescent self-report on the youth risk behavior survey. *American Journal of Epidemiology, 169*(11), 1388–1397.
- Stone, A. A., Bachrach, C., Jobe, J., Kurtzman, H., Cain, V., & Turkkan, J. (Eds.). (2000). *Science of self-report: Implications for research and practice*. Englewood Cliffs: Lawrence Erlbaum Associates.
- Sudman, S., Bradburn, N., & Schwarz, N. N. (1996). *Thinking about answers: The application of cognitive processes to survey methodology*. San Francisco: Jossey-Bass.
- Tanur, J. (Ed.). (1992). *Questions about questions: Inquiries into the cognitive bases of surveys*. New York: Russell Sage.
- Turner, C. (1984). Why do surveys disagree? Some preliminary hypotheses and some disagreeable examples, chapter. In *Surveying subjective phenomena* (Vol. 2, pp. 159–214). New York: Russell Sage.

Self-Worth

► Self-Perception

Sensation Seeking

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Sensation seeking is a concept that describes a personality trait relating to an individual's relative need for physiological arousal, novel experience, and willingness to take risks to obtain such arousal (Zuckerman 1994). Sensation seeking rests on the notion that individuals reliably differ in their preferences for or aversions to stimuli or experiences with high-arousal potential, and that

this need to seek out novel experiences is highly biologically based. Individuals with higher sensation-seeking tendencies are more willing to take more social, physical, financial, and legal risks. That willingness also results in more negative outcomes for those who engage in higher levels of risk taking.

Although sensation seeking, as a trait, was not developed specifically to apply to adolescents, it is a trait that has great relevance to the adolescent period. Sensation seeking is associated with a host of problem behavior, including illicit drugs, sexual risk taking, reckless driving, smoking, aggressive behaviors, and alcohol use (for a review, see Zuckerman 2007). Importantly, sensation-seeking traits are reflected very early in development. For example, adolescents who report higher sensation-seeking tendencies are more likely to begin engaging in problem behaviors earlier than their peers with lower sensation-seeking tendencies, as have been shown with a variety of different drug use (Zuckerman 1994). As seen below, sensation seeking is of considerable importance to the study of adolescence in that it serves as a marker for intervening to address as well as prevent problem behavior.

Although much of the research on sensation seeking has involved psychological studies using brief assessments of the trait, research also has shown that individual differences in sensation seeking relate to biochemical differences. Biochemical research reveals that engagement in novel behaviors or exciting stimuli elicits a rapid, albeit transient, surge of dopamine. That surge is revealed in an enhanced functioning of the mesolimbic DA (dopamine) reward pathway in the brain of individuals who respond to high novelty (see Donohew et al. 2004). When individuals engage in novel or thrilling experiences, the experiences activate the release of dopamine, which along with serotonin and norepinephrine, results in a chemical reward that is experienced as a positive emotional response. It is this chemical response that individuals describe as the “rush” of strong physical or emotional arousal. This area of research also has led to conclusions supporting the notion that sensation seeking is a heritable trait. For example, adolescent twin studies suggest that

sensation seeking, as a trait, is at least partially heritable (Hur and Bouchard 1997; Koopmans et al. 1995). Research in this area, from both human and other animal research, further reveals that dopaminergic activity increases during adolescence, which may explain why the period of adolescence is seen as potentially fueling an increase in sensation seeking (see Chambers et al. 2003). Evidence in humans indicates that this drive declines from late adolescence onward, suggesting that it peaks during the adolescent period (Zuckerman 1994). Increases in this drive have been viewed as at least partially responsible for the surge in experimentation and risk-taking activities during adolescence. Findings like these suggest that the need for activation and sensation seeking appears, in part, genetically driven to produce underlying biological differences in need for activation, and that these differences may be inherited and that they differ across the life span.

Rather than viewing sensation seeking's apparently high heritability and apparent surge during adolescence as cause for disappointment in efforts to reduce its negative outcomes, researchers have taken advantage of it. And they have done so with considerable success. Sensation seeking actually has become an attractive individual difference variable for envisioning and implementing interventions for a variety of risk-related or illegal behaviors. The robust associations between sensation seeking and adolescent problem behaviors have prompted some to promote sensation seeking as a screening test for those at risk; for example, sensation seeking serves as a useful tool to identify adolescents at risk for onset of binge drinking and established smoking (see Sargent et al. 2010). These efforts are important given, for example, that efforts tailoring antidrug-use messages to adolescents with high sensation-seeking propensities have shown that sensation seekers are more drawn to messages that are novel, complex, intensely stimulating, and arousing. These are important findings given that efforts can then be targeted to specific sensation-seeking tendencies. Research also reveals that these efforts already have been shown to be effective.

Prevention and intervention research using the sensation-seeking construct has been remarkable for its breadth of behaviors examined as well as for the striking effectiveness of the interventions. Palmgreen and Donohew (2003), for example, have shown how the construct of sensation seeking can be useful in media campaigns aiming to reduce risk behavior. They reveal that the concept provides an important avenue for segmenting or targeting the at-risk audience, designing effective messages, and strategically placing these messages in contexts attractive to sensation seekers. For example, time series analyses indicate that current marijuana use by high-sensation seekers dropped between 27% and 38% in two medium-sized cities where an antidrug media campaign targeting sensation seekers was implemented (Palmgreen et al. 2001, 2002). Similarly, media campaigns targeting high-sensation-seeking and impulsive-decision-making young adults have been shown to increase safer sex practices (such as increases in condom use, condom-use self-efficacy, and behavioral intentions) (Zimmerman et al. 2007). Interventions aimed at alcohol use have revealed similar results, with a leading research group assessing sensation seeking, negative thinking, anxiety sensitivity, and impulsivity to identify adolescents at higher risk for alcohol use; they found that tailored interventions designed to address the identified risk factor resulted in reductions in binge drinking among sensation seekers that were attributable to the intervention; results were mixed for the other personality assessments (Conrod et al. 2008). Several other types of efforts to take advantage of our knowledge of sensation seeking have been shown successful. Most notably, classroom-based interventions have successfully reduced risky sexual behaviors with high-sensation seekers (Donohew et al. 2000). Importantly, these findings should not be seen as surprising in that research on risk taking and problem behavior has long revealed that numerous factors can act to counter the drive for sensation seeking, such as religiosity, self-esteem, and educational/life aspirations, as well as other buffers like responsive parenting (Jessor and Jessor 1977).

Cross-References

► Risk-Taking

References

- Chambers, R. A., Taylor, J. R., & Potenza, M. N. (2003). Developmental neurocircuitry of motivation in adolescence: A critical period of addiction vulnerability. *The American Journal of Psychiatry*, *160*, 1041–1052.
- Conrod, P. J., Castellanos, N., & Mackie, C. (2008). Personality-targeted interventions delay the growth of adolescent drinking and binge drinking. *Journal of Child Psychology and Psychiatry*, *49*, 181–190.
- Donohew, L. D., Zimmerman, R. S., Novak, S. P., Feist-Price, S., & Cupp, P. (2000). Sensation-seeking, impulsive decision making, and risky sex: Implications of individual differences for risk-taking and design of interventions. *Journal of Personality and Individual Differences*, *28*, 1079–1091.
- Donohew, L., Bardo, M. T., & Zimmerman, R. S. (2004). Personality and risky behavior: Communication and prevention. In R. M. Stelmack (Ed.), *On the psychobiology of personality: Essays in honor of Marvin Zuckerman* (pp. 223–245). San Diego: Elsevier.
- Hur, Y., & Bouchard, T. J., Jr. (1997). Genetic influences on impulsivity and sensation-seeking. *Behavior Genetics*, *27*, 455–463.
- Jessor, R., & Jessor, S. L. (1977). *Problem behavior and psychosocial development: A longitudinal study of youth*. New York: Academic Press.
- Koopmans, J. R., Boomsma, D. I., Heath, A. C., & van Doornen, L. J. P. (1995). A multivariate genetic analysis of sensation seeking. *Behavior Genetics*, *25*, 349–356.
- Palmgreen, P., & Donohew, L. (2003). Effective mass media strategies for drug abuse prevention campaigns. In Z. Sloboda & W. Bukoski (Eds.), *Effective strategies for drug abuse prevention* (pp. 27–43). New York: Kluwer/Plenum.
- Palmgreen, P., Donohew, L., Lorch, E. P., Hoyle, R. H., & Stephenson, M. T. (2001). Television campaigns and adolescent marijuana use: Tests of a sensation seeking targeting. *American Journal of Public Health*, *91*, 292–296.
- Palmgreen, P., Donohew, L., Lorch, E. P., Hoyle, R. H., & Stephenson, M. T. (2002). Television campaigns and sensation seeking targeting of adolescent marijuana use: A controlled time-series approach. In R. C. Hornik (Ed.), *Public health communication: Evidence for behavior change* (pp. 35–56). Hillsdale: Lawrence Erlbaum.
- Sargent, J. D., Tanski, S., Stoolmiller, M., & Hanewinkel, R. (2010). Using sensation seeking to target adolescents for substance use interventions. *Addiction*, *105*, 506–514.
- Zimmerman, R. S., Palmgreen, P., Noar, S. M., Lustria, M. L. A., Lu, H. Y., & Horosewski, M. L. (2007). Effects of a televised two city safer sex mass media campaign targeting high sensation seeking and impulsive decision making young adults. *Health Education & Behavior*, *34*, 810–826.
- Zuckerman, M. (1994). *Behavioral expressions and biosocial bases of sensation seeking*. New York: New Cambridge University Press.
- Zuckerman, M. (2007). *Sensation seeking and risky behavior*. Washington, DC: American Psychological Association.

Sensational Interests

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Overview

This essay examines the current status of sensational interests and their relationship with offending in adolescence. The essay describes sensational interests, their measurement, and how they came to be associated with criminal behavior. New research, which addresses the complexity of the relationship, is discussed and recommendations are made for further developments in the field.

Defining Sensational Interests

Sensational interests denote an interest in dramatic and bizarre constructs observed in the histories of serious offenders, but which are often raised transiently in adolescents and young adults (Weiss et al. 2004). These topics are associated with personality, in particular low agreeableness and greater sensation-seeking (Charles and Egan 2009; Egan et al. 2001, 2003). This overlapping of population interests necessitates cautious and systematic work on such interests, as it is not possible to extrapolate

from a single individual's recreational, musical, or filmic tastes to the clinical-forensic inference that such interests denote risk without making a *post-hoc ergo propter hoc* (after this so because of this) error (Egan 2004). Sensational interests can be measured using the Sensational Interests Questionnaire (SIQ) developed by Egan et al. (1999), or the SIQ-R (Weiss et al. 2004). The SIQ comprises 28 items, which measure interests along a scale of -2 for "great dislike" through to $+2$ for "great interest." The development of the SIQ has allowed almost two decades of quantitative research in this area to flourish and provide new insights into the role of sensational interests in different populations. The significance of sensational interests in a criminal or psychopathological context was previously defined from reported case studies and qualitative research which was not intended to be used diagnostically (e.g., Brittain 1970). However, concerns about the impact of violent, sexual, and irreverent material on vulnerable and unstable individuals has nevertheless led sensational interests to be given more causal influence than is perhaps warranted. These methods of analysis and focus on extreme individuals meant that many groups who may have sensational interests were ignored, e.g., the normal adult population and adolescents. Using such sources of information also reinforced the notion that sensational interests were inherently pathological.

Agreement on what constitutes a sensational interest is debatable as they are culturally and historically (and possibly age-) dependent; heavy metal rock groups such as "Black Sabbath," who sing songs with occult and violent themes are played by and performed to audiences who are now in their 60s and 70s, and (mostly) live lives of quiet convention. Factor-analysis of SIQ items reveals two broad dimensions: militarism and the supernatural. The militarism dimension includes an interest in guns, martial arts, crossbows, swords, survivalism, and the SAS. This group of interests consistently emerges in a variety of research samples ranging from normal adolescents (Charles and Egan 2009), student populations (Weiss et al. 2004), adults (Hagger-Johnson and Egan 2010), and psychopathological

participants (Egan et al. 2003); in conjunction with more general traits associated with criminality, it also predicts weapons carrying in adolescents (Barlas and Egan 2006).

There is some debate around supernatural interests and how they may manifest in different groups. The original SIQ presented a factor of violent occultism interests (e.g., paganism, black magic, and werewolves) alongside the more benign factor of occult credulousness (e.g., flying saucers, the paranormal, and astrology). Research with adolescents has shown that these two factors overlap (Charles and Egan 2008; Charles and Egan 2009) and that adolescents do not make the same distinctions between these interests as adults do. This may reflect a lack of detailed knowledge on the subjects or a more sanitized knowledge gained through the media rather than through genuine involvement. It could be argued, for example, that "Harry Potter," "Doctor Who," or "Buffy the Vampire Slayer" and their various foes are fantastic or supernatural, yet an interest in this popular entertainment is not comparable with a nonpsychotic individual who may believe they practice black magic.

The Media's Role in Sensational Interests

The role of the media is important in considering where the link between unusual interests and crime comes from, and how that link is maintained in the public imagination. Curiosity concerning the relationship between unusual, sensational interests and criminality has been evident in the psychological and psychiatric literature for decades (Charles and Egan 2008). The general public, however, tend not to form their opinions from scholarly and clinical sources, and rely instead on the presentation of individual case studies and the myths generated by cinematic representations of offender profiling (Snook et al. 2008). It is easy to find examples of both adult and adolescent offenders who have the kind of interests discussed above. The 20-year-old Richard Samuel McCroskey III was indicted of the killing of three persons in Virginia, USA, and was allegedly a "horrorcore" rapper who

performed alongside the rap and death-metal pop groups such as “Dismembered Fetus” and “Phrozen Body Boy” (Drash 2009). In 2010 the UK media reported on Stephen Griffiths, a Criminology PhD student, who was sentenced to life in prison for the murder of three prostitutes in Bradford, Yorkshire (Brown 2010). Griffiths (despite being 40) maintained the lifestyle of an outsider adolescent, and identified himself in court as “the crossbow cannibal.” Media outlets reported at length his interest in serial killers, gothic subculture, and carnivorous lizards (Gray 2010). Such cases have an implied causation. The murder of Jodi Jones by Luke Mitchell in Scotland in 2003 is an often-discussed example of the keenness to connect satanic or “gothic” interests to crime. Mitchell was reported as being a heavy cannabis user, writing messages about the devil on his schoolbooks, and was identified as a Goth (Charles and Egan 2008). Prior to this phase in his life Mitchell had been an army cadet. His victim, Jodi, also aspired to being a Goth but this was considered as something which made her vulnerable, rather than violent (which suggests that the interest is interpreted differently depending on whether it is held by a perpetrator or a victim). Scott Dyleski, who was found guilty of a brutal murder in 2005, is a US example of a homicidal teenager who followed a “gothic” identity. Like Mitchell, Dyleski also used cannabis and had a reported interest in serial killers (Mitchell was supposedly fascinated by the Black Dahlia murder). Dyleski’s youth and his transformation from a conservative looking young boy into a macabre looking teenager were visually documented in the US media, and he was described by some as “weird” (Sweetingham 2006). Though slightly older than the teenagers Mitchell and Dyleski, Kimveer Gill (aged 25), who killed one person and injured 19 in 2006 after a mass-shooting at Dawson College in Montreal, was essentially also adolescent, as the context and circumstances of his offenses reflect an adolescent attitude. Gill had reportedly become fascinated with the Columbine High School shootings and posted numerous images of himself posing with guns on the website vampirefreaks.com (www.vampirefreaks.com)

(BBC 2006). Gill listed the computer game “Super Columbine RPG” as one of his favorites. The photographs appear to have been taken in Gill’s bedroom where the walls were adorned with horror film and gangster posters. The published details of his life suggest a fascination for guns, knives, Gothic culture, and that Gill spent one month receiving military training after claiming he wanted to be a mercenary.

The cases briefly outlined above show how easy it is through the media to link extreme and serious crime with sensational interests in both adults and adolescents. In the last decade this has arguably become easier, as individuals leave behind weblogs and social networking pages detailing their thoughts, interests, and plans. Hagger-Johnson et al. (2011) found that social networking profiles, which can be used as character evidence in criminal trials, are reliable indicators of an individual’s level of sensational interests. Very soon after suspects (and sometimes victims) are identified in a criminal case, there is a flurry of activity from journalists and the public to analyze their online presence for clues or indicators of their lifestyle. Davies (2016) reports on the case of Stephen Port who killed four men after using the app “Grindr” to meet them for sex. Port’s online presence allowed for a range of photographs and information about him to be shared and analyzed in the mainstream media and on websites such as “Reddit.” A trail of evidence, which may have previously been seen or deduced only by those closest to the offender or the police, is now open to everyone and remains cached in search engines long after it has officially been removed.

The reverse side of this is that it is also easy to see just how common sensational interests are. The website vampirefreaks.com (www.vampirefreaks.com) has over two million profiles with names such as MorbidLoser, kill-yourself, MechanicalCannibal, and Deadly Asphyxia. If one of those individuals were to commit a crime, the presence of his profile would be used as evidence of his strangeness and violent potential. However, this profile would be one of two million and has no forensic significance without other information. The UK site for Amazon has over

11,000 books about Satan across paperback, hardback, audiobook, and Kindle (with 184 specific biographies of Satan) (Amazon 2017a). “The Satanic Bible” has 264 customer reviews (Amazon 2017b). A similar example of mass-market sensational interests is the “Saw” franchise of seven horror films which have sold hundreds of millions of tickets (<http://www.the-numbers.com/market/genre/Horror>) and led to video game and theme park spin offs. These observations serve to highlight how mainstream sensational interests are and what an appetite many “normal” people have for them. Such interests only assume a pathological significance when they are linked to criminal or otherwise deviant behavior; it is likely that the mechanism for this lies in extremes of personality, such that the influence of sensational interests on actual behavior operates through synergy with antagonistic and risk-taking disposition.

Research on Sensational Interests and Crime

Turning from the media to research, an example of this tendency for retrospective analysis has been seen in the literature on deviant sexual fantasies, which has routinely linked deviant fantasy with sexual homicide (Gee and Belofastov 2007). Although Gee and Belofastov acknowledge the lack of empirical research clearly explaining the nexus between deviant fantasies and offending, they go on to discuss an escalation and desensitization approach, which suggests fantasy becomes progressively more harmful and graphic until it is acted upon. They believe that this model is useful in offender profiling as “signature behaviors essentially mirror a perpetrator’s core fantasies; therefore, by attempting to understand the offender’s sexual fantasies, the investigator may develop a better insight into the psychological makeup of the offender” (Gee and Belofastov 2007, p. 65). As with sensational interests, there are plenty of case studies, which apparently show deviant fantasy to be very important with one of the most widely known being Ted Bundy. Bundy was interviewed shortly before his execution and claimed that his deviant fantasies and sexual

offending had developed from watching progressively more explicit pornography (Caputi 1989). However, Bundy’s claim can be seen as an attempt to evade personal responsibility; most people who use pornography do not become sexual criminals themselves (Ferguson and Harley 2009). Adolescents have more access to freer and more explicit sexual material on the Internet than at any time in history. Pratt and Fernandes (2015) observe that most young people are able to view pornography without sexually abusing others, while for others pornography provides high levels of sexual stimulation, indicates how sex is done, and may lower inhibitions against sexual and sexually abusive acts. The latter persons represent a sexually reactive cohort, and are more aggressive and antisocial generally (Alexy et al. 2009).

An issue with reasoning that a given interest enables the building of a criminal profile is that many adult and adolescent men and women have what can be described as “deviant” fantasies, so it is difficult to know what kind of psychological picture one could paint based on knowing the details of the fantasy. Leitenberg and Henning (1995) reviewed the literature on sexual fantasy and found that “sex offenders often report that they have sexual fantasies related to their offence. However, these kinds of fantasies are also not uncommon in people who have never acted on them” (p. 491). Maniglio (2010) offers a comprehensive overview of the research in this area and highlights the relevance of the offender’s wider experience rather than focusing on fantasy and crime as a relationship in a vacuum. In one of the few large-scale studies of mass and serial homicide Allely et al. (2014) place fantasy as a relatively small component in the behavior of such perpetrators. Overall, the vast majority of research in this field involves adults; moreover, the research that exists on sexual fantasies in adolescents is overwhelmingly focused on those persons at risk (or already convicted) of committing a sexual offense, so findings do not compare control samples and offenders on deviant fantasies. A far more salient predictor of risk of sexual violence is malign masculinity and general criminality (Ferguson and Harley *op cit*; Murnen et al. 2002).

The pattern of linking fantasy with action is similar to linking sensational interest with action. There are many examples where it seems intuitively appropriate (as discussed above), and academic research has tended to follow this assumption, look for correlations between interest and behavior, and then consider how that association came about, without considering a more detailed profile of the individual. Many of the mechanisms to explain how interest becomes action are described in the sexual offending literature by Seto et al. (2001) and in the sensational interests arena by Egan and Campbell (2009) and Egan (2004). These mechanisms form a group of causal models and cover conditioning theories, excitation transfer, and social learning theory. Both conditioning and social learning theory rely on an individual obtaining some form of reward or reinforcement from their interest or engagement with it. That reward may be internal in the form of pleasure or it may be external in the form of a perceived reward (others who do the same thing are rewarded). Over time, habituation occurs and the interest or activity must evolve in some way to produce the same kind of reinforcement or reward. This is much the same as the approach adopted by Gee and Belofastov (2007) in their discussion of the role of deviant fantasy. Excitation transfer assumes that arousal is not linked to a specific emotion. Engagement with a sensational interest, e.g., a militaristic computer game, may cause arousal, which then needs to be paired with an emotion. If that emotion is excitement, rather than anxiety, the user of that game is likely to continue his engagement. As with conditioning and social learning, there is eventually habituation of arousal so that the game no longer produces any arousal.

Violent computer games have often featured in the adolescent case studies described above, and there are many games, which link very closely to the items covered in the SIQ. Unsurprisingly, such games and related media have become the focus of research. Boxer et al. (2009) examined juvenile delinquents and normal adolescents to see what role violent media played in the expression of short-term aggression and the long-term development of aggressive behaviors. Boxer et al.'s

research marks a departure from the limited perspective of noting a correlation and attempting to explain it (which has often been seen in research concerning fantasy and interests). The more limited perspective alluded to is now virtually unknown in other research areas; it would be most unlikely in any recent research to find an article merely stating that there is a negative correlation between IQ and offending and then trying to explain that relationship by focusing solely on one side of the association. Research on the causes and correlates of criminality now widely acknowledges the interactions between a multitude of biological, environmental, and social variables. This acknowledgment is only just beginning to occur with variables associated with sensational interests.

Boxer et al. (2009) consider the role of media violence in the context of a risk matrix and describe violence as multiply determined. Their findings show that a preference for violent media makes a significant contribution to actual violent behavior in those with both a high and low cumulative risk for violence. This is an interesting contribution to the literature as it provides a more comprehensive understanding of how interests and preferences may work across very different adolescents with varying backgrounds and risk profiles. It appears to provide good evidence that sensational preferences make an adolescent more likely to act in a violent way. More recently Evans et al. (2013) have highlighted the importance of considering cumulative risk in children and adolescents when attempting to profile the effects of exposure to a range of risk factors. Simply adding together risk indices to understand the likelihood of an undesirable outcome is too simplistic. Evans et al. argue instead for greater recognition that being exposed to one kind of risk increases the chance of being exposed to others. This more sophisticated approach to understanding the potential forensic relevance of different interests or behaviors is a welcome development in this area. There is further scope for improvement in terms of a longitudinal dimension as adolescents do change their interest preferences over relatively short periods of time.

Egan and his colleagues have also evolved a fuller approach to analyzing sensational interests. Early criticisms of the SIQ highlighted how important context and behavioral engagement could be in terms of giving the interest meaning. What else is there to the individual other than his or her unusual interests, and what are the cardinal influences on their behavior? Research in this area has gone some way toward addressing these issues. Robbers (2007) reported that students studying criminal justice programs at university had significantly higher levels of sensational interests than other students, and that the best predictor of these interests was hours spent watching crime-related television shows. Criminal justice students also shared personality traits typically associated with sensational interests and crime such as low conscientiousness and low agreeableness. These results support the idea that sensational interests alone are not necessarily pathological indicators. Egan and Campbell (2009) found that a small correlation between the SIQ and sustaining fantasies and stated that “negative sustaining fantasies may provide a ruminatory retreat for the unhappy or disturbed, while sensational interests provide more active escapism via dramatic imagery and concepts” (Egan and Campbell 2009, p. 468). They also go on to discuss the possible importance of alienation as a factor for increasing the risk for violence and comment on how important it is to view aggression and violence through an assessment of the individual rather than through recreational choices.

Hagger-Johnson and Egan (2010) examined sensational interests and their link with sadistic personality disorder. It was Brittain’s (1970) original article in this area, which first linked sensational interests with sadism over 45 years ago. Hagger-Johnson and Egan could not, however, clearly link sensational interests with deviance or sadism, and the research made the familiar conclusion that the interest itself is not the crucial factor in contributing to criminal behavior. James et al. (2014) investigated the extent to which sensational interests are related to the Dark Triad (narcissism, psychopathy, and Machiavellianism) and schadenfreude. They found that sensational interests and the Dark Triad significantly

correlated with one another, and this relationship was primarily driven by psychopathy. The strongest correlation between the Dark Triad and sensational interests was with militarism, which supports previous research linking antagonistic personality traits with militarism. In a cross-cultural study, Zalaf and Egan (2017) found that those who scored low on militaristic interests, and high on agreeableness and conscientiousness, had a more positive attitude towards animals. Zalaf and Egan interpreted this as confirmation that militaristic interests may be an extension of dark personality traits.

A criticism of these studies discussed here is that there is no longitudinal component to the analysis. It is not yet clear how sensational interests work over time in determining an individual’s behavior.

It is in the area of longitudinal research that adolescence research is ahead of the studies carried out with adult samples. Research carried out by the authors allows for some commentary to be made on the function of sensational interests over a 1-year period in UK teenagers. Two hundred and eighty three adolescents (51.2% male, mean age 15.02 years, $SD = 0.88$) had their personality, psychopathology, intrasexual competition, self-reported offending, and sensational interests measured at time 1 and then 1 year later at time 2. Correlations on all variables between time 1 and time 2 were significant (Pearson’s r values ranging from 0.47 to 0.66). This shows that some degree of prediction for any of the measured variables is possible over a 1-year period during adolescence. Further analysis using repeated measures, t tests showed that there is a significant increase in offending behavior in the sample (which is to be expected given the age group). What is also evident is that there is a significant decrease in self-reported interest for militaristic topics, while interest in more supernatural themes shows no change. This result is of particular interest as militaristic topics are most often linked to offending, weapons carrying, unpleasant personality characteristics, and high mating effort. The fall in interest level was observed across the age range, suggesting that adolescent sensational interests may be particularly affected by what is

considered popular or fashionable. This may not be the case for adults, but longitudinal research on adult populations is currently nonexistent, so educated guesses have to be made based on how the SIQ factor structure differs with a younger sample. A fuller analysis of the adolescent longitudinal data will be forthcoming, but these preliminary analyses are promising in the insight, which they offer to this difficult research topic.

Many of the studies described in this essay have been limited by the use of self-report measures and a reliance on cross-sectional data. It is in principle difficult to address the limitation of self-report in this area as it is problematic to measure a person's interests purely behaviorally in a reliable way, although Gosling's work may suggest methods for overcoming this impasse (Gosling et al. 2002), as might intelligent use of Facebook information (Hagger-Johnson et al. 2011). In some respects, this research area faces the same difficulty as sexual fantasy research. In order to know what a person is interested in and thinking about, it is necessary to ask him and then hope the answer is truthful, or rely on inexact and indirect inferences. Many people self-identify as having particular interests by their public activities on the Internet, but they do not necessarily represent everyone who has those interests, and may in fact represent a particular subset more willing to share this information publically. The problem of purely cross-sectional research is somewhat easier to address. Now research on sensational interests is becoming a more established field it should be possible for the SIQ to be incorporated into longitudinal projects, which assess a wide variety of measures. Studies such as this could also help address the often cited conclusion that the whole individual needs to be considered rather than his interests in isolation.

Conclusions

Research on sensational interests has come a long way in the last 15 years in terms of the variety of samples it has included, and with regard to the nomological network which underpins the construct. A clear picture has emerged from the

research, which shows that where sensational interests are linked to offending, it is usually mediated by other variables (namely personality or intrasexual competition), and this is seen in both adults and adolescents. This suggests that sensational interests themselves cannot be reliably used as solitary predictors for offending, or as an explanation for offending after the fact. A causative relationship between offending and sensational interests remains in the public imagination (and more sensationalist academics) because of media analysis of very violent and often sexual crimes where the perpetrator has unusual or bizarre interests. Some high-profile offenders may also deliberately draw attention to their sensational interests as a way to define themselves through personal identity myths, their sensational interests being a form of projective expression more important than their untrammelled selves (e.g., the Stephen Griffiths case mentioned previously (Gray 2010)). This may have some personal compensatory function. Forthcoming work on the longitudinal assessment of sensational interests in adolescents will take SIQ research to the next level and address the often cited limitations in this and related research areas.

References

- Alexy, E., Burgess, A., & Prentky, R. (2009). Pornography use as a risk marker for an aggressive pattern of behavior among sexually reactive children and adolescents. *Journal of the American Psychiatric Nurses Association, 14*, 442–453.
- Allely, C. S., Minnis, H., Thompson, L., Wilson, P., & Gillberg, C. (2014). Neurodevelopmental and psychosocial risk factors in serial killers and mass murderers. *Aggression and Violent Behavior, 19*, 288–301.
- Amazon (2017a). Satan. Retrieved 7 Mar 2017, https://www.amazon.co.uk/s/ref=sr_nr_n_0?fst=as%3Aoff&rh=n%3A266239%2Ck%3ASatan&keywords=Satan&ie=UTF8&qid=148888599&mid=1642204031.
- Amazon (2017b). The Satanic Bible. Retrieved 7 Mar 2017, https://www.amazon.co.uk/Satanic-Bible-Peter-H-Gilmore/dp/0380015390/ref=sr_1_2?ie=UTF8&s=books&qid=1275167830&%20sr=1-2.
- Barlas, J., & Egan, V. (2006). Weapons carrying in British teenagers: The role of personality, delinquency, sensational interests and mating effort. *The Journal of Forensic Psychiatry and Psychology, 17*, 53–72.

- BBC. (2006). *Website gave clues to killer's intentions*. Retrieved 29 May 2010, <http://news.bbc.co.uk/1/hi/world/americas/5346110.stm>.
- Boxer, P., Huesman, L. R., Bushman, D. J., O'Brien, M., & Mocerri, D. (2009). The role of violent media preference in cumulative developmental risk for violence and general aggression. *Journal of Youth and Adolescence*, 38, 417–428.
- Brittain, R. P. (1970). The sadistic murderer. *Medicine, Science and the Law*, 10, 198–207.
- Brown, J. (2010). Sentenced to life, the crossbow killer who ate his victims Retrieved 7 Mar 2017, <http://www.independent.co.uk/news/uk/crime/sentenced-to-life-the-cross-bow-killer-who-ate-his-victims-2166537.html>.
- Caputi, J. (1989). The sexual politics of murder. *Gender and Society*, 3, 437–456.
- Charles, K. E., & Egan, V. (2008). Sensational and extreme interests in adolescents. In R. Kocsis (Ed.), *Serial murder and the psychology of violent crimes* (pp. 63–83). New Jersey: Humana.
- Charles, K., & Egan, V. (2009). Sensational interests are not a simple predictor of adolescent offending: Evidence from a large normal British sample. *Personality and Individual Differences*, 47, 235–240.
- Davies, C. (2016). Serial killer Stephen Port receives whole-life prison sentence. Retrieved 7 Mar 2017, <https://www.theguardian.com/uk-news/2016/nov/25/serial-killer-stephen-port-jailed-for-life>.
- Drash, W. (2009). 'Horrorcore' singer suspected in Virginia killings. Retrieved 31 May 2010, <http://edition.cnn.com/2009/CRIME/10/06/virginia.horrorcore.killings/index.html>.
- Egan, V. (2004). The status of sensational interests as possible indicators of risk. In J. R. Adler (Ed.), *Forensic psychology concepts, debate and practice* (pp. 115–139). Devon: Willian.
- Egan, V., & Campbell, V. (2009). Sensational interests, sustaining fantasies and personality predict physical aggression. *Personality and Individual Differences*, 47, 464–469.
- Egan, V., Auty, J., Miller, R., Ahmadi, S., Richardson, C., & Gargan, I. (1999). Sensational interests and general personality traits. *The Journal of Forensic Psychiatry*, 10, 567–581.
- Egan, V., Charlesworth, C., Richardson, C., Blair, M., & McMurrin, M. (2001). Sensational interests and sensation seeking in mentally disordered offenders. *Personality and Individual Differences*, 30, 995–1007.
- Egan, V., Austin, E., Elliot, D., Patel, D., & Charlesworth, P. (2003). Personality traits, personality disorders and sensational interests in mentally disordered offenders. *Legal and Criminological Psychology*, 8, 51–62.
- Evans, G. W., Li, D., & Whipple, S. (2013). Cumulative risk and child development. *Psychological Bulletin*, 139, 1342–96.
- Ferguson, C. J., & Harley, R. D. (2009). The pleasure is momentary... the expense damnable?: The influence of pornography on rape and sexual assault. *Aggression and Violent Behavior*, 14, 323–332.
- Gee, D., & Belafastov, A. (2007). Profiling sexual fantasy. In R. Kocsis (Ed.), *Criminal profiling: International theory, research, and practice*. New Jersey: Humana.
- Gosling, S. D., Ko, S. J., Mannarelli, T., & Morris, M. E. (2002). A Room with a cue: Judgments of personality based on offices and bedrooms. *Journal of Personality and Social Psychology*, 82, 379–398.
- Gray, R. (2010). Human remains discovered in Bradford. Retrieved 29 May 2010, <http://www.telegraph.co.uk/news/uknews/crime/7782805/Human-remains-discovered-in-Bradford.html>.
- Hagger-Johnson, G., & Egan, V. (2010). Sadistic personality disorder and sensational interests: What is the size and specificity of the association? *The Journal of Forensic Psychiatry and Psychology*, 21, 113–120.
- Hagger-Johnson, G., Egan, V., & Stillwell, D. (2011). Are social networking profiles reliable indicators of sensational interests? *Journal of Research in Personality*, 45, 71–76.
- James, S., Kavangh, P. S., Jonason, P. K., Chonody, J. M., & Scrutton, H. E. (2014). The Dark Triad, schadenfreude, and sensational interests: Dark personalities, dark emotions, and dark behaviours. *Personality and Individual Differences*, 68, 211–217.
- Leitenberg, H., & Henning, K. (1995). Sexual fantasy. *Psychological Bulletin*, 117, 469–496.
- Maniglio, R. (2010). The role of deviant sexual fantasy in the etiopathogenesis of sexual homicide: A systematic review. *Aggression and Violent Behavior*. <https://doi.org/10.1016/j.avb.2010.02.001>.
- Murnen, S. K., Wright, C., & Kaluzny, G. (2002). If "boys will be boys", then girls will be victims? A meta-analytic review of the research that relates masculine ideology to sexual aggression. *Sex Roles*, 46, 359–375.
- Pratt, R., & Fernandes, C. (2015). How pornography may distort risk assessment of children and adolescents who sexually harm. *Children Australia*, 40, 232–241.
- Robbers, M. (2007). Crime shows and sensational interests: An exploratory examination of students in criminal justice related majors. *Journal of Criminal Justice and Popular Culture*, 14, 344–361.
- Seto, M. C., Maric, A., & Barbaree, H. E. (2001). The role of pornography in the etiology of sexual aggression. *Aggression and Violent Behavior*, 6, 35–53.
- Snook, B., Cullen, R. M., Bennell, C., Taylor, P. J., & Gendreau, P. (2008). The criminal profiling illusion: What's behind the smoke and mirrors? *Criminal Justice and Behavior*, 35, 1257–1276.
- Sweetingham, L. (2006). Teen to serve life without parole for killing lawyer's wife Retrieved 29 May 2010, <http://edition.cnn.com/2006/LAW/09/27/dyleski.sentenced/index.html>.
- Weiss, A., Egan, V., & Figueredo, A. J. (2004). Sensational interests as a form of intrasexual competition. *Personality and Individual Differences*, 36, 563–573.
- Zalaf, A., & Egan, V. (2017). Cyprus versus UK: Cultural differences of attitudes toward animals based on personality and sensational interests. *Anthrozoös*, 30, 47–60.

Sense of Belonging

► [Mattering](#)

Sense of Entitlement

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Overview

Researchers have defined the sense of entitlement as a “pervasive sense that one deserves more and is entitled to more than others” (Campbell et al. 2004, p. 31), as an “expectation of special favors without reciprocating” (Emmons 1984, p. 292), and as one of several features of narcissism, specifically “the expectation of special privileges over others and special exemptions from normal social demands” (Raskin and Terry 1988, p. 890). Similarly, the American Psychiatric Association (1994, p. 661) defines entitlement as “the expectation of special favors without assuming reciprocal responsibilities.” Researchers have found that entitled beliefs in adolescents and young adults are associated with a host of societally problematic dispositions and behaviors. However, less is known about the causes of self-entitlement. Recent research has begun to examine possible dimensions of entitlement and whether adolescents may exhibit domain-specific manifestations of entitlement. In the sections that follow, we outline the measures that are used to assess entitlement and examine the correlates of entitlement during late adolescence. We also describe various parenting

and societal factors that have been proposed to cause entitled attitudes among adolescents. Last, we describe recent research that has examined two potential dimensions of entitlement and a domain-specific manifestation of this disposition: students’ entitled attitudes and behaviors in the academic domain.

Measurement of Entitlement

Raskin and Hall (1979) developed the Narcissistic Personality Inventory (NPI) to assess the level of narcissistic beliefs among nonclinical populations. They regarded narcissism as a trait characterized by grandiosity, feelings of superiority, exploitiveness, feelings of entitlement, and a lack of empathy. Subsequent factor analyses (Raskin and Terry 1988) found that the NPI could be broken down into several subscales, including a subscale that assessed entitlement beliefs (NPI-E). This was the first measure to specifically assess levels of entitlement in normal populations and is still widely used today. However, Campbell et al. (2004) argued that the NPI-E subscale suffers from several conceptual and empirical problems. These problems include low inter-item reliability ($\alpha \approx 0.50$ across several studies), items that lack face validity, a forced-choice format that limits variability in the possible range of scores, and socially undesirable item choices. In response to these theoretical and practical problems, Campbell et al. (2004) developed the Psychological Entitlement Scale (PES), a nine-item measure of self-entitlement designed to address the shortcomings of the NPI entitlement subscale. Both the NPI-E and the PES assess entitlement as a unifactorial personality characteristic. In addition to these measures designed to assess entitlement as a unifactorial personality characteristic, researchers recently have developed measures designed to assess entitlement as a multifactorial personality characteristic (e.g., Lessard et al. 2010) and to assess entitlement in specific domains (e.g., Greenberger et al. 2008).

Correlates of Entitlement

Trait entitlement, as operationalized in the PES (Campbell et al. 2004) and in the NPI-E (Raskin and Terry 1988), is associated with a wide range of maladaptive personality characteristics. Raskin and Terry (1988) found that trait entitlement was associated with college students' distrustfulness and lack of self-control. Witte et al. (2002) found that entitlement was associated with higher levels of trait anger in a sample of 130 male college students. McHoskey (1995) found that college students with high levels of entitlement also were high in Machiavellianism, a trait characterized by manipulateness, insincerity, and callousness. Similarly, more entitled college students had higher levels of psychopathic symptoms (Benning et al. 2005), characterized by manipulateness and callousness, as noted by McHoskey, and additionally by thrill-seeking, impulsivity, and aggressiveness. In a series of studies by Campbell et al. (2004), entitlement was related to greed, overharvesting, aggression following ego-threat, and selfishness in personal relationships, in various samples of college students. On a somewhat different note, college students high in trait entitlement were found to have a poor work ethic and low levels of social commitment, i.e., interest in helping others in society (Greenberger et al. 2008). These negative characteristics and behaviors are not lost on observers; rather, college students who are high in entitlement are viewed by others as hostile or deceitful (Raskin and Terry 1988).

Entitlement, as described in previous investigations, seems to be closely related to maladaptive aspects of narcissism, including exploitiveness (see above) and exhibitionism (Daddis and Brunell 2015; Raskin and Novacek 1989; Watson and Biderman 1993; Watson and Morris 1990). Barry et al. (2003) found evidence that, among younger adolescents ($M = 12$ years old; range 9–15), the entitlement, exhibitionism, and exploitiveness subscales of the NPI taken together form a maladaptive dimension, characterized by a need to achieve power over others, to be viewed as more important than others, and to receive attention and praise. This cluster of traits was

positively associated with conduct problems and negatively related to self-esteem. Among adults, supervisors with higher levels of entitlement engaged in more abusive supervision of their employees in the workplace (Wheeler et al. 2013; Whitman et al. 2013). Having greater wealth has also been associated with more psychological entitlement (Piff 2013).

However, studies that focus specifically on self-entitlement show inconsistent associations with self-esteem. Some researchers have suggested that self-entitlement may be positively related to self-esteem, since feelings of greater self-worth may lead to feelings of more deservingness (Campbell et al. 2004). However, although many studies have shown a moderate association between self-esteem and narcissism (meta-analytic $r = 0.29$; Twenge and Campbell 2001), few studies have found a substantial association between entitlement and self-esteem. Although Campbell and colleagues found a very modest association between the Psychological Entitlement Scale (PES) and the Rosenberg Self-Esteem Scale (RSE) ($r = 0.13$), several studies have not found a significant association between the NPI Entitlement subscale and the RSE (Bogart et al. 2004; Strelan 2007). Yet other studies have found an inverse association between entitlement and self-esteem (Emmons 1984, 1987).

Entitlement and Positive Illusions

Young adults' views of themselves and their expectations about their futures have become inflated over time. Eighty percent of adolescents agree with the statement "I am an important person," up from just 12% who agreed with that same statement in the 1950s (Newsom et al. 2003). Fifty-one percent of recent high school graduates expect to obtain a graduate or professional degree, even though only 9% of adults actually obtain these degrees. Similarly, 63% of recent high school graduates expect to be working in a professional job by age 30, far more than the 18% of 30-year-olds who actually hold such positions (Reynolds et al. 2006).

However, while these unrealistically high aspirations are fairly pervasive, most older adolescents do not have very high levels of entitlement, as measured by the NPI Entitlement subscale or the PES. For example, in one recent study, the average undergraduate participant agreed with 39% of the forced-choice NPI items but only 24% of the Entitlement subscale items, suggesting that these views are not very widespread (Moeller et al. 2009). Similarly, across a range of studies involving older adolescents, the average score on the PES was substantially below the midpoint, suggesting that most participants moderately disagreed with these items (Campbell et al. 2004; Moeller et al. 2009). Further, research suggests that these aspirations become more realistic as adolescents approach important transitions (e.g., Heckhausen and Tomasik 2002; e.g., applying to a college, deciding on a career), suggesting that adolescents do not feel entitled to these aspirations, but rather use them as a source of motivation and develop more realistic expectations when they confront actual life circumstances. Thus, as with self-esteem, it is important not to conflate positive illusions about the future with self-entitled attitudes.

Origins of Self-Entitlement

Freud (1916, as cited by Nadkarni 1995), observed that many of his patients, whom he labeled “exceptions,” assumed that they had special rights and privileges because of past injustices they had experienced. He surmised that most people would like to express such beliefs but felt constrained not to reveal them. Freud argued that these exceptional patients felt that they deserved special treatment to make up for childhood hardships such as congenital diseases or disabilities for which they felt they were not responsible. Following Freud’s view, early clinicians within the psychoanalytic tradition viewed the attitude of entitlement as an individual’s feeling himself or herself to be an exception, without the normal obligations that others feel. This attitude was viewed as a hindrance to full psychological maturity.

For example, Horney (1950) suggested that entitled beliefs developed because the child is raised in an atmosphere lacking in warmth and security. Rothstein (1980), expanding on this view, argued that self-entitlement arises when a mother is not available and responsive to the child’s needs. As a result, the child feels disappointment, rejection, and feelings of abandonment and isolation. In order to defend against these painful feelings, and protect the ego, the child develops entitled attitudes. These attitudes serve to buffer the child from underlying feelings of anxiety, rejection, and abandonment.

In contrast, Adler (1964) suggested that entitlement and other narcissistic attitudes were caused by “pampering.” Pampering, characterized by excessive affection, “makes behavior, thought, and action, and even speech, superfluous for the child” and leads to the child’s developing a tendency “to take and not to give” (Adler 1964, pp. 149–150), and to exploit others, rather than engage in appropriate behaviors to achieve his or her goals. Adler argued that because pampered children expect their needs to be satisfied by others, they do not learn to become self-reliant or self-confident and are likely to lack empathy or altruistic impulses. Adler’s view that what we might now refer to as indulgent parenting leads to entitled, narcissistic attitudes and behaviors that has been widely adopted by clinical psychologists (Capron 2007).

However, little quantitative research has examined the link between parenting and the development of self-entitled attitudes. The few studies that have examined this link suggest that parenting behaviors may explain only partially why self-entitled attitudes develop. For example, Capron (2007) found that “overindulgent” parenting was significantly, albeit modestly, associated with NPI Entitlement scores. Greenberger et al. (2008) found similarly modest associations between parenting variables and several measures of entitlement. Other social influences, including positive media portrayals of entitled behavior and changes in the technological environment (among them the rise of relatively impersonal and instant forms of communication, such as e-mail), may play a role in the development of entitlement.

Overinvolved parenting, or “helicopter parenting,” also has been associated with higher levels of psychological entitlement and also with lower levels of self-efficacy (Givertz and Segrin 2014; Segrin et al. 2012).

The Self-Esteem Movement and Entitlement

Researchers have noted that adolescents’ and young adults’ self-esteem has risen substantially over the last 40 years (Twenge and Campbell 2001). Some researchers and commentators have argued that a sense of entitlement, along with other narcissistic attitudes such as vanity, exploitiveness, and manipulativeness, has increased as a result of efforts to bolster adolescents’ self-esteem (Twenge 2006). In a meta-analytic analysis of college students who took the Rosenberg (1965) Self-Esteem Scale (RSE) between 1968 and 1995, Twenge and Campbell (2001) found that the level of self-esteem rose substantially over that time, with the average student in the mid 1990s having a higher self-esteem score than 73% of their late 1960s peers.

The self-esteem “movement” began in the 1970s and became more prevalent during the 1980s and 1990s. Classroom practices were designed to protect adolescents’ sense of self-worth from parents’ and teachers’ criticism and negative appraisals, in order to reduce the risk of adverse outcomes that were thought to arise from low self-esteem, including teenage pregnancy, delinquency, academic failure, and drug abuse (Twenge 2006). Twenge and colleagues (Twenge 2006; Twenge et al. 2008a) contend that this movement has had the unanticipated effect of artificially inflating children’s and adolescents’ feelings of self-worth, regardless of their actual abilities and accomplishments (Crocker and Knight 2005). As a result of youths’ inflated views of their capabilities, Twenge and others suggest that young people may feel entitled to rewards and praise that objectively are not warranted. In a recent meta-analysis, Twenge and colleagues (2008a) found that overall scores on the Narcissistic Personality Inventory (NPI)

increased substantially between 1982 and 2006 ($d = 0.33$). They did not report the trend for the Entitlement subscale.

Other researchers have disagreed with the view that the rise in narcissistic attitudes, such as entitlement, is a by-product of the self-esteem movement. Trzesniewski et al. (2008), in a meta-analytic study of California college students, found that scores on the Entitlement subscale of the NPI increased slightly between 1982 and 2007 ($d = 0.17$), although scores on the NPI did not change over time. In response to these findings, Twenge and colleagues reanalyzed their data (Twenge et al. 2008b) and found that scores on the NPI did not increase over time in samples drawn from California, but did increase substantially among college students in other parts of the country. This finding is problematic for Twenge’s thesis, given the importance of self-esteem-related curricula in the California educational system during the 1980s and 1990s. Although there is substantial evidence that entitlement and other narcissistic attitudes are rising in at least certain parts of the country, it is not clear why there are regional variations.

Multiple Types of Entitlement

So far, we have discussed entitlement as a unifactorial, maladaptive, personality disposition – the consensus view at present. However, entitlement may be conceptualized as having an adaptive aspect as well. Based on a review of psychoanalytic case studies, Kriegman (1983) argued that “normal” entitlement, or the attitude that one can expect to be able to obtain satisfaction in life, is relatively universal and that it is not harmful to have such attitudes. He contrasted this attitude with exaggerated or narcissistic entitlement, arguing that while having an exaggerated or narcissistic sense of entitlement may be harmful, it is also harmful to feel that one is not deserving of, or entitled to, any positive outcomes whatsoever. Experimental psychologists studying US college student samples have shown that individuals believe that they and others are “entitled” to material rewards and opportunities for

educational and job-related advancement as a result of their task performance. For example, Bylsma and Major (1992) told college student participants that, in exchange for completing a data entry task, they could earn between \$3.50 and \$7.50. Students who received positive feedback asked for more compensation than did individuals who received negative feedback. In the absence of objective feedback, youths base their feelings of deservingness and entitlement on their own perceptions of their and others' performance (Bylsma et al. 1995; Feather 1999; Major 1984). Such feelings of entitlement seem to have benefits for the individual: for example, individuals who are led to feel entitled to positive outcomes are more likely to ask for appropriate compensation for work performed and are also more likely to be aware of economic inequity (Bylsma and Major 1992; Major 1984, 1989).

Several recent studies of college students (Ackerman and Donnellan 2013; Crowe et al. 2015; Lessard et al. 2010; Greenberger et al. 2008; Nadkarni 1995; Schwartz and Tylka 2008) provide evidence that there may be two types of entitlement. One of these is an excessive, exploitive type of entitlement that is associated with a variety of maladaptive attitudes and behaviors, such as psychopathy, neuroticism, low self-esteem, a lack of social empathy, and a poor work ethic (Greenberger et al. 2008; Lessard et al. 2010). This type of entitlement has also been associated with a lack of agreeableness, morality, altruism, cooperation, or sympathy (Ackerman and Donnellan 2013). The second of these is a more adaptive type of self-entitlement, similar to that suggested by Kriegman (1983), which is positively associated with self-esteem and not associated with negative character traits. This more adaptive type of self-entitlement has also been associated with extraversion and friendliness (Ackerman and Donnellan 2013). Notably, several studies have shown that, while these types of entitlement have very different associations, they are highly correlated, $r_s = 0.4\text{--}0.6$, and explain similar amounts of variance in unifactorial measures of entitlement such as the NPI-E and PES (Ackerman and Donnellan 2013; Lessard et al. 2010).

Domain-Specific Entitlement

In addition to the possibility that the sense of entitlement might not be unifactorial, the exploitive dimension of entitlement may have domain-specific manifestations. In other words, some situations may be particularly potent in eliciting and even exacerbating entitled attitudes and behaviors, whereas other situations may have contrasting effects. For example, adolescents might be more likely to attempt to manipulate outcomes to their own advantage in situations where the likelihood of a successful outcome is high and "failure" carries few costs (e.g., the target person is known to be "easy" and non-punitive) and *more* likely to engage in manipulation in situations where the outcome is of great personal importance, even if the risks or costs are high. The academic arena is one in which entitled attitudes and behaviors have been observed, and media outlets have documented instances of entitled behavior on the part of students with increasing frequency over the past decade (Lexis/Nexis 2009).

Achacoso (2002) conceptualized entitlement in the academic domain in terms of expectations of special accommodations, irrespective of fairness to others, and willingness to engage in entitlement negotiations (e.g., requesting a higher grade). Both factors of the resulting academic entitlement scale were associated with college students' external attributions for academic success or failure. Scores on the entitlement negotiation subscale were positively correlated with the use of metacognitive strategies (i.e., planning and self-monitoring) and with Grade Point Average (GPA). Using the same scales, Ciani et al. (2008) showed that male college students hold more academically entitled attitudes than their female counterparts. Ciani et al. also found that academic entitlement scores were stable from the beginning to the end of the semester in the various courses from which participants were drawn.

Greenberger et al. (2008) described "academic entitlement" in terms of expectation of high grades for modest effort and demanding attitudes toward teachers (similar to Achocoso's expectation of "special accommodations"). Sample items

from their unifactorial Academic Entitlement (AE) scale include, “If I have attended most classes for a course, I deserve at least a grade of B” (agreed to by 34% of the college student participants in their sample) and “If I have explained . . . that I am trying hard, I think [the professor] should give me some consideration with respect to my course grade” (agreed to by 66% of participants). The researchers demonstrated that AE was positively correlated with Campbells’ PES ($r = 0.40$, $p < 001$) and with narcissism. AE also was positively correlated with self-reported academic dishonesty and inversely correlated with a positive orientation toward work and self-esteem – the latter, a modest $r = -0.14$, $p < 0.05$. As in the Ciani et al. study, male students obtained higher academic entitlement scores. Chowning and Campbell (2009), using a different measure, also found that academic entitlement was positively correlated with narcissism and negatively correlated with self-esteem. Academic entitlement has also been linked with uncivil student behavior, such as using phones during class, arriving late and leaving early, and using laptop computers in class for non-class-related activities (Kopp and Finney 2013). Psychopathy has also been linked with academic entitlement Turnipseed and Cohen (2015).

Other findings of Greenberger et al. (2008) indicated that students who expressed more academically entitled attitudes perceived their parents as having encouraged academic competition and compared their level of achievement (often unfavorably) with that of other children and adolescents in their social network. Not surprisingly, students who scored higher on the AE scale also reported a higher level of extrinsic (i.e., grade-oriented) as opposed to intrinsic (i.e., curiosity- or mastery-oriented) academic motivation. However, as noted earlier, the measures of perceived parenting used in this study together accounted for only a small, albeit significant, amount of the variation in students’ academic entitlement. At least one study has found that permissive parenting is associated with greater academic entitlement (Barton and Hirsh 2016).

Summary

The sense of self-entitlement, especially among youth, has received a substantial increase in attention over the past decade (see Greenberger et al. 2008). The phenomenon of entitlement has been described by researchers as well as media commentators. Most research has been based on a unifactorial conceptualization of entitlement that focuses on its association with exploitive and socially disruptive attitudes and behaviors. Based on laboratory studies and self-report data, researchers have found, for example, that entitled beliefs in late adolescents and young adults are associated with greedy behavior, aggression in response to ego-threat, a poor work ethic, and reduced concern for the well-being of society. An increasing number of studies, however, have suggested that entitlement may be bi-factorial, the second dimension reflecting potentially adaptive attitudes that are largely independent of exploitive attitudes toward others (Ackerman and Donnellan 2013; Lessard et al. 2010). In addition to its dispositional nature, entitlement appears to have domain-specific manifestations, and several recent studies of academic entitlement provide largely convergent information on the nature and correlates of academically entitled attitudes.

Overall, little is known about the causes of self-entitlement. Several factors have been proposed to contribute to the development of this disposition, including various parenting behaviors and the self-esteem movement, but empirical studies reveal that these factors have relatively small or nonexistent associations with entitlement. More research is needed, especially longitudinal studies that begin in early adolescence, in order to understand the development of self-entitled attitudes. These studies should focus not only on the family context but also on factors in the larger societal context that may be promoting or condoning exploitive attitudes and behaviors. Future research should also examine the origins of non-exploitive feelings of entitlement that are potentially adaptive and may contribute to favorable outcomes.

Cross-References

► Narcissism

References

- Achacoso, M. V. (2002). *What do you mean my grade is not an A?: An investigation of academic entitlement, causal attributions, and self-regulation in college students*. Unpublished doctoral dissertation. University of Texas, Austin.
- Ackerman, R. A., & Donnellan, M. B. (2013). Evaluating self-report measures of narcissistic entitlement. *Journal of Psychopathology & Behavioral Assessment, 35*, 460–474.
- Adler, A. (1964). *Social interest: A challenge to mankind*. New York: Capricorn Books.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorder* (4th ed.). Washington, DC: American Psychiatric Association.
- Barry, C. T., Frick, P. J., & Killian, A. L. (2003). The relation of narcissism and self-esteem to conduct problems in children: A preliminary investigation. *Journal of Clinical Child and Adolescent Psychology, 32*, 139–152.
- Barton, A. L., & Hirsch, J. K. (2016). Permissive parenting and mental health in college students: Mediating effects of academic entitlement. *Journal of American College Health, 64*, 1–8.
- Benning, S. D., Patrick, C. J., Blonigen, D. M., Hicks, B. M., & Iacono, W. G. (2005). Estimating facets of psychopathy from normal personality traits: A step towards community epidemiological investigations. *Assessment, 12*, 3–18.
- Bogart, L. M., Benotsch, E. G., & Pavlovic, J. D. (2004). Feeling superior but threatened: The relation of narcissism to social comparison. *Basic and Applied Social Psychology, 26*, 35–44.
- Bylsma, W. H., & Major, B. (1992). Two routes to eliminating gender differences in personal entitlement: Social comparisons and performance evaluations. *Psychology of Women Quarterly, 16*, 193–200.
- Bylsma, W. H., Major, B., & Cozzarelli, C. (1995). The influence of legitimacy appraisals on the determinants of entitlement beliefs. *Basic and Applied Social Psychology, 17*, 223–237.
- Campbell, W. K., Bonacci, A. M., Shelton, J., Exline, J. J., & Bushman, B. J. (2004). Psychological entitlement: Interpersonal consequences and validation of a self-report measure. *Journal of Personality Assessment, 83*, 29–45.
- Capron, E. W. (2007). Types of pampering and narcissistic personality trait. *Journal of Individual Psychology, 60*, 76–93.
- Chowning, K., & Campbell, N. (2009). Development and validation of a measure of academic entitlement: Individual differences in students' externalized responsibility and entitled expectations. *Journal of Educational Psychology, 101*, 982–997.
- Ciani, K. D., Summers, J. J., & Easter, M. A. (2008). Gender differences in academic entitlement among college students. *Journal of Genetic Psychology, 169*, 332–344.
- Crocker, J., & Knight, K. M. (2005). Contingences of self-worth. *Current Directions in Psychological Science, 14*, 200–203.
- Crowe, M. L., LoPilato, A. C., Campbell, W. K., & Miller, J. D. (2015). Identifying two groups of entitled individuals: Cluster analysis reveals emotional stability and self-esteem distinction. *Journal of Personality Disorders, 29*, 1–14.
- Daddis, C., & Brunell, A. B. (2015). Entitlement, exploitativeness, and reasoning about everyday transgressions: A social domain analysis. *Journal of Research in Personality, 58*, 115–126.
- Emmons, R. A. (1984). Factor analysis and construct validity of the Narcissistic Personality Inventory. *Journal of Personality Assessment, 48*, 291–300.
- Emmons, R. A. (1987). Narcissism: Theory and measurement. *Journal of Personality and Social Psychology, 52*, 11–17.
- Feather, N. T. (1999). Judgments of deservingness: Studies in the psychology of justice and achievement. *Personality & Social Psychology Review, 3*, 86–107.
- Freud, S. (1916). *Some character types met with in psychoanalytic work* (Vol. 14, Standard ed., pp. 311–333). London: Hogarth Press.
- Givertz, M., & Segrin, C. (2014). The association between overinvolved parenting and young adult' self-efficacy, psychological entitlement, and family communication. *Communication Research, 41*, 1111–1136.
- Greenberger, E., Lessard, J., Chen, C., & Farruggia, S. P. (2008). Self-entitled college students: Contributions of personality, parenting, and motivational factors. *Journal of Youth and Adolescence, 37*, 1193–1204.
- Heckhausen, J., & Tomasik, M. J. (2002). Get an apprenticeship before school is out: How German adolescents adjust vocational aspirations when getting close to a developmental deadline. *Journal of Vocational Behavior, 60*, 199–219.
- Horney, K. (1950). *Neurosis and human growth: The struggle towards self-realization*. New York: Norton.
- Kopp, J. P., & Finney, S. J. (2013). Linking academic entitlement and student incivility using latent means modeling. *The Journal of Experimental Education, 81*, 322–336.
- Kriegman, G. (1983). Entitlement attitudes: Psychosocial and therapeutic implications. *Journal of the American Academy of Psychoanalysis, 11*, 265–281.
- Lessard, J., Greenberger, E., Chen, C., & Farruggia, S. (2010). Are youths' feelings of entitlement always "bad"? Evidence for a distinction between exploitive and non-exploitive dimensions. *Journal of Adolescence, https://doi.org/10.1016/j.adolescence.2010.05.014*. Available online August 3, 2010.
- Lexis/Nexis. (2009). Lexis/Nexis academic database. Retrieved 15 Nov 2009.

- Major, B. (1984). Overworked and underpaid: On the nature of gender differences in personal entitlement. *Journal of Personality and Social Psychology, 47*, 1399–1412.
- Major, B. (1989). Gender differences in comparisons and entitlement: Implications for comparable worth. *Journal of Social Issues, 45*, 99–115.
- McHoskey, J. (1995). Narcissism and Machiavellianism. *Psychological Reports, 77*, 755–759.
- Moeller, S. J., Crocker, J., & Bushman, B. J. (2009). Creating hostility and conflict: Effects of entitlement and self-image goals. *Journal of Experimental Social Psychology, 45*, 448–452.
- Nadkarni, L. (1995). *A sense of entitlement: The development of the entitlement attitudes scale*. Unpublished doctoral dissertation. Adalphi University, New York.
- Newsom, C. R., Archer, R. P., Trumbetta, S., & Gottesman, I. I. (2003). Changes in adolescent response patterns on the MMPI/MMPI-A across four decades. *Journal of Personality Assessment, 8*, 74–84.
- Piff, P. K. (2013). Wealth and inflated self: Class, entitlement, and narcissism. *Personality and Social Psychology Bulletin, 40*, 34–43.
- Raskin, R., & Hall, C. S. (1979). A narcissistic personality inventory. *Psychological Reports, 45*, 590.
- Raskin, R., & Novacek, J. (1989). An MMPI description of the narcissistic personality. *Journal of Personality Assessment, 53*, 66–80.
- Raskin, R., & Terry, H. (1988). A principal-components analysis of the Narcissistic Personality Inventory and further evidence for its construct validity. *Journal of Personality & Social Psychology, 54*, 890–902.
- Reynolds, J., Stewart, M., MacDonald, R., & Sischo, L. (2006). Have adolescents become too ambitious? High school seniors educational and occupational plans, 1976 to 2000. *Social Problems, 53*, 186–206.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton: Princeton University Press.
- Rothstein, A. (1980). *The narcissistic pursuit of perfection*. New York: International University Press.
- Schwartz, J. P., & Tylka, T. L. (2008). Exploring entitlement as a moderator and mediator of the relationship between masculine gender role conflict and men's self-esteem. *Psychology of Men & Masculinity, 9*, 67–81.
- Segrin, C., Wozidlo, A., Givertz, M., Bauer, A., & Murphy, M. T. (2012). The association between overparenting, parent-child communication, and entitlement and adaptive traits in adult children. *Family Relations, 61*, 237–252.
- Strelan, P. (2007). Who forgives others, themselves, and situations? The roles of narcissism, guilt, self-esteem, and agreeableness. *Personality and Individual Differences, 42*, 259–269.
- Trzesniewski, K. H., Donnellan, M. B., & Robins, R. W. (2008). Do today's young people really think they are so extraordinary? An examination of secular trends in narcissism and self-enhancement. *Psychological Science, 19*, 181–188.
- Turnipseed, D., & Cohen, S. (2015). Academic entitlement and socially aversive personalities: Does the Dark Triad predict academic entitlement? *Personality and Individual Differences, 82*, 72–75.
- Twenge, J. M. (2006). *Generation me: Why today's young Americans are more confident, assertive, entitled – and more miserable than ever before*. New York: Free Press.
- Twenge, J. M., & Campbell, W. K. (2001). Age and birth cohort differences in self-esteem: A cross-temporal meta-analysis. *Personality and Social Psychology Review, 5*, 321–344.
- Twenge, J. M., Konrath, S., Foster, J. D., Campbell, W. K., & Bushman, B. J. (2008a). Egos inflated over time: A cross-temporal meta-analysis of the Narcissistic Personality Inventory. *Journal of Personality, 76*, 875–901.
- Twenge, J. M., Konrath, S., Foster, J. D., Campbell, W. K., & Bushman, B. J. (2008b). Further evidence of an increase in narcissism among college students. *Journal of Personality, 76*, 919–927.
- Watson, P. J., & Biderman, M. D. (1993). Narcissistic Personality Inventory factors splitting, and self-consciousness. *Journal of Personality Assessment, 61*, 41–57.
- Watson, P. J., & Morris, R. J. (1990). Irrational beliefs and the problem of narcissism. *Personality and Individual Differences, 11*, 1137–1140.
- Wheeler, A. R., Halbesleben, J. R. B., & Whitman, M. V. (2013). The interactive effects of abusive supervision and entitlement on emotional exhaustion and co-worker abuse. *Journal of Occupational and Organizational Psychology, 86*, 477–496.
- Whitman, M. V., Halbesleben, J. R. B., & Shanine, K. K. (2013). Psychological entitlement and abusive supervision: Political skill as a self-regulatory mechanism. *Health Care Management Review, 38*, 248–257.
- Witte, T. H., Callahan, K. L., & Perez-Lopez, M. (2002). Narcissism and anger: An exploration of underlying correlates. *Psychological Reports, 90*, 871–875.

Separation Anxiety

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Separation anxiety is the distress a child experiences when isolated or separated from its primary caretaker. The distress indicates the child's attempt to adjust to changes. Depending on the child's developmental stage, the distress can be normal and the separation symptoms may not in themselves be evidence of either personality defects or trauma. Although there is a tendency to view separation anxiety as something relevant only to children, it has implications for the development of adolescents.

Three examples illustrate the significance of separation anxiety for adolescents. First, separation anxiety can eventuate into severe pathological development. The clearest example is Separation Anxiety Disorder (SAD), which has the central phenomenology as a child's reluctance to be separated from major attachment figures because of the fear that something awful may happen to the attachment figure (for a review, see Lewinsohn et al. 2008). Although SAD can occur during childhood and adolescence, it links to negative outcomes, such as psychiatric disorders, during adulthood (Id.). Second, separation anxiety can relate to problem behaviors directly related to adolescents, such as school refusal (King and Bernstein 2001). Third, separation is of relevance to adolescents in that parents can experience it, which, in turn, influences their parenting (such as their demands and efforts to control adolescents) and adolescent outcomes (Soenens et al. 2006).

References

- King, N. J., & Bernstein, G. A. (2001). School refusal in children and adolescents: A review of the past 10 years. *Journal of the American Academy of Child and Adolescent Psychiatry, 40*, 197–205.
- Lewinsohn, P. M., Holm-Denoma, J. M., Small, J. W., Seeley, J. R., & Joiner, T. (2008). Separation anxiety disorder in childhood as a risk factor for future mental illness. *Journal of the American Academy of Child and Adolescent Psychiatry, 47*, 548–555.
- Soenens, B., Vansteenkiste, M., Duriez, B., & Goossens, L. (2006). In search of the sources of psychologically controlling parenting: The role of parental separation anxiety and parental maladaptive perfectionism. *Journal of Research on Adolescence, 16*, 539–559.

Separation-Individuation

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The concept of “separation-individuation” was introduced to the study of youth and human development by psychoanalytic researchers who

described it as the process by which individuals increasingly differentiate themselves from others, particularly mothers and parental figures. Youth are believed to reach maturity when they are able to balance a sense of agency with a sense of communion. This balance means that they are able to remain attached to important others while avoiding enmeshment and fusion (communion) and have a sense of autonomy and independence that excludes isolation and alienation (agency). Achieving this balance is what separation is all about. Separation-individuation, then, fundamentally involves the process by which individuals mature by developing an autonomous self within ongoing relational commitments.

The process of separation-individuation was first conceptualized to occur during early childhood, but it has since been viewed as also occurring during adolescence, which is often called the second period of separation-individuation. Margaret Mahler and her colleagues (Mahler et al. 1975), who first described the process, developed four phases of separation-individuation seen in early childhood: differentiation phase, practice phase, rapprochement phase, and consolidation phase. In the differentiation phase, children start to notice objects, events, and people, and thus begin to emerge from an all-encompassing relationship with their caregiver. In the practicing phase, children's motor skills allow them to explore their environment, furthering the differentiation experienced in the first phase. Pleasure, energy, and narcissism characterize toddlers as they become enthralled with their new-found motor autonomy, although they still require consistent check-ins with caregivers for reassurance and encouragement. The rapprochement phase consists of a child's resolution of the ambivalence caused by their increasing independence and frustration caused by independence. As parents decrease their vigilance in monitoring, children feel frustrated and encounter impediments to functioning. In this phase, children are frequently in crisis as they display anger, tantrums, and sad moods, and as they require a transitional object such as a blankie or engage in ego splitting to cope with the demands of ego maturity. [Recall that ego splitting essentially means that coexistence of two

clashing attitudes that do not affect each other from a psychic standpoint, such as, in its extreme, a double personality.] Finally, by 36 months, children are in the consolidation phase in which a child manages to create a constant internal representation of its mother to use for comfort in her absence. The consolidation of the good and bad mother created by ego splitting is called object constancy, a phase that emerges when children understand that they and their mothers are separate individuals with separate identities.

In adolescence, individuals must transcend their internally represented caregivers and establish a sense of self based on their own evaluations. Here, adolescents reduce their psychological dependence on caregivers for approval, self-esteem, and standards of conduct; they instead rely on themselves for self-esteem regulation and self-definition (see Blos 1979). Specific phases of separation-individuation in adolescence have been suggested to be the same as in early childhood; however more emphasis is placed on the rapprochement phase and the ambivalence caused by developing independence. Recent research suggests that separation from parents is not a precondition for individuation; instead, it suggests that separation and individuation are two parallel processes of development during adolescence (see Meeus et al. 2005). Proper separation-individuation is of significance in that its absence can lead to several psychological disorders, including borderline personality disorder, narcissistic personality disorder, family dysfunction, marital dysfunction, suicidal ideation, and college maladjustment (see, e.g., Frank et al. 2002; Meeus et al. 2005; Lapsley et al. 2001). These findings highlight how the process of separation-individuation can contribute to a periodic revision of internal working models across the lifespan and affect the development of a healthy self.

References

- Blos, P. (1979). *The adolescent passage*. New York: International Universities Press.
- Frank, S. J., Schettini, A. M., & Lower, R. J. (2002). The role of separation-individuation experiences and personality in predicting externalizing and internalizing

dimensions of functional impairment in early adolescence. *Journal of Clinical Child and Adolescent Psychology*, *31*, 431–442.

- Lapsley, D. K., Aalsma, M. C., & Varshney, N. M. (2001). A factor analytic and psychometric examination of pathology of separation-individuation. *Journal of Clinical Psychology*, *57*, 915–932.
- Mahler, M., Pine, F., & Bergman, A. (1975). *The psychological birth of the human infant*. New York: Basic Books.
- Meeus, W., Iedema, J., Maassen, G., & Engels, R. (2005). Separation-individuation revisited: On the interplay of parent-adolescent relations, identity and emotional adjustment in adolescence. *Journal of Adolescence*, *28*, 89–106.

Serotonin

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Serotonin, 5-Hydroxytryptamine (5-HT), is best recognized as a neurotransmitter that is primarily found in the gastrointestinal tract and central nervous system. The serotonin related to the central nervous system attracts the most attention provided it serves a variety of functions. Among the most important and studied functions are the regulation of mood, appetite, sleep, muscle contraction, as well as cognitive functions like memory and learning. Levels of serotonin have been linked to major psychiatric symptoms and illnesses, especially depression (see Uher and McGuffin 2008), autism spectrum disorders (Raznahan et al. 2009), and delinquent behavior (Golubchik et al. 2009).

References

- Golubchik, P., Mozes, T., Vered, Y., & Weizman, A. (2009). Platelet poor plasma serotonin level in delinquent adolescents diagnosed with conduct disorder. *Progress in Neuro-Psychopharmacology & Biological Psychiatry*, *33*, 1223–1225.
- Raznahan, A., Pugliese, L., Barker, G. J., Daly, E., Powell, J., Bolton, P. F., et al. (2009). Serotonin transporter genotype and neuroanatomy in autism spectrum disorders. *Psychiatric Genetics*, *19*, 147–150.

Uher, R., & McGuffin, P. (2008). The moderation by the serotonin transporter gene of environmental adversity in the aetiology of mental illness: Review and methodological analysis. *Molecular Psychiatry*, *13*, 131–146.

Service-Learning

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Overview

The authors revisit five service-learning considerations that aid in constructing a possibility narrative of youth who are behaviorally at-risk including the following: (a) an overview of constructivist theory applied to the perception of at-risk youth by school personnel, community members, and the youth themselves; (b) a definition of service-learning; (c) an update of recent research relevant to service-learning; (d) a description of two educational programs which engaged youth in meaningful educational experiences; and (e) specific recommendations for educators for involving at-risk adolescents in service-learning projects. The authors update the literature, provide an additional model to exemplify how service-learning can impact at-risk youth, and finally seek to provide evidence that these considerations continue to be relevant in 2016.

This updated manuscript is dedicated to the memory of Daniel Eckstein, Ph.D., who was a colleague of ours at Sam Houston State University and a former professor of medical psychology, Saba University School of Medicine, Saba, Netherlands Antilles, West Indies. He was an author on the initial article with Dr. Nelson.

In the early 2000s, the statistics regarding the potential for minority children to be incarcerated were discouraging. According to the Children's Defense Fund (CDF) (2009), a Black boy born in 2001 has a 1 in 3 chances of going to prison in his lifetime, a Latino boy has a 1 in 6 chances, and a White boy has a 1 in 17 chances. A Black girl born in 2001 has a 1 in 17 chances of going to prison in her lifetime, a Latino girl has a 1 in 45 chances, and a White girl has a 1 in 111 chances. Poverty is the largest driving force behind the school-to-pipeline crisis, exacerbated by race (CDF). The number of students who are suspended and expelled from schools nearly doubled from 1975 to 2000, according to the US Department of Education, Office for Civil Rights (2000). The reasons for the increase appear to be in the new zero tolerance policies and other punitive disciplinary policies (Weissman et al. 2005). Researchers in the field of social justice defined a link between Disciplinary Alternative Education Program (DAEP) placement and prison which they described as the school-to-prison pipeline (Wald and Losen 2003). Some researchers believed that the increase in placements in DAEPs stems from the inability of urban schools to meet the needs of poor, minority, and at-risk students (Weissman et al.).

In updated research regarding the school-to-prison pipeline, incarceration for marginalized students continues to be a reality in public schools across the nation. According to educators and researchers (Elias 2013; Fowler 2011; Osher et al. 2012; Shippen et al. 2012), the school-to-prison pipeline is characterized by practices that support incarceration as an intervention over education. According to the Public Policy Research Institute at Texas A&M University (2005), the single greatest predictor of future involvement in the juvenile justice system is a record of school disciplinary referrals. Educational policies such as zero tolerance, physical restraining, policing high school campuses, out-of-school suspensions, and disproportionate teacher discipline referrals are more likely to impact marginalized students such as racial minorities and students with disabilities (Elias 2013).

School district resources in some large districts are funneled to security measures rather than educational strategies and mental health assistance that could improve youth social skills and prevent misbehavior, violence, and the need for excessive student discipline. New York City, Chicago, Miami-Dade County, and Houston schools all employ more security staff than counselors as reported by Matt Barnum (2016) of the *74million.org news service*. In Houston, Texas, there are 1,175 students for every counselor. Meanwhile, the Texas district has one security staffer for every 785 students. These numbers reflect a counterproductive approach to school discipline and safety. Federal statistics show that public school personnel disproportionately discipline students of color and disabled students and that students subjected to harsh discipline are likely to end up in the criminal justice system.

According to the US Department of Education Office for Civil Rights (2014), although Black children represent only 18% of preschool enrollment, they represent 48% of the preschool children who receive more than one out-of-school suspensions. In general, Black students are suspended and expelled at a rate three times greater than White students. American Indian and Native Alaskan students are also disproportionately suspended and expelled. Students with disabilities are more than twice as likely to receive an out-of-school suspension than students without disabilities. Students of color and who have a disability receive out-of-school suspensions in large percentages. With the exception of Latino and Asian-American students, more than one out of four boys of color with disabilities (served by IDEA) and nearly one in five girls of color with disabilities receive an out-of-school suspension.

Black students represent 16% of national student enrollment, yet they represent 27% of students referred to law enforcement and 31% of students subjected to a school-related arrest. In comparison, White students represent 51% of national student enrollment, and 41% of White students are referred to law enforcement, and 39% of those are arrested. Although students with disabilities are only 12% of the population,

they represent a quarter of students arrested and referred to law enforcement. In addition, 58% of students with disabilities are placed in seclusion or involuntary confinement, and 75% of those who are placed in seclusion are physically restrained at school.

These numbers are staggering and represent a continuation of the school-to-prison pipeline for students of color and those with disabilities. Change to these overwhelming numbers must begin in the classroom with best teaching practices and educational experiences that emphasize education over incarceration and that have the potential to disrupt the devastating impact that these policies have on marginalized students (Elias 2013). Improved alternative school settings would be more effective in keeping students out of the pipeline. Strategies for such improvement would include low student-to-teacher ratios, high expectations for student success, and flexible scheduling to allow students to engage in their communities (Shippen et al. 2012).

Students placed in DAEPs struggle with their own identities and their place in the community. Adolescents often will associate with a teen group simply to find acceptance even if the peer group has negative implications for them and is considered undesirable in the community (Eckstein et al. 1999). Typically, students in DAEPs grapple with issues such as low academic achievement, learning disabilities, attention deficit with hyperactivity, communication disorders, sensory impairment, or chronic truancy (Foley and Pang 2006). Often adolescents diagnosed with any of the above difficulties begin to view themselves as inadequate as do the adults who know these teens. A deficit view of adolescents is constructed and becomes the accepted norm for describing them and working with them in the schools and in the community at large. According to Deci and Ryan (1985) and the self-determination theory, children assimilate externally imposed values and behaviors into their own in early stages of development, and they begin to increase self-determined behaviors, beliefs, and values in later stages as they start making their own choices. Most adolescents are able to make this transition with minimal

problems, but some teens struggle with the challenges of making their own decisions and experience depression, acting out, and taking unusually dangerous risks to their health and well-being.

Consideration 1: A Constructivist View of At-Risk Youth

Relational Thinking

The first consideration regarding youth and service-learning is the importance of educators and community stakeholders taking a constructivist view of at-risk youth. In this update, the authors suggest that it is still critical to take a theoretical perspective of at-risk youth that is possibility focused rather than problem focused. This is more useful to the students and the community than labeling youth who struggle with problematic behaviors as at-risk and exiling them to special schools where they do not always receive adequate instruction or engaging educational experiences. If systems considered adolescents in relational terms which are circular rather than linear, those systems (schools and community) would assume as much responsibility for the students' at-risk behaviors as the students themselves. The authors believe that students *show* at-risk behaviors not that they *are* at-risk teens. Because of the reciprocal nature of the relationship between teens and the systems, the systems are ultimately responsible for how we think about those at-risk behaviors in adolescents. There is a clear possibility for different thinking in this approach, thinking that is helpful and hopeful for adolescents and that can be promoted in school systems.

Reconstructing Perceptions of At-Risk Teens

Service-learning is one way of reconstructing educators' thinking about at-risk adolescents capitalizing on their positive assets, their potential, and the possibilities therein. An important aspect of service-learning is to allow youth to be involved in talking about their concerns and interests, solving problems, and making decisions as they construct their own identities with the help and collaboration of supportive adults. As Deci and Ryan (1985) pointed out, the ideal social,

environmental, and contextual conditions that promote the internalization of behavior are those that address the basic human needs for autonomy, competence, and relatedness. Programs (such as service-learning) that foster these basic human needs may enhance the likelihood that adolescents who demonstrate at-risk behaviors will develop these more appropriate behaviors.

The construction of disaffected youth as social and political change agents through service-learning empowers the students and the system in a reciprocal fashion. The optimistic belief that at-risk adolescents have the potential to change and then designing programs based on that belief is a core assumption of service-learning programs for at-risk youth. Service-learning can be a powerful educational strategy in working with at-risk youth, particularly those who are placed in DAEPs. Benard (1997) describes the impact of *turnaround experiences* and *turnaround teachers* on at-risk students as being instrumental in the transformation from risk to resilience. School personnel have the power to help construct positive identities in adolescents through creating a respectful and caring environment, validating feelings, having high expectations, and allowing expression of opinions and ideas.

Consideration 2: Service-Learning Defined

According to The National and Community Service Act of 1990 (PL 101-610), the definition of service-learning is:

a method under which students or participants learn and develop through active participation in thoughtfully organized service that is conducted in and meets the needs of a community; is coordinated with an elementary school, secondary school, institution of higher education, or community service program, and with the community; and helps foster civic responsibility; and that – is integrated into and enhances the academic curriculum of the students or the educational components of the community service program in which the participants are enrolled; and provides structured time for the students or participants to reflect on the service experience. (42 U.S.C. 12572 (a) (101))

Service-Learning: An Educational Strategy

Service-learning combines the objectives of the service project with the learning objectives of the classroom in a way that both the providers of the service and the recipients of the service are changed in positive ways. Participants are provided an opportunity to reflect on their service activities by thinking, discussing, and writing about their experiences. Service-learning is an educational strategy, a type of youth programming encompassing a philosophy of youth empowerment and can help teens develop the assets needed for a productive future (Byers et al. 2000). Looking at teenagers as resources and assets is one way in which to construct a more positive outlook and future for even the most difficult adolescents. Service-learning projects might include, but are not limited to: environmental projects, tutoring programs for younger students, assistance for senior citizens, neighborhood renovations, promotion of civic responsibility, campaigns against drug and alcohol abuse, antipoverty programs, and anti-violence programs (Texas Center for Service-Learning 2003).

The primary definition and focus of service-learning has not changed since our original article; however, the concept of this educational strategy has been refined by the development in recent years of the *K-12 Service-Learning Standards for Quality Practice* (National Youth Leadership Council 2008) which include the strongest evidence-based standards of service-learning practices. These eight standards include: meaningful service, link to curriculum, reflection, diversity, youth voice, partnerships, progress monitoring, and duration and intensity.

Developing Assets in Youth

Typically, service-learning extends learning beyond the classroom and into the community. It provides students a way to build many of the developmental assets which are protective factors for youth success (Benson et al. 1998; Byers et al. 2000). Although service-learning is an educational strategy, it encompasses a philosophy of youth empowerment helping children develop the

assets needed for a productive future. The most successful service-learning projects are guided by youth voice and include a strong reflection component (Eyler 2002; Fredericks et al. 2001; Scales et al. 2000). Service-learning programs provide a forum for youth ideas, opinions, and initiatives. Dialogue between youth and adult partners is encouraged which can actually affect public policy and community issues (Justinianno and Scherer 2001).

Scales and Roehlkepartain (2004) describe service-learning as a gateway asset for building healthy development in young people. Participating in service-learning has the potential to lead to healthy outcomes, just as gateway drugs may lead to unhealthy outcomes. The more assets students have, the more potential for success they have. Providing students with healthy and meaningful activities is one way to help students acquire positive assets.

Consideration 3: Service-Learning Research

Closing the Achievement Gap

In the late 1990s and early 2000s, research was used to support the idea that involvement in service-learning programs contributed to closing the achievement gap between students from low socioeconomic backgrounds and those from more advantaged backgrounds (Scales and Roehlkepartain 2005). Students who might benefit from service-learning programs include students placed in DAEPs, English language learners, students with low scores on state-mandated tests, or students on free or reduced lunch. Often these are students who are not connected in positive ways to the school environment. Involving these identified students in service-learning programs has the potential to have a positive impact on student achievement. In their nationwide study, Scales and Roehlkepartain (2005) found that students from low-income backgrounds who participated in service did as well or better on most measures of achievement than the students from high-income backgrounds who did not serve.

Service-Learning Produced Results in the Early 2000s

Service to others had clear potential for building prosocial behaviors, enhancing self-esteem, and enhancing school success in the early 2000s (Billig 2004; Scales et al. 2000; Scales and Roehlkepartain 2005). Students in DAEPs across the state of Texas who were involved in the Texas Title IV Service-Learning Grant identified positive outcomes resulting from their participation in service-learning. Some of these outcomes were: better relationships with teachers, stronger engagement in academics, leadership potential, and acceptance of diverse people and ideas (RMC Corporation 2005). Teachers, administrators, and parents also identified positive outcomes for participants in the service projects, and school personnel reported that they had high expectations and positive feelings about the participants.

In a study involving middle school students, service to others indicated clear potential for improving behaviors, enhancing self-esteem, and supporting academic success (Scales et al. 2000). Some researchers indicated that service-learning programs have the potential to impact large numbers of students in positive ways (Scales and Roehlkepartain 2005; Scales et al. 2000; Skinner and Chapman 1999).

In a qualitative study of at-risk students in Delaware, Hecht (2002) found that students who engaged in service-learning found unexpected satisfaction in the service projects and the experience with the service projects appeared to increase their engagement in school. Spring et al. (2007) conducted a national survey of 3,178 students between the ages of 12 and 18 and found the following: (a) youth from disadvantaged backgrounds were less likely than their more advantaged peers to participate in service activities; however, when they did volunteer, the disadvantaged youth demonstrated the same level of commitment as their more advantaged counterparts; (b) youth were more likely to participate when they were asked to serve particularly by teachers; (c) youth from disadvantaged circumstances volunteered mainly to fulfill their religious and spiritual beliefs or to gain work experience unlike their more advantaged peers.

Another researcher (Kirby 2001) examined programs aimed at reducing teen pregnancy. Although it is not clear why service-learning programs were successful in this area, these programs had strong evidence of being an intervention that reduced teen pregnancy while students were participating in the programs. Possible reasons are (a) youth bonding with adult facilitators, (b) youth gaining a sense of autonomy and competence, and (c) fewer opportunities for youth to engage in risky behaviors.

In another study, Laird and Black (2002) examined risk-taking behaviors and participation in service-learning programs. Ninth graders in this study who participated in service-learning classes had more positive scores on all measures of resilience and were more likely to decrease their cigarette smoking. In the same study, twelfth graders who participated in service-learning, some of whom were rated highly at risk initially, maintained a low risk of dropping out of school compared to non-participating peers. In a study of a 3-year demonstration project (Potts 2000) in which middle school students were paired with university students in service-learning projects, the middle school students reported the following: (a) lower rates of some risk behaviors, (b) a greater ability to resist dangerous situations, (c) higher levels of positive peer influence, (d) better school engagement, and (e) higher levels of leadership abilities and interpersonal competence.

Service-Learning in the Second Decade of the 2000s

In a recent review of literature, the authors found a dearth of information regarding service-learning outcomes; however, the current literature continues to be encouraging and positive. In a meta-analysis, researchers (Goethem et al. 2014) assessed the effectiveness of community service (which is not synonymous with service-learning, but captures some of the same benefits of civic engagement that we find in service-learning) on adolescent development and the impact of reflection on service. Random effects analyses were conducted, based on 49 studies (24,477 participants, 12–20 years old), and revealed that community service had positive effects on academic, personal, social, and civic outcomes. Reflection

was found to be essential to the positive effects of service with the effect for studies that included reflection being substantial (mean ES = 0.41) and community service in the absence of reflection yielding negligible benefits (mean ES = 0.05). Effects increased when studies included more frequent reflection and reflection on academic content. These findings have implications for understanding and improving community service.

Curtin and Garcia (2011) conducted a research project comparing two work-based learning interventions, service-learning and paid internships, across group and time on work performance and social competence among high school students with emotional and behavioral disorders ($N = 57$). The researchers found that the interaction effect for group and time for service-learning was significant on several dimensions of work performance and social competence, including work motivation, personal presentation, overall social competence, peer relations, and school adjustment.

Wallace (2014) described the hopefulness that service-learning provides to educators and communities in independent schools. Some of the programs in independent schools are formal programs while others are informal. However, all of these programs aim to connect students to the world around them. The author reported that Youth Service America called the 2013 Global Youth Service Day the largest such event in the world, with the United States accounting for 1,623 of the 2,692 registered projects.

Chung and Moore-McBride (2015) discussed the theoretical basis for and practical implementation of a school-based positive youth development model that utilizes service-learning to build the social and emotional skills of middle school students. They discussed the importance of social and emotional learning during adolescence and outlined the impact of service-learning to include the following categories: self-awareness, social awareness, responsible decision-making, self-management, and relationship management. In addition, the authors provided a case study of the Wyman Center's Teen Outreach Program[®] which was presented as a model that integrated service-learning onto middle school curricula to build on a positive youth development framework.

Kackar-Kam and Schmidt (2014) in their research found that "participating in community-based service-learning fostered adolescents' feelings of autonomy, competence, and relatedness" (p. 104). Furthermore, if youth are able to feel autonomous, competent, and related over the course of their service involvement, they were more likely to continue doing service for intrinsic reasons in the future. The authors posited that educators and policy-makers should consider community-based service-learning as a viable strategy for facilitating adolescents' development of self-determination and identity, key developmental tasks during adolescence. Results also provided evidence that both required and voluntary service participants could reap the self-determination and identity development benefits of service, allowing adolescents to internalize the meaning and purpose of service.

Consideration 4: Service-Learning Programming

Service-Learning Models

The authors were involved in two service-learning models that are described here and that have been used in alternative schools in several school districts in a southwestern state. In 2002, the DAEPs in the state were funded through the Title IV Community Service Grant Program (2001) and received grant funding for service-learning projects. Money was provided for personnel, capital outlay, materials for service-learning projects, and student travel. In order to guarantee that the ideas for the service projects were generated by the students themselves, the students competed for the grant money in the form of smaller increments of the funds. Students wrote proposals for funding for service projects stemming from their own particular community interests and concerns. They competed for the funds just as the Title IV grant facilitators had competed for the original grant money.

In another project, supported by federal funding through *Learn and Serve*, the researchers partnered with students in a DAEP in a rural community high school; the high school teachers,

administrators, and staff; as well as students and faculty from the nearby university. Undergraduate and graduate students from the university and faculty in the teacher and counselor preparation programs supported the model. The multilayered participation provided diversity and substantial partnerships, addressing two of the *K-12 Service-Learning Standards for Quality Practice* (National Youth Leadership Council 2008). The university is service oriented, and professors across disciplines have been called upon to combine course learning objectives with experiential activities. The university graduate and undergraduate students were enrolled in classes that included the service-learning component, and the students agreed to participate in this DAEP project.

Model One: Implementing the Model Through a Developmental Sequence

The opportunity to receive funding for service projects was announced to all students. Teachers and staff who were instrumental in the success of the competition assisted students as they generated ideas about projects they would like to have funded. The staff encouraged the students, gave them class time to work on the grant proposals, and guided students through the grant writing process. Students completed a checklist about various social and environmental issues that concerned them. The list included the following: the environment, elder care, drug and alcohol prevention, violence prevention, tobacco prevention, school safety, child safety, teen health issues, neighborhood safety, animal care, and the homeless. From this list of concerns, students identified their top three concerns. The teachers grouped students according to similar interests based on the checklists. Students then discussed and formulated ideas for the projects they wanted to have funded. This component of the process entailed researching topics, contacting potential community partners, and establishing the goals and objectives for the projects.

Students completed the grant proposals including: (a) a detailed description of the project, (b) a rationale for completing the project citing the research they had done, (c) the community

partners who would be included in the project, (d) the steps for completing the project, (e) a timeline, and (f) a detailed budget. The students gave presentations to their classmates to fine-tune their respective proposals and to practice the formal presentation they would eventually make to the funding agency which, in this case, was the Service-Learning Advisory Board comprised of students, teachers, and administrators at the school. After the proposals were finalized, the students made their formal presentations to the Service-Learning Advisory Board. Students used PowerPoint presentations and display boards for both highlighting their proposals and in providing a convincing argument for their proposed projects. The Service-Learning Advisory Board voted to fund two projects. The students whose projects were not awarded funding joined the two funded groups. Rather than feeling defeated by virtue of not being selected, they, in fact, became instrumental players in those other peer-selected service projects.

Outcomes

The following two projects were selected for funding: the construction of a playground at the new Salvation Army Boys and Girls Club of America, which was located across the street from the DAEP, and the renovation of a nearby neighborhood park, which had fallen into disrepair due to neglect and vandalism. Each proposal was awarded \$10,000 to complete the project. The students designed the playground and the park renovation, brokered businesses for services, and did most of the labor at both sites on Saturday mornings. The partnership with the Salvation Army, the neighborhood homeowners' association, and the community businesses that were involved in the projects gave the students many opportunities to be heard in a way that validated their identities and their ideas.

The students reported that the projects gave them a sense of importance, self-confidence, and responsibility that they didn't feel they had before. One student commented that he "didn't know that adults would actually listen to him and take him seriously." Students gained confidence to explain to parents, teachers, and adult visitors what

service-learning is all about. They initiated these conversations using their own words to describe their experiences. Students who were initially very introverted gained confidence, were able to express opinions, and were not as quiet and shy. Students who were loud and boisterous acquired leadership qualities such as gaining consensus from the group, motivating others to participate appropriately, and representing the service-learning students at the project sites. Students developed relationships with the recipients of the projects and began to take ownership of the outcomes of the projects. They participated because others were counting on them and because they liked the feelings associated with service-learning such as pride, a sense of accomplishment, and a connection to the community.

The student grant writing model was definitely a lesson in youth voice. The students designed projects addressing real needs in the community that were much more creative and useful than what the staff members themselves could ever have imagined. The entire process required collaboration, reaching consensus, planning, and decision-making, all important life skills. The student grant writing process also related to many classroom objectives: (a) research skills, (b) writing skills, (c) identification and understanding of social issues, (d) development of social skills, (e) collaboration, (f) problem solving, and (g) decision-making. As the projects became fine-tuned, specific links to classroom objectives in language arts, mathematics, social studies, and science were identified by teachers.

According to Fredericks et al. (2001), young people become dissatisfied when they are not an integral part of the planning and implementation of service projects. Service-learning is the perfect venue for the development of youth ideas, opinions, and creative thinking. Throughout the development of the student grant writing model, school personnel, parents, and community members validated youth voice. The foundation was reinforced for the future of youth civic engagement and leadership roles in the community. The caring adults involved viewed the students as resources to be developed, and the young people built competencies that will be reflected in their

futures. Eckstein et al. (1999) point out that one of the hallmarks of the adolescent years is the egocentric nature of teens. However, through encouragement and modeling of social interest, adolescents can develop their own sense of community as demonstrated by this project.

Model Two: A Layered Perspective

The second model also took place in an alternative school in a rural Texas town that also houses a midsized state university. The partnerships were the compelling aspect of this project. University faculty and students across various disciplines at the undergraduate and graduate levels, as well as teachers and administrators at the high school, worked side by side in the planning and implementation of this project. Preservice teachers and preservice counselors facilitated the project with the DAEP students. Some aspects of this project that set it apart from others were that every teacher at the high school was provided with training on service-learning; students in the DAEP who participated in the service-learning project also attended group counseling sessions led by the students in the university counselor education program; because the DAEP students were in a special program, the university personnel were able to hold the service-learning planning and implementation during regular school hours; and the group counseling sessions also took place during the school day.

During the service-learning planning sessions with the students, faculty, and university, students explored possible areas of need in the surrounding community with them, so that youth had a voice, a standard for quality practice (National Youth Leadership Council 2008). The DAEP students chose the topic of HIV/AIDS, incorporating the standard of meaningful service (National Youth Leadership Council 2008), and they produced a video about its prevention and treatment. The final product was to be used to inform peers about HIV/AIDS.

Outcomes

As a pretest and posttest assessment, the *Academic Self-Description Questionnaire II* (ASDQ II) (Marsh 1990) was used to collect data

reflecting the DAEP students' academic self-descriptions. This data provided a link to curriculum, a component of the *K-12 Service-Learning Standards for Quality Practice* (National Youth Leadership Council 2008). The instrument included 14 subscales, and ANOVAs were conducted on each set of subscale scores to determine if the differences in pretest and posttest scores were significant at the 0.05 level. The results of the descriptive data showed that students' attitudes about their own academic capability improved in all areas with the exception of Physical Education. The greatest difference between pre- and post-scores was seen in Foreign Language, and the subject of Computer Science showed the least difference in mean scores. Statistically significant differences were found between the academic pretest and posttest scores in history, math, music, psychology, industrial arts, foreign language, and health. There was also a statistically significant difference between the students' overall school subjects academic self-definition, suggesting that the students were positively impacted by the program in general.

Additional anecdotal evidence that cannot be quantified included the leadership qualities the students developed, the realization that they have some ownership in their school community and beyond, and the technological and problem-solving skills they acquired as a result of the project. Perhaps even more compelling evidence of the success of the program for the participants was a reduction in disciplinary referrals, a reduction in tardiness and absenteeism, and almost no recidivism after being discharged. All but 1 of the 12th graders graduated from high school the following spring semester. One female student did not graduate due to being incarcerated. Right after graduation, one student enrolled in college, and three students found full-time employment.

Consideration 5: Service-Learning Recommendations

Recommendations for Staff

The success of service-learning projects is contingent on factors that have been found by these

authors to be critical before, during, and after the implementation of programming. These factors were compiled from the Points of Light Institute; Learning in Deed, sponsored by the W. K. Kellogg Foundation; The Texas Center for Service-Learning; the *K-12 Service-Learning Standards for Quality Practice* (National Youth Leadership Council 2008); and the authors' experiences in service-learning programs in DAEPs. The first recommendation involves intense training of the teachers, administrators, and staff to include a mind-set that all students will be treated as competent individuals whose ideas are valued. Providing examples of how to encourage youth voice is important. Staff retreats, professional development workshops, and ongoing training will elicit the most successful results. Teachers, in particular, will need curriculum training as they begin to integrate the service projects within their own content areas through writing, discussion, research, science experiments, math skills, and class projects that will enhance the experiential learning. When service-learning is a school-wide effort, we have found the results to be enhanced as everyone in the environment understands the purpose, process, and outcomes of the service projects. Service becomes a way of being and learning for the entire school population.

Recommendations for Students

Students need training also. Certain social skills must be taught and practiced before students venture out into the public arena to represent themselves and their schools. One training opportunity is to allow students to become ambassadors within their own schools. Students can meet and greet guests entering the school, give guided tours of the school to new students and their families, answer phones, help direct traffic in office areas, monitor halls and lunchrooms for cleanliness and neatness, become responsible for classroom routines and protocol, and translate for parents who need help with understanding school rules and procedures in a language other than English. These are just a few ideas that allow students to become empowered and connected to their school environments.

During service projects, students need ample time to practice and role-play what they have to say. They also should reflect before, during, and after service projects to evaluate what they want to accomplish, what is happening in the immediate moment, and which goals and objectives they have met or have failed to meet. In addition, it is critical that the projects are owned by the students. Adults can offer blueprints for service projects, but the students must do the actual work. Allowing students to be the driving forces of the projects means that mistakes will be made and sometimes projects will not turn out as anticipated. These challenges are opportunities for learning and growth.

In addition, students should be encouraged to promote their projects in every possible way. A few ideas include the following: invite parents and favorite teachers to project sites allowing the students to serve as the guides to the projects; ask English teachers to assist students as they write promotional pieces for local papers, newsletters, and radio spots; encourage students to deliver flyers about their projects to local businesses; have students videotape their service-learning journey to be shared with school district personnel and community members. One last idea is to help students use technology to use their voice. There are websites that specifically ask for youth input on national and world issues. Encouraging community, national, and global involvement will provide students with valuable experiences of empowerment and engagement.

Recommendations for Researchers

The authors add this section to our new manuscript in hopes that those who implement service-learning in their classrooms, schools, and school districts will partner with researchers to collect data showing the benefits and barriers of service-learning as an educational strategy. We found that the partnership among DAEP students, high school teachers, and university students and faculty was very effective in the data collection process. Because schools are continually at risk of losing funding for educational interventions, researchers and school personnel must work together to implement low-cost service-learning

programs that produce excellent results in academic success as well as positive social and emotional gains.

Conclusion

Implementing programs that address the needs of students who are at risk of failing and dropping out of school can ensure school administrators and other stakeholders that they are meeting the needs of all students and are at the forefront of educational reform. In this age of accountability, educators must create and promote programs that prove effective. Service-learning is an intervention that is research based and that has the potential for excellent data collection. This intervention is a smart choice for impacting large numbers of at-risk adolescents ensuring that low-income and minority students are not “left behind” in the competitive school and work environments. Service-learning is an inclusive intervention that has the potential to meet the many needs of at-risk students, to change student behaviors as well as the way at-risk students are viewed by others and to raise the expectations of these students to a level of achievement that is competitive with their more privileged peers.

Kackar-Kam and Schmidt (2014) found that “participating in community-based service-learning fostered adolescents’ feelings of autonomy, competence, and relatedness” (p. 104). These are important qualities for youth to acquire during adolescence, and often at-risk youth do not have opportunities to master these important characteristics. If youth are able to feel autonomous, competent, and relational during their service involvement, they are likely to internalize values associated with service that will help them with self-regulation and the desire to continue to help others in their communities.

References

- Barnum, M. (2016, March 27). Data shows 3 of the 5 biggest school districts hire more security officers than counselors. *74million.org news service*.

- Benard, B. (1997). Turning it around for all youth: From risk to resilience. *ERIC Digest*. Retrieved December 2, 2005, from <http://resilnet.uiuc.edu/library/dig126.html>
- Benson, P., Galbraith, J., & Espeland, P. (1998). *What kids need to succeed: Proven, practical ways to raise good kids*. Minneapolis: Free Spirit Publishing.
- Billig, S. H. (2004). Heads, hearts, hands: The research on K-12 service-learning. In *National youth leadership council, growing to greatness 2004* (pp. 12–25). St. Paul: NYLC.
- Byers, N., Griffin-Wiesner, J., & Nelson, L. (Eds.). (2000). *An asset builder's guide to service-learning*. Minneapolis: Search Institute.
- Children's Defense Fund. (2009). *Cradle to prison pipeline fact sheet*. <http://www.childrensdefense.org/child-research-data-publications/data/cradle-to-prison-pipeline-overview-fact-sheet-2009.pdf>
- Chung, S., & Moore-McBride, A. (2015). Social and emotional learning in middle school curricula: A service-learning model based on positive youth development. *Children and Youth Services Review*, 53, 192–200.
- Curtin, K. A., & Garcia, J. (2011). Improving work performance for adolescents with emotional and behavioral disorders: A comparison of two work-based learning interventions. *Journal of Rehabilitation*, 77(1), 31–39.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Eckstein, D. G., Rasmussen, P., & Wittschen, L. (1999). Understanding and dealing with adolescents. *The Journal of Individual Psychology*, 55, 31–50.
- Elias, M. (2013). The school to prison pipeline. *Teaching Tolerance*, 43, 38–40. Retrieved at <http://www.tolerance.org/sites/default/files/general/School-to-Prison.pdf>
- Eyler, J. (2002). Reflection: Linking service and learning – Linking students and communities. *Journal of Social Issues*, 58, 517–534.
- Foley, R., & Pang, L. (2006). Alternative education programs: Program and student characteristics. *The High School Journal*, 89, 10–21.
- Fowler, D. (2011). School discipline feeds the pipeline to prison. *Phi Delta Kappan*, 93, 14–19. Retrieved at <http://pdk.sagepub.com/content/93/2/14.full.pdf+html>
- Fredericks, L., Kaplan, E., & Zeisler, J. (2001). Integrating youth voice in service-learning. *Learning in Deed Issue Paper*. Retrieved March 8, 2004, from <http://www.esc.org/clearinghouse/23/67/2367.htm>
- Goethem, A., Hoof, A., Orobio de Castro, B., Van Aken, M., & Hart, D. (2014). The role of reflection in the effects of community service on adolescent development: A meta-analysis. *Child Development*, 85(6), 2114–2130. <https://doi.org/10.1111/cdev.12274>.
- Hecht, D. (2002). *The missing link: Exploring the context of learning in service-learning*. Presentation at the 2nd International Service-Learning Research Conference, Nashville.
- Justinianno, J., & Scherer, C. (2001). *Youth voice: A guide for engaging youth in leadership and decision-making in service-learning programs*. Points of Light Foundation.
- Kackar-Cam, H., & Schmidt, J. A. (2014). Community-based service-learning as a context for youth autonomy, competence, and relatedness. *High School Journal*, 98(1), 83–108.
- Kirby, D. (2001). *Emerging answers: Research findings on programs to reduce teen pregnancy*. Washington, DC: National Campaign to Prevent Teen Pregnancy.
- Laird, M., & Black, S., (2002). *Service-learning evaluation project: Program effects for at risk students*. Presentation at 2nd International Service-Learning Research Conference, Nashville.
- Marsh, H. W. (1990). The structure of academic self-concept: The Marsh/Shavelson model. *Journal of Educational Psychology*, 82, 623–636.
- National Youth Leadership Council. (2008). *K-12 service-learning standards for quality practice*. Retrieved at <http://www.nylc.org/k-12-service-learning-standards-quality-practice>
- Osher, D., Coggshell, J., Columbi, G., Woodruff, D., Francois, S., & Osher, T. (2012). Building school and teacher capacity to eliminate the school-to-prison pipeline. *Teacher Education and Special Education*, 35, 284–295. Retrieved at <http://tes.sagepub.com/content/35/4/284.full.pdf+html>
- Potts, S. (2000). *Fostering resiliency through service-learning 2x4x8: Evaluation summary*. Madison: Wisconsin Department of Public Instruction.
- Public Policy Research Institute, Texas A&M University. (2005). *Study of minority overrepresentation in the Texas Juvenile Justice System final report*. Retrieved at <http://dmcfinalreport.tamu.edu/DMRFinalReport.pdf>
- RMC Research Corporation. (2005). *Evaluation of the Texas title IV community service grant program: Final report*. Denver: Author.
- Scales, P., & Roehlkepartain, E. (2004). Service to others: A “gateway” asset for school success and healthy development. In National Youth Leadership Council, *Growing to greatness 2004: The state of service-learning project* (pp. 26–32). St. Paul: NYLC.
- Scales, P. C., & Roehlkepartain, E.C. (2005). Can service-learning help reduce the achievement gap: New research points toward the potential of service-learning for low-income students. In National Youth Leadership Council, *Growing to greatness 2005* (pp 10–22). St. Paul: NYLC.
- Scales, P., Blyth, D., Berkas, T., & Kielsmeier, J. (2000). The effects of service-learning on middle school students' social responsibility and academic success. *Journal of Early Adolescence*, 20(3), 331–358.
- Shippen, M., Patterson, D., Green, K., & Smitherman, T. (2012). Community and school practices to reduce delinquent behavior: Intervening on the school-to-prison pipeline. *Teacher Education and Special Education*, 35, 296–308. Retrieved at <http://tes.sagepub.com/content/35/4/296.full.pdf+html>
- Skinner, B., & Chapman, C. (1999). *Service-learning and community service in K-12 public schools*. Washington,

- DC: U.S Department of Education, National Center for Education Statistics.
- Spring, K., Dietz, N., & Grimm, R. (2007). *Leveling the path to participation: Volunteering and civic engagement among youth from disadvantaged circumstances*. Washington, DC: Corporation for National and Community Service.
- Texas Center for Service-Learning. (2003). *S.T.A.R.S. Service-learning implementation: A Guide for educators initiating service-learning practice in schools*. Austin: Author.
- The National and Community Service Act of 1990. (PL 101-610) (42 U.S.C. 12572 (a) (101).
- Title IV Community Service Grant Program. Title IV (Part A, Subpart 2, Section 4126).U.S. Department of Education. *No Child Left Behind Act of 2001*.
- U.S. Department of Education, Office for Civil Rights. (2000). *Projected suspension rate values for the Nation's Public Schools*. Washington, DC: Author.
- U.S. Department of Education, Office for Civil Rights. (2014). *Civil rights data collection: Data snapshot (school discipline)*. Washington, DC: Author.
- Wald, J., & Losen, D. (2003). *Defining and redirecting a school-to-prison pipeline: Framing paper for the school-to-prison pipeline research conference*. Cambridge, MA: Civil Rights Project at Harvard University.
- Wallace, S. G. (2014). Oddly hopeful. *Independent School*, 73(2), 96–102.
- Weissman, M., Wolf, E., Sowards, K., Abate, C., Weinberg, P., & Marthia, C. (2005). *School yard or prison yard: Improving outcomes for marginalized youth*. Syracuse: Center for Community Alternatives Justice Strategies.

SES

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Overview

One of the most important social characteristics that influence individuals' development is their socioeconomic status, widely known as SES. Socioeconomic status is simply a measure of an individual's (and for children and other dependents, their families) overall relative wealth. Research now has examined many factors that relate to adolescents' SES and that research continues unabated. This essay examines the nature of SES, some of the key findings relating to

adolescents as well some of its enduring controversies, including subjective social status that may be highly indicative of SES's effects on development.

Socioeconomic Status

Socioeconomic status (SES) is a measure of a family's or an individual's relative economic and social ranking that typically includes level of education and occupational prestige (either of the individual or, if a child, of their parents). The role of SES in adolescent development figures prominently in adolescent research, with existing research focusing on intersections among SES and numerous other demographic factors (race, gender, age) in a variety of contexts (e.g., schools and justice systems) (see, e.g., Goza and Ryabov 2009). That research focuses on a variety of adolescent outcomes, ranging from more obvious factors (such as educational and occupational expectations (Mello 2009) to less obvious ones (such as psychopathology) (see Ayer and Hudziak 2009). More recently, research has explored the mechanisms and outcomes of subjective social status. Subjective social status refers to an individual's self-perception of their SES. It may be higher or lower than their objective SES, which would be determined by impartial observers or measures typically used to index social class, such as educational levels and occupations. The intersection of subjective social status and objective SES has proven rife with potential implications for adolescents. In addition, the wider utility of SES in so many unrelated fields of research also especially motivates understanding SES in the context of adolescence.

SES and Adolescents

One of the most studied facets of SES is its potential impact on adolescents' emotions and behaviors. That research generally indicates that adolescents from low SES families are more likely to develop internalizing or externalizing problems than their peers of higher SES. Several possible

explanations have been offered for this phenomenon. Among the most obvious explanations is that lower SES associates with a variety of factors related to hardships, such as reduced material resources that relate to poor housing and neighborhood conditions as well as factors relating to those challenges, such as less effective parenting, poorer diets, and less effective schools. Although important variations exist and it is important not to assume tendencies and outcomes bases solely on social class, it is difficult to deny the negative effects of financial difficulties and what those difficulties mean. For example, adolescents' individual cognitive abilities have not been found to allay identified SES-induced problems (Huisman et al. 2010). That is, while low SES can cause negative outcomes for adolescents directly, its ability to cause similar problems for "innately" brighter students who might otherwise defy poor educational circumstances hints at the psychological and mental burdens of SES on adolescents themselves, perhaps even without their knowing it.

In terms of potential outcomes for physical health, it also has been found that the health statuses of adolescents and adults associate with their self-rated SES (Singh-Manoux et al. 2003). It has long been shown that objective social status correlates with physical health, as low socioeconomic status (i.e., poor) youth are at higher risk of poor physical health outcomes, such as asthma and obesity (Schreier and Chen 2013). Similarly, adolescents' levels of moderate to vigorous physical activity correlate strongly with SES, with those adolescents who grow up in more resource-rich areas, such as those that result in lower crime rates, have higher levels of physical activity than peers who grew up in other environments, even after controlling for gender and age (Boone-Heinonen and Gordon-Larsen 2011). As much as it may be resisted by some, the conventional wisdom that the most privileged adolescents grow and develop in the easiest, healthiest way the most often finds support from empirical evidence. Perhaps the most worrisome implication of these potential outcomes for low SES adolescents is that a negative outcome for physical health might lead to a negative mental health outcome or vice versa. Realizing that one's

problems are stemming from one's SES is most likely to have a negative emotional/physical effect on adolescents, and this merits consideration in formulating practical approaches to working with adolescents of any SES.

The study of subjective social status results in research indicative of the many subtleties in the mechanisms of how SES affects adolescents. For example, regardless of gender, subjective social status correlates more strongly with "health, depression, and long-standing illness or disability" than "education, occupational status, wealth, age, [or] marital status" of parents (Demakakos et al. 2008, p. 334). Aside from demonstrating the sheer power of mental suggestion and self-perception, this also explains how it is possible to either "transcend" SES or be held back by an otherwise non-troublesome SES depending on an individual's understanding of it. When involving adolescents, where perception and understanding of the self are developing and may be in flux, this can transform an already delicate situation into an even more challenging to navigate. Importantly, this line of research gains support from studies of other age groups, such as geriatric populations, who can resemble adolescents functionally (see Hu et al. 2005). As a whole, these lines of research strengthen the case for taking precautions when working with adolescents from different socioeconomic backgrounds.

To complicate matters, however, the correlation between subjective social status and [objective] SES is hardly straightforward. Although higher SES adolescents and adults may believe and understand that they are high SES, lack of communication between parents and children or interactions with peers and the media can cause even adolescents of the highest SES to believe that they are, in fact, low SES (Goodman et al. 2001). At the same time, adolescents who have an inflated view of their own SES may experience social difficulties in relating to their lower SES peers. This research indicates a delicate situation for parents of higher SES adolescents: to somehow achieve enough transparency that their children will not think too low of their own SES while also ensuring that their children learn about SES in a way that reduces potentially harmful

situations. For low SES adolescents, the potential for negative self-perception of one's SES is likely higher because of the much more evident hallmarks of low SES. This creates challenges for low SES parents given the potential for negative mental and physical health outcomes stemming from social stigma or self-realization about one's misconceptions of SES have the potential to be ever more strongly negative than the typical outcomes of perceiving one's low SES as low as it is or lower to begin with (Goodman et al. 2001). And, of course, although the research thus far has focused on parents as the socializers of note, it would be wise to also consider the roles of schools, media, and other socializers of youth including youth (peers) themselves.

Conclusion

SES can play a wide variety of roles in the lives of the adolescents. When adolescents' self-perceptions of their SES (their subjective social status) do not align with their actual SES, negative outcomes of SES can be compounded or transformed into altogether different negative outcomes. Research on SES has now moved toward examining the effects of social class when controlling for such important factors as gender, age, developmental stage, and even subjective social status. Yet, future research also would do well to explore long-term multigenerational trends in SES because of changes in social mobility (in both directions) as well as explore the psychological mechanisms of subjective social status perceptions of both oneself and others. What quickly becomes apparent in the study of adolescents and SES is that the volume of research may be enormous but so are the gaps in knowledge.

References

- Ayer, L., & Hudziak, J. J. (2009). Socioeconomic risk for psychopathology: The search for causal mechanisms. *Journal of the American Academy of Child and Adolescent Psychiatry*, *48*, 982–983.
- Boone-Heinonen, J., & Gordon-Larsen, P. (2011). Life stage and sex specificity in relationships between the

- built and socioeconomic environments and physical activity. *Journal of Epidemiology and Community Health*, *65*(10), 847–852.
- Demakakos, P., Nazroo, J., Breeze, E., & Marmot, M. (2008). Socioeconomic status and health: The role of subjective social status. *Social Science and Medicine*, *67*, 330–340.
- Goodman, E., Adler, N. E., Kawachi, I., Frazier, A. L., Huang, B., & Colditz, G. A. (2001). Adolescents' perceptions of social status: Development and evaluation of a new indicator. *Pediatrics*, *108*(2), e31–e31.
- Goza, F., & Ryabov, I. (2009). Adolescents' educational outcomes: Racial and ethnic variations in peer network importance. *Journal of Youth and Adolescence*, *38*(9), 1264–1279.
- Hu, P., Adler, N. E., Goldman, N., Weinstein, M., & Seeman, T. E. (2005). Relationship between subjective social status and measures of health in older Taiwanese persons. *Journal of the American Geriatrics Society*, *53*(3), 483–488.
- Huisman, M., Araya, R., Lawlor, D. A., Ormel, J., Verhulst, F. C., & Oldehinkel, A. J. (2010). Cognitive ability, parental socioeconomic position and internalising and externalising problems in adolescence: Findings from two European cohort studies. *European Journal of Epidemiology*, *25*(8), 569–580.
- Mello, Z. R. (2009). Racial/ethnic group and socioeconomic status variation in educational and occupational expectations from adolescence to adulthood. *Journal of Applied Developmental Psychology*, *30*, 494–504.
- Schreier, H., & Chen, E. (2013). Socioeconomic status and the health of youth: A multilevel, multidomain approach to conceptualizing pathways. *Psychological Bulletin*, *139*(3), 606–654.
- Singh-Manoux, A., Adler, N., & Marmot, M. (2003). Subjective social status: Its determinants and its association with measures of ill-health in the Whitehall II study. *Social Science and Medicine*, *56*, 1321–1333.

Sex Roles and Gender Roles

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The terms sex roles and gender roles often are used interchangeably to denote a repertoire of emotions, attitudes, behaviors, and perceptions that are commonly associated more with one sex than with the other. Individuals are deemed to adopt a gender role self-concept, which is the amount of gender stereotypical traits and behaviors that persons use to describe themselves and to

influence their dispositions. These traits reflect expectations a society holds toward men and women (see Eagly et al. 2000). The classic conceptualizations of the male gender role associates it with instrumental/agentive behaviors and traits that reflect independence, assertiveness, and dominance; the female gender role has been associated with expressive behaviors and traits that reflect sensitivity to others and communality (Bem 1974). The conceptualization also includes androgynous traits, which are mixtures of traditional male and female gender roles (Bem 1974).

The development of gender role self-concepts has been the subject of considerable research (for a review, see Ruble and Martin 1998). That rich research reveals that gender role self-concepts emerge early in childhood and also reveals that socialization processes play an important role in the development of gender role self-concept. Children develop gender schemas, which are mental representations that shape their understanding of attributes and behaviors of the two genders (Bem 1981). Gender schemas develop before gender-typed preferences and behaviors (Martin et al. 2002) as well as before the development of gender role self-concepts (Hannover 2000). Although popular consciousness tends to image gender role differences as biological and “natural,” considerable research has long shown that many are socially constructed (Bandura 1986). Gender role issues become important during adolescence, as adolescents come to terms with their own sense of gender and as they interact with peers and engage more readily with broader social forces, and as that sense of gender influences, among other things, their mental health and interactions with others (see, e.g., Priess et al. 2009).

Cross-References

► [Gender Role and Identity](#)

References

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs: Prentice Hall.

Bem, S. L. (1974). The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology, 42*, 155–162.

Bem, S. L. (1981). Gender schema theory: A cognitive account for sex typing. *Psychological Review, 88*, 354–364.

Eagly, A., Wood, W., & Diekmann, A. B. (2000). Social role theory of sex differences and similarities: A current appraisal. In T. Eckes & H. M. Trautner (Eds.), *The developmental social psychology of gender* (pp. 123–174). Mahwah: Lawrence Erlbaum.

Hannover, B. (2000). Development of the self in gendered contexts. In T. Eckes & H. M. Trautner (Eds.), *The developmental social psychology of gender* (pp. 177–206). Mahwah: Lawrence Erlbaum.

Martin, C. L., Ruble, D. N., & Szkryabło, J. (2002). Cognitive theories of early gender development. *Psychological Bulletin, 128*, 903–933.

Priess, H. A., Lindberg, S. M., & Hyde, J. S. (2009). Adolescent gender-role identity and mental health: Gender intensification revisited. *Child Development, 80*, 1531–1544.

Ruble, D. N., & Martin, C. L. (1998). Gender development. In W. Damon & N. Eisenberg (Eds.), *Handbook of child psychology* (Vol. 3, pp. 933–1016). New York: Wiley.

Sex Trafficking into the United States

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Overview

The sex trafficking of youth from other countries into the United States is increasingly recognized to be one of the most serious social problems of the early twenty-first century. Although laws, researchers, policymakers, and activists in this area use the term “child sex trafficking” (CST), most of the child victims of sex trafficking are adolescents. These constitute as many as one-half of all human beings trafficked into the US. Most of the trafficked youth are coerced by their traffickers to provide commercial sexual services, and the youth are held and forced to do sex work by their overseers through a type of

indentured servitude, a modern form of slavery which is termed “debt bondage” that includes both boys and girls. Given its seriousness and ubiquity, CST is a major threat to the well-being and healthy development of adolescents. Characterized by limited agency, maturity, and autonomy, adolescents are highly vulnerable to becoming victims of sex trafficking; they are susceptible to trafficking. Even if they were not susceptible, youth legally cannot consent to being trafficked; their status as victims of the crime of human trafficking is codified in US federal laws. This essay examines these issues.

Sex Trafficking of Adolescents

The US is the world’s second (after Germany) largest destination or market country for women and children trafficked for purposes of commercial sexual exploitation (Mizus et al. 2003). By conservative estimates in 2003, there were projected to be 18,000 persons trafficked into the US per year and 96% of these are thought to be females, and almost one-half of all trafficking victims are thought to be children (both males and females) (Mizus et al. 2003). Other estimates of the numbers of persons are much higher, with some nongovernmental organizations (NGOs) and governmental agencies suggesting that as many as 50,000 trafficked persons enter the US annually. Since the US government estimates that 50% of the persons trafficked into the US are children and adolescents, based upon the estimates above, the actual numbers of youth trafficked into the US per year would total 9,000–25,000 youth. Recent studies by Gozdzik and her colleagues suggest that most of the trafficked children are adolescents, and most of them have suffered sexual exploitation, both boys and girls (See Gozdzik and Bump 2008a, March; Gozdzik and Collett 2005).

The commercial sexual exploitation of women and children is officially thought to make up the largest share of human trafficking. Further, human trafficking is considered by many to be a major component of the larger worldwide, and exponentially increasing, slave trade (Bales 2003; Schauer

and Wheaton 2006). Trafficking is slavery because it includes fraud or extortion in recruitment and it involves coercion, restraint, gang rape, threat of physical harm, loss of liberty, and loss of self-determination upon arrival in the destination industry. The incidence of slavery, in its sex trafficking form, appears to be directly correlated with the increasing universal marginalization of women (Schauer and Wheaton 2006). The focus on women, however, can be misleading in that it can ignore other groups.

In beginning their earlier study (2006), Schauer and Wheaton worked under the assumption that the trafficking of children would prove similar to the trafficking of women, but that assumption has not been substantiated in the scientific literature. Part of the confusion, and a major difficulty in distinguishing between the trafficking of children and adult women, is that many times when underaged females are trafficked, they are not identified as children, but rather they are officially listed as women. And just as often, adult females identified as victims in trafficking cases were in reality trafficked when they were under the legal adult age of 18. Therefore, upon further study, it appears that while the logistics of international trafficking are similar for both women and children, the attendant circumstances of children in their source countries, the logistics of their travel (e.g., usually accompanied by bogus “parents”), and the milieu of a well-established commercial child sexual exploitation industry in the US, argues for a separate research agenda for each, while still admitting areas of overlap (cf., Estes and Weiner 2001; Schauer and Wheaton 2006).

The largest sources of official data upon the subject of child sex trafficking are found in the reports from the Office of the Under Secretary for Democracy and Global Affairs (2008, June) of the United States Department of State, especially its annual *Trafficking in Persons Report* (TIPs), and from the United Nations Children’s Fund (UNICEF 2008a,b). Neither TIPs nor the UNICEF reports deal with the domestic sex trafficking (or the prostitution) of adolescents; nor do they shed light upon the sex trafficking of boys, while the few exploratory studies on this subject

suggest that as much as 25% of commercial sex work is done by young males (see, Jeffrey and MacDonald 2006; Letherby et al. 2008; Gozdzia and Bump 2008a, March).

Empirical Findings

Empirical research reports on the subject of CST are scarce. Arguably, the best source of scientific information extant is the recent critical literature review by Gozdzia and Bump, *Data and Research on Human Trafficking: Bibliography of Research-Based Literature* (2008b, September). Those wishing to explore CST for the purpose of gaining an understanding of how CST fits into the broad-based scope of sexual predation and victimization, see Letherby et al. (2008) or Flowers (2006). Despite these important studies, this area of adolescents' lives remains pervasively understudied.

Child sex trafficking is a subject of great human anguish among, and human suffering visited upon, persons who have not attained full adult maturity or autonomy. Therefore, it would seem highly important for scholars and researchers to bring together the best scientific literature available in the English language on the subject of the commercial sex trafficking of children into and within the US. As a result, citizens and policymakers might be informed of the negative impacts of trafficking, the need for further research that would inform prevention and early intervention, insight for improving interdiction, enforcement, and prosecution of traffickers, and knowledge to respond to victims' needs for support, services, and reintegration into community. However, such specificity as to the parameters of CST is not possible at this time. Only bits and pieces of the whole are presently understood, and many of those informational snapshots that inform CST research and antihuman trafficking response are created through supposition and currently remain scientifically unsupported projections and conclusions.

Human trafficking may have become a high governmental priority, but research remains highly inadequate. With the trafficking of human

beings having become an issue of high priority in official US government response since 9/11, along with terrorism and border security, much effort has been expended within the US both in human and financial resources in the fight against human trafficking – especially against the trafficking of women and children into the commercial sex industry. This has led to many publications produced by governmental agencies, NGOs, the news media, and by academics; but most of these reports are at best anecdotal in nature and some is produced with political or dogmatic bias (Schauer and Wheaton 2006). The attempt to find empirically based studies proves a difficult endeavor in the general field of human trafficking, and scientific research studies of many of the facets of child trafficking in general, and CST in particular, are nonexistent (such as the study of boys' experiences). On the other hand, however, two excellent critical literature reviews have been published recently (Gozdzia and Bump 2008b, September; Gozdzia and Collett 2005). These studies show that by far the greater number of human trafficking publications present themes and draw conclusions based upon either anecdotal information or dogma, or simply restate positions in line with official (untested) narratives. Reviews also report how some studies repeat earlier propositions as fact and how some studies ostensibly about sex trafficking research when they actually are about prostitution. Finally, these reviews identify the extremely small number of human trafficking, sex trafficking, and child trafficking studies that are based upon rigorous scientific methodology, which we will highlight below.

One of the central problems that researchers confront is the reality that the scientific enterprise begins with operationalized definitions (i.e., definitions that can be scientifically tested); the process of empirical science is arrested by the lack of it. In the general subject area of human trafficking as well as in the more specialized area of CST, there exists little definitional agreement among the varied individuals and groups interested in curtailing sex trafficking; in fact, many NGOs are openly hostile toward one another because they disagree over definitions and possible

solutions (Schauer and Wheaton 2006). While admitting definitional disagreements, and at the same time, reserving judgment upon the purposes intended by governmentally created terminology, the usage of the terms of human trafficking found in the *Victims of Trafficking and Violence Prevention Act of 2000* (TVPA) (Office on Violence Against Women [OVAW] 2000) and within other related federal laws will be favored in this essay. These federal terms and their definitions are based on the usage of terms in the United Nations *Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children* (U.N. Protocol) (United Nations 2000). Finally, federal trafficking laws in the US are based upon the word usages of these two documents.

The human trafficking literature uses the term “child” to refer to persons who were under the age of 18 years when they were trafficked. In one of the few empirical studies of CST, among those identified as victims of child trafficking by the US government (named survivors by the researchers), the vast majority were found to range between 14 and 17 years of age. Those who were trafficked into the US unaccompanied by adults averaged 16 years of age and they ranged in age from 13 to 17, while the mean age of those accompanied by adults (usually their families) was 13 years with a range in ages from 2 to 17 (Gozdziak and Bump 2008a, March, 56).

Challenges in Defining Sex Trafficking

Human trafficking is probably best understood by first learning the definition given to the term by the United Nations and second by comparing that with the definitions of the term given in the United States Trafficking Victims Protection Act of 2000. The U.N. Protocol (2000, 3) defines trafficking in persons in the following language:

Article 3

(a) “Trafficking in persons” shall mean the recruitment, transportation, transfer, harboring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of

the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. Exploitation shall include, at a minimum, the exploitation of the prostitution of others or other forms of sexual exploitation, forced labor or services, slavery or practices similar to slavery, servitude, or the removal of organs.

(b) The consent of a victim of trafficking in persons to the intended exploitation set forth in subparagraph (a) of this article shall be irrelevant where any of the means set forth in subparagraph (a) have been used.

The United States Trafficking in Victims Protection Act adds to the trafficking in persons concept by adding the term severe forms of to the UN Protocol terminology of trafficking in persons. Referring to this updated terminology, Schauer and Wheaton state that the US Congress in the TVPA emphasizes human trafficking by labeling it “Severe Forms of Trafficking in Persons” (OVAW 2000, 5), and, by so doing, distinguish trafficking from human smuggling. According to the TVPA, severe forms of trafficking fall into two classifications:

- (a) Sex trafficking in which a commercial sex act is induced by force, fraud, or coercion, or in which the person induced to perform such act has not attained 18 years of age
- (b) The recruitment, harboring, transportation, provision, or obtaining of a person for labor or services through the use of force, fraud, or coercion for the purpose of subjection to involuntary servitude, peonage, debt bondage, or slavery

Sex trafficking is further defined and elaborated upon in the Trafficking Victims Protection Act as follows:

The term “sex trafficking” means the recruitment, harboring, transportation, provision, or obtaining of a person for the purpose of a commercial sex act.

A victim of a severe form of trafficking is logically defined as one “subject to an act or practice” described as “severe forms of trafficking in persons” above. Likewise, a victim of trafficking is “a person subjected to an act or practice described” in either of the two definitions of trafficking above.

The fact must be strongly emphasized that the sex trafficking of minors is, by definition of the TVPA above, a severe form of trafficking. The TVPA urges, almost requires, every effort of the international community to eliminate CST. In fact, according to the TVPA, the US government may withhold certain types of foreign aid to countries that are not making serious attempts to curtail human trafficking; annual assessments are made of countries to assess their determination to that end. The TIPs reports document these assessments.

Human smuggling also is a term often used in the context of sex trafficking. The term often is confused in the literature and in common usage with human trafficking is a breach of federal immigration law rather than a breach of criminal law. Human smuggling relates to an agreement between persons in which at least one person (the smuggler) contracts to guide or transport another person (the smuggled person) across a national border illegally. Smuggling, then, may be involved in eventual trafficking, but it is not synonymous with it. Christien van den Anker (2008) emphasizes, for example, that many trafficking victims have first entered countries of destination (like the US) legally, and then at a later time become trafficked.

Suggested by the TVPA and the UN Protocol, the commercial sexual exploitation of children (CSEC) was the central issue of the World Congress against Commercial Sexual Exploitation of Children, held in Stockholm in 1996. CSEC was defined by the World Congress as sexual abuse by the adult and remuneration in cash or kind to the child or a third person or persons. The child is treated as a sexual object and as a commercial object (Clift and Carter 2000, 75–78). The TVPA definitions of severe forms of trafficking, which guide world perspectives, policies, and laws, make child sex trafficking synonymous

with CSEC. Both of the designations may include a diversity of offenses including child sex tourism, the prostitution of children, child pornography, online sexual exploitation, and various types of child sexual abuse.

As noted before, the Victims of Trafficking and Violence Protection Act (TVPA) was enacted by the US Congress in 2000 in response to the growing problems of international trafficking. The three Ps are the focus of this legislation, that is, the TVPA is intended to combat the crime of human trafficking through the prevention of human trafficking, through the prosecution of human traffickers, and through the protection of the victims of human trafficking. The US Department of Health and Human Services certifies international human trafficking victims as trafficked persons under this law. When certified, victims are able to receive physical and mental health services, educational and vocational programs, legal services, food stamps, language translation services, and housing. Persons who are victims of severe forms of human trafficking are also eligible to be granted T-visas, which allows them to remain in the US for 3 years and under the protection of the laws of the US. After 3 years, the trafficking victim may apply to become a permanent resident of the US (Sanborn et al. 2009, 20).

Concerns Regarding Adolescents

One of the major issues of concern relating to the sex trafficking of adolescents into the US concerns the identification of victims. It appears that there exists a significant disparity between the official estimates of trafficking victims brought into the US with those actually located and aided (Sanborn et al. 2009, 22). The Migration and Refugee services (MRS) at the US Conference of Catholic Bishops (USCCB) and the Lutheran Immigration and Refugee Services (LIRS) together constitute the only network of programs used by the US Federal Government to offer services to child victims of trafficking. Of an estimated number of 808–2,308 victims of CST referred by the preceding service agencies

between 2004 and 2007, only 142 were deemed eligible to receive services by the Federal Government (Gozdziak and Bump 2008a, March). Viewed another way, both the US government (through its *TIPs Reports*) and NGOs, in their most conservative predictions, have estimated that 18,000 persons are trafficked into the US annually (Office of the Under Secretary 2008, June). The official discourse next states that more than one-half of those trafficked are children. Of the trafficked children, most are said to be girls. If the numbers above are correct, then the extremely low number of child trafficking victims officially identified is indeed an incongruity. The disparity in numbers is difficult to understand, but a look at reports offers some potential answers.

Several possible answers can help explain why the statistics do not match. First, the official definitions, conceptualizations, narratives, or estimates may be faulty. Second, the criminal justice system may be so focused upon prosecutions, that many child victims who are unable or unwilling to serve as witnesses for the prosecution of traffickers are simply identified officially as non-victims rather than victims. Third, there may not be enough official emphasis on and resource dedication toward training police (especially those fortifying and protecting the US borders) and social services professionals to be alert for and to identify victims of CST. Finally, a possibility exists that the TVPA has simply become another tool in the hands of federal authorities to barricade the borders of the US against the continually growing international labor migration (which labor migration increasingly consists of females and adolescents).

Sanborn et al. (2009) suggest that the reasons so few T-visas have been issued, and possibly the reason for the common delay in identifying victims, may be fivefold. First, the victims trafficked into the US are usually hidden from public view and therefore difficult to locate. Second, trafficked youth may not view themselves as victims, a point supported by Gozdziaak and Bump's research (2008a, March). Third, victims trafficked into the US are dependent upon their traffickers, and therefore not inclined to turn against them and toward the unknown possibilities represented by

reporting to US authorities. Fourth, law enforcement may not recognize or sympathize with trafficking victims. And fifth, in extreme cases, the government has deported victims after being assisted by them in the prosecution of traffickers. Although not mentioned by Sanborn or Gozdziaak, an obvious sixth possibility exists, which is that the estimations of the numbers of adolescent victims trafficked or sex-trafficked into the US may be (for whatever reason) grossly inflated.

Of the 142 children receiving victim services at the time of the empirical study of Gozdziaak and Bump (2008a, March), the child victims (survivors) had been trafficked into the US from the source countries of (from greatest frequency to least) Mexico, Honduras, Guatemala, Morocco, Ghana, Cameroon, India, Argentina, the Dominican Republic, and Nicaragua. Only 4% of these victims, unaccompanied by family, were boys. The mean age of this group was 16 years. Those accompanied by family (apparently also trafficked) included more boys and younger children. The most frequent type of trafficking within this group was CST. With the above said, it should be noted, however, that the trafficking of children into the US from nearly every country of the world has been documented.

In their study of child trafficking, Gozdziaak and Bump (2008a, March) found no evidence of official identification of child trafficking or of border interdiction of child trafficking in process by either the US Border Patrol or US Customs. Part of the problem is that there are no border protocols or treaties in place between the US government and the Mexican or the Canadian governments to regulate human trafficking interdiction and enforcement. This is a critically important problem to solve, especially when the limited research literature relating to CST shows that child victims suffer exponentially more trauma as time and stage of intervention is delayed (Gozdziaak and Bump 2008a, March).

Responding to Sex Trafficking

A disjuncture also exists between the efforts expended to protect CST victims and efforts

made in investigating and prosecuting traffickers. Government prosecutors have been seen as ignoring the concerns of child welfare professionals related to the adverse effects forced testimony and numerous interviews might have on a child survivor's healing process (Gozdziak and Bump 2008a, March, p. 11). Investigators and prosecutors stand accused of bullying child care professionals and even using subpoenas to force child victims to testify in trafficking investigations and prosecutions. In a sense, therefore, these same children suffer double victimization. First, their human rights are violated by their traffickers, and second, the US government violates their rights by not giving the best interests of the child (Convention on the Rights of the Child, Article 3.1 1990) first and top priority.

Human trafficking is portrayed in the scholarly and professional literature as the world's fastest growing criminal enterprise, with profits that rival the illegal drugs and arms trade (Gozdziak and Bump 2008a, March, p. 12). In reality, CST into the US resembles a Mom & Pop Operation in the Gozdzia and Bump study. Family involvement is shown to be a common factor in many of the children's trafficking cases. Many persons are involved in the child trafficking process, including family, and in no one case was only one person involved throughout the trafficking operation. Most often, both trafficked children and their families see the child trafficking as an operation in labor opportunity through migration.

The family involvement, which is quite prevalent in the trafficking of unaccompanied minors, often becomes a major problem for investigations and prosecutions due to several factors. First, the children do not perceive themselves as victims. Second, they often do not view what has happened to themselves as crimes. Third, they do not wish to testify against their families. Lastly, they often wish to be released so that they can return to work in order to send money home to their families. In other words, the CST and child trafficking survivors tend to want to be free to return home or to work rather than remain in custody (that they might testify for the prosecution). They also

tended to view traffickers as their helpers. While a few girls sex-trafficked into the US told Gozdzia and Bump that they had followed their boyfriends, for most of the CST survivors, the idea to migrate came from others and was presented as a favor (2008a, March, p. 13) to earn money, or to find a better life, or to pay back and support parents.

The above research is important and does begin to fill important gaps, but research in this area is handicapped in several ways. First, it focuses on official discourse that is on the vulnerability and victimization of trafficked children, and doing so fails to recognize and consider the co-occurring factors of children's agency and resilience. This greatly impacts the manner in which research is conducted as well as the way in which ethical responsibilities to the children studied are understood. It also negatively affects the designing of services, programs, and policy responses (Gozdzia and Bump 2008a, March, p. 14). Second, the US government's response to CST is almost exclusively focused upon the arrests, prosecution, and conviction of traffickers. This means that less attention is officially given to providing the services necessary to child victims, and less value is officially placed on listening to the victims' voices (i.e., their perceptions of their experiences and their desires).

The question remains whether those adolescents sex-trafficked into the US are victims or survivors. To understand one's self as a victim, on the one hand, may be a debilitating self-conceptualization, while, on the other hand, perceiving of one's self as a person who has survived gross injustice can be an exhilarating self-perception. Gozdzia and Bump inform the debate by reporting that "... conceptualizing these children as survivors with a great deal of resilience might be more suitable to promoting their best interests. Unfortunately, the otherwise limited literature on child trafficking emphasizes mainly the trauma of the trafficking experiences and focuses on pathology" (2008a, March, p. 16). Support for this claim also comes from the way treatment in the US follows the Western medical trauma treatment model, while little attempt is

given to using models more applicable to the individual survivors of CST, such as indigenous coping strategies, building upon the child's own resilience and autonomy, or upon spiritual methods.

Issues such as the worldwide marginalization of people, economics, and general questions of poverty often are raised in the discussion of the causes of human trafficking in general and child sex trafficking into the US in particular. Gozdziaik and Bump explain that, although poverty is somehow involved in most child trafficking, it is not a necessary and sufficient cause of child trafficking. The two factors most closely correlated with child trafficking and CST are child fostering and child labor. Child fostering and child labor, being culturally accepted in their countries of origin, strongly figure in children's conceptualizations of their own trafficking experiences (2008a, March, p. 18).

Conclusions

Human trafficking appears to be in epidemic proportions across the world; the demand for commercial sexual services within the US, and also the eagerness of many persons worldwide to seek opportunities for labor migration, may be causing large numbers of adolescents to be trafficked into the US annually for the purpose of commercial sexual exploitation. While the numbers of persons victimized by commercial sexual exploitation appears to be significant, a great disparity exists between the official estimates of victims and the number of youth survivors who are actually located and aided. Also, although the Trafficking Victims Protection Act emphasizes the rescue, protection, and well-being of the child, when located, the tendency for the official agents of control is to prioritize the prosecution of the sex trafficker(s) over the well-being of the adolescent trafficked into the US. This essay has identified many areas of interaction between the authorities, social services, and adolescent sex trafficking survivors that demand major attention and improvement.

Cross-References

- ▶ [Sex Trafficking Within the United States](#)
- ▶ [Sex Trafficking Worldwide](#)

References

- Bales, K. (2003). *Understanding the demand behind human trafficking*. A paper presented to the National Institute of Justice, 29 July 2003. info@freetheslaves.net, p. 15.
- Clift, S., & Carter, S. (2000). *Tourism and sex: Culture, commerce and coercion* (pp. 75–78). London/New York: Cengage Learning EMEA.
- Convention on the Rights of the Child. (1990). Retrieved 8 Jan 2010, from <http://www.un.org/en/documents/udhr/index.shtml#a1>
- Estes, R., & Weiner, N. (2001). *The commercial sexual exploitation of children in the US, Canada and Mexico* (Monograph of the US National Study). Philadelphia: University of Pennsylvania.
- Flowers, R. B. (2006). *Sex crimes: Perpetrators, predators, prostitutes and victims* (2nd ed.). Springfield: Charles C. Thomas.
- Gozdziaik, E., & Bump, M. N. (2008a, March). *Victims no longer: Research on child survivors of trafficking for sexual and labor exploitation in the United States* (pp. 1–158). Washington, DC: The U.S. Department of Justice.
- Gozdziaik, E., & Bump, M. N. (2008b, September). *Data and research on human trafficking: Bibliography of research-based literature*. Washington, DC: Georgetown University. NIJ Grant – 2007 – VT – BX – K002.
- Gozdziaik, E., & Collett, E. A. (2005). Research on human trafficking in North America: A review of literature. In F. Laczko & E. M. Gozdziaik (Eds.), *Data and research on human trafficking: A global survey: Offprint of the special issue of International Migration* (Vol. 43(1/2), pp. 99–128). Geneva: International Organization for Migration.
- Jeffrey, L. A., & MacDonald, G. (2006). *Sex workers in the Maritimes talk back*. Vancouver: UBC.
- Letherby, G., Williams, K., Birch, P., & Cain, M. (Eds.). (2008). *Sex as crime?* Portland: Willan.
- Mizus, M., Moody, M., Privado, C., & Douglas, C. A. (2003). Germany, U.S. receive most sex-trafficked women. *Off Our Backs*, 33(7/8), 4.
- Office of the Under Secretary for Democracy and Global Affairs. (2008, June). *Trafficking in persons report* (pp. 1–293). Washington, DC: United States Department of State.
- Office on Violence Against Women. (2000). *Victims of Trafficking and Violence Prevention Act of 2000* (pp. 1–27). Washington, DC: United States Department of Justice.

- Sanborn, R., Kimball, M. S., Sinitsyn, O., & Solak, J. M. (2009). *The state of human trafficking in Texas*. Houston: Children at Risk.
- Schauer, E., & Wheaton, E. (2006). Sex trafficking into the United States: A literature review. *Criminal Justice Review*, 31(1), 1–24.
- United Nations. (2000). *Protocol to prevent, suppress and punish trafficking in persons, especially women and children, supplementing the United Nations Convention against Transnational Organized Crime*. Vienna: UN. Retrieved 1 Oct 2004, from <http://www.uncjin.org/Documents/Conventions/dcatoc>
- United Nations Children's Fund (UNICEF). (2008a). *Annual report 2007* (pp. 1–40). New York: Author.
- United Nations Children's Fund (UNICEF). (2008b). *The state of the world's children 2008: Executive summary* (pp. 1–41). New York: Author.
- van den Anker, C. (2008). Cosmopolitanism and trafficking of human beings for forced labor. In G. Letherby, K. Williams, P. Birch, & M. Cain (Eds.), *Sex as crime?* (pp. 137–155). Portland: Willan.

Sex Trafficking Within the United States

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Sex trafficking within the United States has been receiving increased attention as more persons realize that both foreign and American minors are trafficked in the United States. This essay first defines child sex trafficking as sexual exploitation of a minor for profit. Focus is placed on describing how girls are seduced or tricked into repeated acts of prostitution and child pornography, and a case example of the Cadena family is provided. The essay then turns to efforts to craft effective responses to trafficking and ends by highlighting the importance of doing so.

Child sex trafficking involves sexual exploitation of a minor for profit. It might also be referred to as the commercial sexual exploitation of children. The latter is a preferred term to child prostitution because the word “prostitution” suggests

consent to engage in an illicit enterprise. Consent is largely accepted to not be the case regarding child sex because the law views minors as being too young to consent to sex. The term “child” in this area of research and policy reflects the international definition of “child” as someone under 18 years. In many countries where children are exploited sexually, the problem is a local one. In the United States, the majority of persons trafficked domestically are adolescents (Guinn 2008). Child sex trafficking is difficult to address given a general societal ignorance of the nature and prevalence of the problem. The illicit, secretive, and violent dynamics of child sex trafficking within the United States has made it a difficult arena to study; for example, the very age of victims might be in question. Thus, much of the literature includes estimates and insightful, yet limited anecdotal descriptions of the phenomenon. Most of those actively researching child sex trafficking are journalists and some are academics.

Cases of human trafficking for sex or other labor have been identified in many cities. Among the most commonly noted are New York, Los Angeles, San Francisco, San Diego, Las Vegas, San Jose, Fresno, Reno, Seattle, Minneapolis, Chicago, Atlanta, Dallas, Fort Myers, New Jersey, Newark, Boston, Washington DC, Philadelphia and Miami. Estimates are that about 50,000 persons are enslaved in the United States and that about half of these might be minors; yet, in 2006 only 11 persons were charged for human trafficking and slavery (Bales and Soodalter 2009).

According to a 2003 United Nations report, approximately 80% of trafficking involves sexual exploitation by persons called pimps. Most pimps operate independently, exploiting one to three girls concurrently (Albanese 2007). Nevertheless, pimps in the same location might support each other by monitoring each other's girls, assisting in recruitment, indoctrination, transportation, and discipline. In various studies of female sexual exploitation by males, including prostitution, there is often a history of sexual violence or early sexual objectification experienced by girl

victims. Girls as young as five might be commercially sexually exploited by their mothers or others. Indeed, it is not uncommon for exploited girls to experience domestic violence and other forms of child abuse. Early nonconsensual coerced initiation into sexual activities may manifest in a trajectory of susceptibility to years of sexual exploitation unless there is substantial intervention. Internationally, there is a median age of 14 for entry into prostitution (Ekberg 2002 as cited in O'Connor and Healy 2006); however, the Polaris Project reports that entry into domestic child trafficking commonly begins at age 12–13. Often the victims are abused runaways or abandoned children to whom the trafficker offers initial support. This offer is the genesis of the eventual seduction of the minor into sexual exploitation. Thereafter, cooperation with the traffickers becomes a means of subsistence.

The path of initiation into sexual exploitation tends to follow a different pattern for girls trafficked into the United States (an estimated 50,000 per government numbers as reported by Raymond et al. 2010) as opposed to domestic girls. Foreign girls tend to be older and are more likely to be coerced into the sex trafficking by their families or to repay a human trafficking debt; they also may enter into trafficking through deception that they would be doing legitimate work only to find out later that the work is commercial sex work. For domestic girls, the usual pattern of seduction into sex trafficking begins with a pimp identifying a vulnerable minor. The pimp then attempts to meet the minor's emotional and physical needs. Where girls are the victims, males will often engage them in a romantic relationship. The pimp will eventually threaten to withdraw affections and support unless the girl succumbs to commercial sex. Other hooks to facilitate adolescents' entry into sex trafficking include invitations to offer entertainment in malls, restaurants and clubs, offers to do modeling, offers of legitimate service jobs like maids or baby sitters, arranged marriage advertisements, having taxi operators locate and recommend vulnerable adolescents to sex traffickers and active recruitment of minors to provide sex in areas where large groups of men are working in agriculture, mining, and construction (Guinn 2008).

Albanese (2007) reported that in other cases of child sex trafficking, a family member or friend sexually abuses a minor, and then commercially sexually exploits this victim through prostitution or into forced sex with others toward producing child pornography. Indeed, one report cited by Albanese claimed that 75% of child pornography victims lived at home. He also noted that other child sex victims are utilized in sex tourism. While many Americans cross the border into Mexico to solicit children for sex; others travel to places like New York and Las Vegas to access similar services. Indeed, domestic sex trafficking of children in the United States is deemed one of the most profitable illegal organized activities after drugs and weapons dealing. Knowledge of the entry points into child sex trafficking is significant for law enforcement efforts to quell the problem in that these scenarios offer opportunities for utilizing confidential informants. Moosy (2009) offered an example of a taxi operator informant who received multiple calls to take adolescent females to a certain hotel on numerous occasions.

Among US children who are sex trafficked domestically, their backgrounds are similar to those trafficked into the country (Raymond et al. 2010). Those trafficked into the country are often from the former Soviet Union, Latin America, China, India, other parts of Asia, and from Africa, while US children might be exploited within their own communities. These children often have an early history of child sexual abuse and often are being pimped out by a family member. Victims are beaten and or threatened into sex acts in bikini bars, health spas, truck stops, massage parlors, and modeling studios. Such revelations have emerged from successful investigations in areas such as Houston, Florida, Arizona, and Nevada.

Running away is common and represents one way that children fall into domestic sex trafficking. Curiously, many runaways are not from low income homes, and a substantial number are White. One study found 70% of runaways used drugs and half of the males (often called "chickens") under 14 were sexually active. Runaways are also at particular risk for HIV infection given their lack of job skills, experience, and education, which makes prostitution appear to be

a suitable means of survival (Flowers 1994). Often, the prostitution follows chemical dependence and so it becomes a means to access drugs. Entry into prostitution is facilitated by early experiences of sexual abuse which represents an objectification of the body and sex as a commodity.

Child pornography (“chicken porn,” “kiddie porn”) refers to the depiction of sexually explicit images of children with objects, animals, adults and, or other children. Usually the child victim is drugged and psychologically or psychically coerced into engaging in the sex acts. Child pornography is estimated to represent about 7% of the US pornography business translating into about \$6 billion in sales from the exploitation of thousands of children (Flowers 1994). In short, the domestic sex trafficking of children is a supply response to a substantial demand. The supply might be delivered in three typical ways: by individual facilitators, a regional group of facilitators, or an international or national network (Albanese 2007).

Janice Raymond et al. (2010) investigated child sex trafficking nationally. They found that often there is a legal business with an illegal business of child sex trafficking in the background. In other cases, warehouses and trailers are converted into brothels at certain times of the day or night. Sex trafficking services are also common near military installations. The victims of child sex trafficking tend to vary in race and ethnicity in accordance with the dominant demographics of their clients. Examples of this are that Asian females are more common in San Francisco, while Black and Latina females are more common in New York. These illicit services are subtly advertised in English and non-English community newspapers, pornographic magazines, the *Yellow Pages*, via the Internet, television, billboards, postings at truck stops, and word of mouth. The health of these trafficked females is of particular concern because often their clients want sex without a condom. Violence from customers and pimps is also an issue as many victims of sex trafficking manifest symptoms of traumatic brain injury (O’Connor and Healy 2006). Thus, many women report indulgence in alcohol and

drugs to cope with the harshness of their existence.

Advocates often provide the information that sheds light on this area of adolescence. For example, Siddharth Kara (2009), a former banker now antislavery advocate, reported his experience in March 2006 of going to a massage parlor in Los Angeles for a “traditional Thai massage.” Therein, he was asked to pick a young masseuse from a group of girls and led to a room with a mattress. Once in the room, the girl inquired whether he wanted a “special massage” for an addition \$10–40. Another girl he interviewed, Lucita, revealed that she worked 12 h a day, with no days off, not even for menstruation, and she slept where she worked. She served mostly Asian men. These girls were told that the police would kill them if they were discovered, so they avoided law enforcement.

Kara (2009) and Coonan (2010) offer descriptions of the infamous Cadena family. The Cadena family of seven from Mexico was led by Rogeria Cadena. The family was federally prosecuted in 1999 for trafficking more than 25 women and girls from Mexico into the United States in 1996 and 1997. Their youngest victims were 14 years old; all were poor, with limited education, and none were fluent in English. The females had been recruited in Mexico by well-dressed women who promised them legitimate employment in the United States for approximately 6 months. Once in the United States, they were told that they owed their traffickers about \$2000 and thus were forced to work as prostitutes in trailers at migrant worker camps in Florida to pay off their debts. Efforts to resist were met with gunfire, rape, and threats to harm family members in Mexico. Alcohol and drugs were also used to control the girls. The victims serviced over 30 men per day, plus their captors. They had no days off and during menstruation they were required to have relations in a dark room – lest an awareness of their condition might upset their clients. Starvation and torture were routine. If they became pregnant, they were forced to have abortions.

To maintain operations, the women and girls were kept in groups of four or five and were moved from location to location about every

2 weeks to avoid the likelihood of clients becoming attached and attempting a rescue of the girls. The females were allowed to go out in public to places like the grocery store and laundromats, but they were always accompanied by an armed captor. Nevertheless, the girls managed to call the police on at least three occasions, but the Cadenas turned them away claiming that there must have been a mistake. Apparently, such scenarios with law enforcement are not uncommon in cases of child sexual exploitation. Neighbors also suspected illicit activity but had mistakenly assumed drug activity in lieu of sex trafficking. Notably, after being freed from the Cadenas, the girls described a need for safety as their greatest concern.

Child sex trafficking often is a federal matter; thus, it is usually investigated by the Innocence Lost Task Force of the Federal Bureau of Investigation (FBI). The Task Force was created in 2003. It includes the FBI, the National Center for Missing and Exploited Children, and the Department of Justice's Child Exploitation and Obscenity Section. These groups often partner with local law enforcement. In 2009, it claimed the rescue of 818 children and the conviction of over 500 offenders. They are also connected to the 10-year old Innocent Images National Initiative. The initiative involves catching child sex trafficking offenders who utilize cyberspace to distribute child pornography and/or locate potential victims. The FBI reported in 2006 that over 4800 had been charged with a crime under these initiatives. Of these, by 2006 there were 2135 Innocent Images cases.

The circumstances persist in part because of the rewards for the illicit activities given that the illicit demand is substantial. The problem also persists because of mainstream ignorance, such that signs of trouble are often missed. Those actively engaged in combating child sex trafficking might also claim that a lack of resources hampers their efforts (Bales et al. 2009). In 2009, Karen Kalergis at the Institute on Domestic Violence and Sexual Assault in Austin, Texas, recommended that the response to child sex trafficking should include collaborations involving juvenile justice, social work, public health, mental

health, law enforcement, and immigration (Kalergis 2009). All of these entities need to be better educated on what to look for and how to respond in dealing with girls who have been trafficked sexually. Moosy (2009) suggested that, initially, suspected victims of child sex trafficking should be separated from each other. This is recommended because often a victim will become an enforcer over other victims for their oppressor. Investigators might also expect the victims to be less than forthcoming given concerns about a loss of resources and the safety of themselves and their families. There is also the strong possibility that former victims exist as traffickers will get new victims over time.

Several other efforts need to be made to address the needs of youth involved in sex trafficking. Youth who have been trafficked will need options for income, a mentor, and 24 × 7 support to assist in remedying their social deficits after their experiences of being manipulated, exploited, and abused. Such multi-systemic efforts need to be outreach efforts because victims or survivors of child sex trafficking are often not inclined to seek assistance for themselves. Thus, they need to be located and actively assisted. Some social workers also recommend that, to the extent possible, girls are educated about how the pattern of seduction into exploitation unfolds. Guinn (2008) suggests educating men about the ills of exploiting females through prostitution and the consequences of doing so, and that this would need to be preceded by successful and sufficiently severe enforcement. Presently, a conviction for child sex trafficking in the United States means a mandatory minimum sentence of 15 years of incarceration. On a larger societal scale, Albanese (2007) and others recommend efforts to diminish the demand for child sex. Such efforts might include monitoring technological advances such as the use of child-like avatars in simulated online worlds to engage in sex. The feminization of poverty and its contribution to the vulnerability of females to exploitation is certainly a factor in the growth of the sex industry. To combat such dynamics, it is necessary to foster an increasingly positive image of women and children while also improving legitimate economic opportunities for woman and impoverished

families. A healthy and prosperous society in an increasingly global world cannot afford to ignore the ills of child sex trafficking given that the basic laws of supply and demand will persist, and this unattended problem might then increase; this is especially probably given that the United States has close neighbors in poverty and segments of its own community struggling to meet basic needs.

Sex trafficking is something to which minors cannot legally consent. In recent decades, with increased globalization and demand for sex, many minors are being sexually trafficked in the United States as sex providers and players in child pornography. Often those exploiting them for profit are pimps. Given that sexually trafficked youth might be perceived as both victims and offenders, responding to them necessitates cooperation between various social service entities and law enforcement.

Cross-References

- ▶ [Sex Trafficking into the United States](#)
- ▶ [Sex Trafficking Worldwide](#)

References

- Albanese, J. (2007). Commercial sexual exploitation of children: What do we know and what do we do about it? Special Report. Washington, DC: U. S. Department of Justice, NCJ 215733.
- Bales, K., & Soodalter, R. (2009). *The slave next door*. Berkeley: University of California Press.
- Bales, K., Trodd, Z., & Williamson, A. K. (2009). *Modern slavery: The secret world of 27 million people*. Oxford: Oneworld Publications.
- Coonan, T. (2010). Human trafficking: Victims' voices in Florida. In L. Territo & G. Kirkham (Eds.), *International sex trafficking of women and children: Understanding the global epidemic* (pp. 15–26). Flushing: Looseleaf Law Publications.
- Flowers, B. (1994). *The victimization and exploitation of women and children: A study of physical, mental and sexual maltreatment in the United States*. Jefferson: McFarland.
- Guinn, D. E. (2008). Defining the problem of trafficking: The interplay of US law, donor, and NGO engagement and the local context in Latin America. *Human Rights Quarterly*, 30, 119–145.
- Kalergis, K. I. (2009). A passionate practice: Addressing the needs of commercially sexually exploited teenagers. *Affilia: Journal of Women and Social Work*, 24, 315–324.
- Kara, S. (2009). *Sex trafficking: Inside the business of modern slavery*. New York: Columbia University Press.
- Moosy, R. (2009). Sex trafficking: Identifying cases and victims. *NIJ Journal*, 262, 2–11. Washington, DC: US Department of Justice.
- O'Connor, M., & Healy, G. (2006). The links between prostitution and sex trafficking: A briefing handbook. The Coalition Against Trafficking in Women and the European Women's Lobby. Retrieved on 25 Feb 2010 from <http://www.womenlobby.org/SiteResources/data/MediaArchive/Violence%20Centre/News/handbook.pdf>
- Raymond, J. G., Hughes, D. M., & Gomez, C. J. (2010). Sex trafficking of women in the United States. In L. Territo & G. Kirkham (Eds.), *International sex trafficking of women and children: Understanding the global epidemic* (pp. 3–14). Flushing: Looseleaf Law Publications.

Sex Trafficking Worldwide

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Overview

Child and youth sex trafficking (CST) exists in the early twenty-first century as one of the top international criminal enterprises. While the universal marginalization of people continues to increase, and while ubiquitous, abject poverty forms a background for nearly all of child trafficking, and the factors most associated with children's vulnerability to trafficking are child fostering and child labor (Gozdziak and Bump 2008). In recent decades, increasing numbers of adolescents are encouraged to seek paying jobs outside of their families' homes; some of these are approached by traffickers who promise them high wages if they will migrate to foreign lands. Similarly, the number of orphans in several regions of the world (such as in sub-Saharan Africa) expands so rapidly that traditional safety nets, which served them well in the past, are today overwhelmed. The lack

of safety nets renders youth vulnerable and easily leads them into child trafficking in all of its forms and into child sexual trafficking in particular. On arrival at their destination and many times in transit, sex trafficking victims are forced to perform sexual services in the commercial sex industry.

Adolescents, often described by their limited autonomy, maturity, and agency, are especially vulnerable to the victimization of child sex trafficking. Worldwide, predatory sex traffickers actively seek to enmesh the more vulnerable adolescents into the highly lucrative criminal CST schemes. Worldwide, adolescents and children are in the most danger of the victimization of sex trafficking and are the least protected of all trafficking victims. They face some of the greatest difficulties in accessing the benefits that supposedly are available to the victims of trafficking, and they are more likely deported rather than given victimization status (Brane' 2007, May). This essay examines these issues.

The Sex Trafficking of Adolescents

Governmental and nongovernmental organizations (NGOs) worldwide are following their divergent agendas in working toward eliminating sex trafficking. Sex trafficking is a concept that depends on the availability of innocent, unprotected young women (largely adolescents) and children who are especially vulnerable to the force, fraud, or coercion of those who would commodify them and merchandise them into the sex markets of the world. This innocence is founded on these women's/children's failure to understand the traffickers' motives and plans for them. Innocence also requires lack of agency (or autonomy) on the parts of the trafficked women and children (Schauer and Wheaton 2008).

Sex trafficking recently has become a major topic of interest in the discipline of criminal justice. Numerous presentations have been made in regional and national professional conventions beginning in 2004 and continuing through the present (e.g., the Academy of Criminal Justice

Sciences annual conferences), and while there is much furor and emotion (supported by alarming, yet unreliable, statistics) in the sex trafficking debate, little information exists that would serve to further scientific inquiry (Schauer and Wheaton 2008). When the literature and debates of human trafficking are traced to their origins, the early suppositions or projections, having initially found their way into print, have been repeated over and over again in the literature of human trafficking to the extent that it has become difficult to separate fact from fiction.

Sex trafficking is one of the two classifications of severe forms of trafficking that the *Trafficking Victims Protection Act* (TVPA) so defines (Office on Violence Against Women [OVAW] 2000). Children (including adolescents), when trafficked, due to their innocence and lack of agency, are assumed by the TVPA to be victims of severe forms of trafficking. Presently, the US Government estimates that 18,000 persons are trafficked into the United States every year, and that 96% of these are women. Worldwide trafficking projections range from 350,000 to 1.5 million victims, with, again, the vast majority being women and children. In addition, as many as 50% of all trafficking victims are said to be children or adolescents, both girls and boys (Mizus et al. 2003; Office of the Under Secretary for Democracy and Global Affairs 2008, June). Most of the trafficked women and children are assumed, by the US Government and by nongovernmental organizations, to be trafficked into the United States and worldwide for work in the arena of sex services (Mizus et al. 2003). Many of the nongovernmental organizations (NGOs') estimates of trafficking into the United States arrive with figures upward of 50,000 persons per year, and the US Central Intelligence Agency suggests that the number trafficked annually worldwide reaches the figure of 700,000 persons (OVAW 2000; Schauer and Wheaton 2008).

Challenges Facing Empirical Research

Basic scientific questions about trafficking are difficult to answer. Conflicting data predominates,

as does the ubiquity of poorly defined or compromised definitions, polarities of opinion and purpose of key stakeholders, and divergent political goals that drive definitions, data collection, data retention, policy, and anti-trafficking policy analysis (Human Rights Watch 2003; see further Office of the Under Secretary for Democracy and Global Affairs 2008). Considering first the definitions, for example, few distinctions are agreed upon; and even the official definitions of the United Nations Protocol in this area (United Nations [UN] 2000) and the US Trafficking Victims Protection Act (Office of the Under Secretary for Global Affairs 2008) are at best compromises between the perspectives of parties who hold conflicting philosophically polar positions. For instance, the TVPA offers aid only to those who are useful in the prosecution of traffickers (Schauer and Wheaton 2008).

The scientific endeavor is again stymied in efforts to understand the incidence and extent of sex trafficking. Information appears to be provided or withheld based on personal, political, economic, or ideological agendas. The statistics may be bolstered or denigrated by selective interpretations and lack of agreement of who is to be counted and when. This statistical confusion is further heightened by failures to distinguish between the related themes of labor migration, illegal immigration, human smuggling, human trafficking, and slavery.

With the confusion associated with ideological positions, the conflicting information, and the intense emotions displayed by chief actors in this sex trafficking drama, the less-biased observer is led to question, “What concrete facts do we have at our disposal regarding sex trafficking?” And the observer may question further, “Is this movement to eliminate sex trafficking simply a modern replay of the white slavery moral panic of a century past (Weitzer 2005; Grittner 1990; Schauer and Wheaton 2008)?” Definitions were fuzzy during the white slavery panic as well, and with the insight gained from history, scholars today assume that the chief victim of white slavery – the innocent blond-haired girl next door – never existed; or at least was not procured from her supporting home environment by the force or

seduction of agents of the underworld, as was so commonly and officially postulated (Grittner 1990; Schauer and Wheaton 2008).

A powerful argument questions the official US (and world) narrative (and the definitions derived) summarizing human trafficking as an entirely criminal enterprise. It is just as likely that human trafficking is less a worldwide criminal enterprise and more a problem of labor mobility driven by the ever-increasing economic marginalization of women and children. It has been suggested that official efforts against human trafficking may be thinly disguised official efforts for prosperous nations of the northern hemisphere to bolster border security against undesired immigration from the south (Kempadoo and Doezema 1998; Gozdziaik and Bump 2008). In this last scenario, official antihuman trafficking efforts, along with the legal prohibition of prostitution, in actuality sustains the underground economy of sex trafficking and commercial sexual exploitation.

By far, the worst part of this confusion may be illustrated by the fact that myriad adolescents remain vulnerable to the criminal victimization of CST, while unproven, unscientific research continues to direct official solutions toward criminal justice prosecution and punishment responses. This continues rather than channeling anti-trafficking efforts toward prevention and victims’ services based on recognized children’s rights/human rights. While the official projections of the scale and extent of CST is exceedingly high (usually over one million victims), the well-financed official anti-trafficking regimes rescue an exceedingly small number of victims.

The result is that, while no one knows how many children and adolescents are becoming victims of child sex trafficking, it is well known that the threat is real. There is much suffering among the youth who are trafficked. It also is known that many youth are performing sexual services on a worldwide scale under duress in the commercial sex industry. And, finally, it is known that the official human trafficking responses accomplish little to either alleviate the human suffering or stem the flow of human oppression.

As illustrated above, the present interest in sex trafficking correlates with the white slavery moral

panic of the late nineteenth and early twentieth centuries. Current knowledge of sex trafficking is limited by inaccurate, unscientific statistics and by compromised definitions. US and international agencies have developed legal remedies that are likely to fail due to conflicting enforcement paradigms due to increasingly lucrative underground economies and due to the inaccurate definitions and descriptions of the issues. Trafficking definitions, measurements, and legal solutions derive from polar opposite philosophical interest groups and differing international political agendas (Schauer and Wheaton 2008).

Empirical Findings

Based on the above considerations, what follows is an attempt to define carefully the terms used in studies of child sex trafficking. The importance of careful and explicit definitions is to be found in the attempts of science to quantify and qualify the subjects; for without precise definitions the social sciences cannot seek and identify causes, nor can they suggest solutions. Thus, careful and precise definitions become the first steps in the scientific enterprise. Definitions also drive the making and wording of laws, the enforcement of those laws, attempts to benefit victims, and the attempts to control or stop child sex trafficking.

Any person who is under the age of 18 years is officially a child, by US statute (Office on Violence Against Women 2000) and according to United Nations Protocol (United Nations 2000), and is listed and understood as such in the literature of human trafficking. Usage of such terms is critically important when it is understood that the United States rates all countries of the world according to their attention toward fighting human trafficking and threatens to withhold certain types of foreign aid to nations that fail to comply. This rating is published in the *Trafficking in Persons Report* (TIPs) that is circulated by the Office of the Under Secretary for Democracy and Global Affairs (2008, June). Therefore, while a particular nation's laws may recognize a person's maturity at 14 or 16 years of age, that nation's laws have no bearing on whether its efforts against

trafficking may be censured by the USA due to the conclusions of the TIPs reports. Whether children (prepubescent or pubescent), or minors, or youth, or adolescents, any person whose age falls in the range of 0 to 17 years is counted as a *child* according to US federal trafficking law and by UN Protocol.

The United Nations Protocol defines trafficking in persons in the following terms:

(Article 3a) "Trafficking in persons" shall mean the recruitment, transportation, transfer, harboring, or receipt of persons by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. Exploitation shall include, at a minimum, the exploitation of the prostitution of others or other forms of sexual exploitation, forced labor or services, slavery or practices similar to slavery, servitude, or the removal of organs.

(Article 3b) The consent of a victim of trafficking in persons to the intended exploitation set forth in subparagraph (a) of this article shall be irrelevant where any of the means set forth in subparagraph (a) have been used (U.N. Protocol 2000, 3; Schauer and Wheaton 2008).

In the Victims of Trafficking and Violence Protection Act of 2000, the US Congress added to the concept of human trafficking in the following way: As Schauer and Wheaton state, [The] U.S. Congress in the TVPA emphasizes human trafficking by labeling it "Severe Forms of Trafficking in Persons" (OAVW 2000, 5); and by so doing, distinguish trafficking from human smuggling. According to the TVPA, severe forms of trafficking fall into two classifications:

- (a) Sex trafficking in which a commercial sex act is induced by force, fraud, or coercion, or in which the person induced to perform such act has not attained 18 years of age or the

recruitment, harboring, transportation, provision, or obtaining of a person for labor or services, through the use of force, fraud, or coercion for the purpose of subjection to involuntary servitude, peonage, debt bondage, or slavery.

The TVPA further defines sex trafficking as follows:

The term “sex trafficking” means the recruitment, harboring, transportation, provision, or obtaining of a person for the purpose of a commercial sex act.

A victim of a severe form of trafficking is logically defined as one “subject to an act or practice” described as “severe forms of trafficking in persons” above. Likewise, a victim of trafficking is “a person subjected to an act or practice described” in either of the two definitions of trafficking above (OAVW 2000, 5; Schauer and Wheaton 2008). CST is therefore defined as a severe form of trafficking by the TVPA above.

Two other terms, vital to an understanding of CST, are defined in the TVPA as follows:

1. The term “commercial sex act” means any sex act on account of which anything of value is given to or received by any person.
2. The term “debt bondage” means the status or condition of a debtor arising from a pledge by the debtor of his or her personal services or of those of a person under his or her control as a security for debt, if the value of those services as reasonably assessed is not applied toward the liquidation of the debt or the length and nature of those services are not respectively limited and defined (OAVW 2000, 4). Debt bondage is one of the most common techniques used to control children and adolescents by their traffickers; furthermore, debt bondage is the most common form of slavery in practice today.

Importantly, other terms continue to surface. Human smuggling relates to an agreement between persons in which at least one person

(the smuggler) contracts to guide or transport another person (the smuggled person) across a national border illegally. Human smuggling, while admittedly a breach of national immigration laws, is similar to the services of a travel agency and their carriers (Schauer and Wheaton 2006). Human smuggling, on the one hand, is a breach of immigration law rather than a breaking of criminal law. While on the other hand, human trafficking is a breach of criminal law.

Many sources, including media, government agencies, and professional publications, improperly use the terms “human smuggling” and “human trafficking” interchangeably. A smuggled person (illegal migrant) may be trafficked. But a citizen as well may be trafficked. In order to make these terms usable for scientific and legal purposes, these terms must be specified and separated, and every attempt must be made not to confuse the terms (Schauer and Wheaton 2006). Further, the commercial sexual exploitation of children (CSEC) was defined in 1996 by the World Congress Against Commercial Sexual Exploitation of Children sexual abuse by the adult and remuneration in cash or kind to the child or a third person or persons. The child is treated as a sexual object and as a commercial object (Clift and Carter 2000, 75–78). The TVPA definitions of severe forms of trafficking, which guide world perspectives, policies, and laws, make child sex trafficking synonymous with CSEC: Both of the designations may include a diversity of offences including child sex tourism, the prostitution of children, child pornography, online sexual exploitation, and various types of child sexual abuse.

Schauer and Wheaton (2006) suggest the adoption of the term “fautor” (by researchers and by criminal justice practitioners) in application to those who purchase and use commercial sexual services, especially those who exploit children sexually:

There would exist no prostitution without willing customers; there would be little cause for supply if there were no demand. The term *fautor* fits the person as well as the act in having a double meaning: In middle English, *fautor* meant transgressor or miscreant; while in more modern usage, the term means patron, supporter, or abettor. The authors

urge the usage of the term *fautor* when criminal justices and economists are referring to the persons (usually men) who frequent, use, and pay for the sexual services of other persons . . .

Soliciting to purchase and the purchasing of sexual services from children and adolescents is an onerous form of child sexual exploitation – a particularly serious form of child sexual abuse (Brown and Barrett 2002).

Marginalization, conceivably the main and immediate cause of CST today, occurs when persons or families become incapable of economically providing sufficient food, clothing, and shelter for their sustenance. Economic marginalization has been exponentially increasing on a worldwide scale since the 1990s. Women are affected more, and in larger numbers, by economic marginalization than are men due to two factors: (1) Women's labor is less valued than men's labor and (2) women usually are more responsible than men are for the children. Thus, worldwide, women are the more stressed economically (this is commonly referred to as the feminization of poverty) and therefore bear the brunt of survival poverty; ultimately, the children suffer the most deprivation (Pettman 2006). The growth in numbers of economically marginalized people places increased pressure on millions of families worldwide who are faced with struggles for mere survival.

In the *10th Annual Trafficking in Persons Report* (2010, June), researchers of the US Department of State documented human trafficking in over 150 countries. Many, if not most, of those trafficked are women and children; if women and children, it logically may be deduced that many of them are trafficked for purposes of commercial sexual exploitation. Individual nations may serve as countries of origin, countries of transfer, or countries of human trafficking destination, or a country may serve as two or all three of these purposes. For example, a number of the states resulting from the breakup of the former Yugoslavia are known to serve as countries of the origin and transfer of human trafficking victims as well as of the destination intended by their traffickers.

The tendency is for trafficking victims to be recruited in nations that are suffering from

economic turmoil, political unrest or instability, regions of long-lasting warfare, and areas suffering from catastrophic diseases; to then be transported to countries and regions where financial demand for their services is greater. The global migration, both typical and nontypical, tends to be from countries of origin in the southern hemisphere to destination countries in the northern hemisphere. Among those countries most sought by adolescents and women who are most vulnerable for sex trafficking are nations in North America, Western and Northern Europe, Great Britain and her former colonies, Japan, the United Arab Emirates, and Saudi Arabia. Particular cities across the globe are also noted as destination hot spots for the sex trafficking of adolescents and women. Examples of these sex trafficking destination cities are Bangkok, Mumbai, Kolkata, Amsterdam, Tokyo, Houston, and Atlanta.

The high complexity of child sex trafficking worldwide is a major issue of global concern. Child victims range from those who are simply migrating internally or externally to find work, to those who seek asylum from war or persecution, to those who are encouraged by their families to seek better lives in another region or country, to those who are recruited and trafficked through force, fraud, or coercion. In some areas of the world where orphaned children abound, orphans are simply picked up off the street or out of the alleys by traffickers.

Causes and Responses to Worldwide Sex Trafficking

CST has become a global concern due to numerous changes in society and technology. It is a concern due to the ease of travel as well as the immediate transfers of knowledge concerning markets, profits, and risks. It is also a concern due to the demand for younger and younger children in the commercial sex industries as well as the ubiquity of vulnerable children. In fact, the development of globalism itself may be one of the major factors leading to the present apparent increase in the worldwide incidence and extent of CST.

One major explanation for the United States and many European countries to have intensified border security in recent years relates to problems with international labor migration. Some argue that the US Government leads under the guise of making the world safe from terrorism, while pointing back to the happenings of 9/11 for justification. This is being suggested while it is further argued that strengthened security of borders is in reality an attempt to keep migrants from the southern hemisphere out of the first world countries of the northern hemisphere (Segrave et al. 2009). Further developing this argument, human trafficking then should be defined as a problem of international labor mobility rather than as a crime problem. Others explain that prohibitions against human trafficking and sex trafficking, and heightened border security, in fact result in a more lucrative trafficking trade and increased sex trafficking (carefully hidden away in the major cities of the USA within ethnic enclaves) (Kwong 1997).

The Trafficking Victims Protection Act of 2000 (Office on Violence Against Women (OVAW) 2000) has been viewed as problematic. For example, it leads the world in defining children as persons under the age of 18 years; in doing so assumes that persons under 18 possess no agency (or autonomy) and, as a result, are assumed to be trafficked if they are performing sexual services or working in debt bondage. The use of this age cutoff is simplistic – failing to take into consideration many cultures in which younger children actively seek employment away from their homes and the realities that children who are trafficking survivors tend not to view what has happened to them as human trafficking crimes. The limited empirical research studying children in these circumstances shows that most of the children rescued from trafficking are left wondering why the authorities took them from their jobs and are holding them against their will in safe houses (Gozdziaik and Bump 2008, March). The TVPA also creates a conceptual quagmire in making no distinctions between very young children and those who are at the threshold of adulthood.

It is a mistake to assume that CST is a gendered crime that does not include boys. When gender is

assumed, scholars fall into the same partial understanding of the phenomenon of CST that historically has bedeviled research on prostitution. Boys are involved in prostitution as well as are girls, but the literature focuses on the girls involved in prostitution and seems to ignore the presence of boys engaging in prostitution. Even when boys are mentioned in the prostitution literature, the tendency has been to dismiss it (Brown and Barrett 2002). Yet, Jeffrey and MacDonald (2006) reported a significant proportion of boys and young men involved among the street prostitutes interviewed in their recent research. The sex trafficking literature also excludes discussions focusing on the victimization of boys (see Gozdziaik and Bump 2008, March). The study of boys as victims of sex trafficking remains an important area of research. To complicate matters even more, when governments or NGOs report gender, children of both sexes are often included in the category of *women*. Therefore, it is often impossible for research scientists to distinguish between boys and girls, and even between boys and women in statistical reports.

The dominant official statement of human trafficking also tends to present a simplified view in order to fit the criminal justice response model specified in the TVPA (OVAW 2000) and UN Protocol (Palmero) (United Nations (UN) 2000). This simplification leads to overlooking many diverse experiences and characteristics of trafficking victims. The US Government places pressure on other countries to make progress toward eliminating human trafficking by rating each on how closely it follows the TVPA and the Palermo Protocol in its annual *Trafficking in Persons Report* (TIPS) (Office of the Under Secretary for Democracy and Global Affairs 2008, June). As a result, the simplified view of trafficking essentially is used universally to the extent that the United States threatens other countries with foreign-aid restrictions for noncompliance with the TVPA. The importance of this oversimplification is that it stymies empirical research relating to sex trafficking and effectively excludes the voices of the victims of sex trafficking and, by doing so, shuts the door to information that might offer suggestions for better solutions.

In their article, *Sex Trafficking into the United States*, Schauer and Wheaton (2006) cautioned that the two major priorities of the TVPA and the Palermo Protocol appeared to be incompatible. It appeared to them that no single arm of government could rescue and rehabilitate victims of sex trafficking (in the process of protecting the human rights of victims) while, at the same time, vigorously pursue police investigations and criminal prosecutions of sex traffickers. Recent literature confirms the validity of their prediction (Segrave et al. 2009; Shan Women's Action Network 2003, 2007).

Criminal justice professionals, and non-governmental organizations (NGOs) working with them, generally are the persons who determine whether a child or adult is a bona fide victim of human trafficking. Since the major outcome sought by the TVPA is the successful prosecution of traffickers, victims in possession of convincing evidence against traffickers are highly valued if they are willing to testify; these become those identified by the gatekeepers as victims. All other persons taken into custody of police, whether having been trafficked or not, are identified by the gatekeepers as not being victims of trafficking. Thus, a victim of sex trafficking is not officially identified as a victim (deserving of counseling and social and other services) unless they are able and willing to serve police investigations of and likely successful prosecutions of human traffickers.

Persons deemed by the gatekeepers to not be useful in helping the criminal justice system orchestrate successful prosecutions of human traffickers are turned over to immigration control and border security for immediate repatriation. It is most likely that those who are labeled by the gatekeepers as not victims are sent back to their countries of origin as criminal aliens. So, once repatriated, many victims of trafficking are revictimized by the criminal justice system through labeling that further stigmatizes them by attaching criminal records when they are sent home. This differential treatment of victims, and great emphasis placed on successful prosecutions,

is becoming universal criminal justice anti-trafficking practice due to the United States' ability to threaten countries with foreign-aid restrictions if they are not showing increasing numbers of successful prosecutions of traffickers as rated in the TIPs reports.

Placing the decision-making power for victim selection in elite units of federal police and federal prosecutors appears, on its face, to be a gross miscarriage of justice for most victims of trafficking and many victims of CST. The official emphasis is on prosecution, not on the rescue and rehabilitation of victims. This practice also goes against the written intent of the Palermo Protocol and of the TVPA that stress as priorities the human rights and the well-being of child victims of human. It is not surprising, as Brane' (2007, May) concludes that trafficked children are the least protected class of trafficked persons in the United States. They face immense difficulties in accessing benefits and are often deported. Given that the US Government can place pressure on other nations and have them adhere to its model of human trafficking interdiction and enforcement, Brane's conclusion ends up applicable around the globe.

In a global economy with the ever-increasing economic marginalization of women and children, the labor migration of and trafficking of women and adolescents recently has bypassed the labor migration and trafficking of men. Economic, political, and medical crises as well as armed warfare have left many adolescents vulnerable to the victimization of child sex trafficking. The United Nations has developed a blueprint to guide individual nations in their developments of human trafficking and sex trafficking laws, in its *Protocol to prevent, suppress and punish trafficking in persons, especially women and children, supplementing the United Nations Convention against Transnational Organized Crime* (United Nations 2000). The United States also developed the model statute for other nations of the world to emulate, the *Victims of Trafficking and Violence Protection Act* (United States Congress (104th) 2000). Presently, the US Department of State

guides the world in developing anti-trafficking legislation, in rescuing and aiding trafficking victims, and in prosecuting human traffickers through its annual TIPs reports (United States Department of State 2010, June).

Conclusions

Whether the trafficking legislation of the nations of the world is making a major impact to slow the high rates of the sex trafficking of young women and adolescents worldwide is left to conjecture. The numbers of victims of child sex trafficking appear to be increasing year by year; yet the number of victims of CST identified appears small in comparison to the official or NGO predictions of the incidence and the extent of victimization. Criminal justice responses to child sex trafficking may prove an insufficient remedy. The solution required to slow child sex trafficking may be better found in the study of and response to the universal feminization of poverty and the related push toward labor migration.

Cross-References

- ▶ [Sex Trafficking into the United States](#)
- ▶ [Sex Trafficking Within the United States](#)

References

- Brane', M. (Ed.). (2007, May). *The U.S. response to human trafficking: An unbalanced approach*. New York: Women's Commission for Refugee Women and Children.
- Brown, A., & Barrett, D. (2002). *Knowledge of evil: Child prostitution and child sexual abuse in twentieth-century England*. Portland: Willan.
- Clift, S., & Carter, S. (2000). *Tourism and sex: Culture, commerce and coercion* (p. 297). New York: Pinter.
- Gozdziaik, E., & Bump, M. N. (2008, March). *Victims no longer: Research on child survivors of trafficking for sexual and labor exploitation in the United States* (pp. 1–158). Washington, DC: The U.S. Department of Justice.
- Gritner, F. K. (1990). *White slavery: Myth, ideology, and American law*. New York: Garland.
- Human Rights Watch. (2003). *Letter to Colin Powell on the trafficking in persons report 2003*. Retrieved on 13 Apr 2005, from www.hrw.org
- Jeffrey, L. A., & MacDonald, G. (2006). *Sex workers in the Maritimes talk back*. Vancouver: The University of British Columbia.
- Kempadoo, K., & Doezema, J. (Eds.). (1998). *Global sex workers*. New York: Routledge.
- Kwong, P. (1997). *Forbidden workers: Illegal Chinese immigrants and American labor*. New York: The New Press.
- Mizus, M., Moody, M., Privado, C., & Douglas, C. A. (2003). Germany, U.S. receive most sex-trafficked women. *Off Our Backs*, 33(7/8), 4.
- Office of the Under Secretary for Democracy and Global Affairs. (2008, June). *Trafficking in persons report* (pp. 1–293). Washington, DC: United States Department of State.
- Office on Violence Against Women. (2000). *Victims of trafficking and violence prevention act of 2000* (pp. 1–27). Washington, DC: United States Department of Justice.
- Pettman, J. J. (2006). On the backs of women and children. In P. S. Rothenberg (Ed.), *Beyond borders: Thinking critically about global issues* (pp. 437–440). New York: Worth.
- Schauer, E. J., & Wheaton, E. (2006). Sex trafficking into the United States: A literature review. *Criminal Justice Review*, 31(1), 1–24.
- Schauer, E. M., & Wheaton, E. M. (2008). The cheap ho vs. the girl next door: The prostitution paradigm vs. the sex trafficking paradigm. *Revista Electronica Archivos de Criminologia, Criminologica y Seguridad Privada*, Mexico, 1.
- Segrave, M., Milivojevic, S., & Pickering, S. (2009). *Sex trafficking: International context and response*. Portland: Willan.
- Shan Women's Action Network. (2003). *Shan Women's Action Network Newsletter*. Retrieved on 5 Oct 2009, from <http://www.shanwomen.org/>
- Shan Women's Action Network. (2007). *Shan Women's Action Network Newsletter*. Retrieved on 5 Oct 2009, from <http://www.shanwomen.org/>
- United Nations. (2000). *Protocol to prevent, suppress and punish trafficking in persons, especially women and children, supplementing the United Nations Convention against Transnational Organized Crime*. Vienna: UN. Retrieved on 1 Oct 2004, from <http://www.uncjin.org/Documents/Conventions/dcatoc>
- United States Congress (104th). (2000). *Victims of Trafficking and Violence Protection Act of 2000*. Washington, DC: U.S. Government Printing Office.
- United States Department of State. (2010, June). *Trafficking in persons report* (10th ed., pp. 1–372). Washington, DC.
- Weitzer, R. (2005). The growing moral panic over prostitution and sex trafficking. *The Criminologist*, 30(5), 1–4.

Sexism

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Overview

Recent research has left little doubt that most adolescents in the USA experience sexist acts from peers and adults (American Association of University Women [AAUW] 2011; Leaper and Brown 2014). As subsequently described, these experiences can affect their self-concepts, motivation, adjustment, and achievement. This review is organized into the following sections: First, sexism is defined. Second, factors related to increases in sexism during adolescence are summarized. Third, the prevalence and impact of two main forms of sexism – sexual harassment and gender bias – are discussed. Finally, factors associated with adolescents' awareness of sexism and coping responses are considered.

What Is Sexism?

Sexism is a form of prejudice and discrimination based on a person's gender (see Bigler and Liben 2007, for a developmental model of prejudice). Prejudice refers to biased attitudes, whereas discrimination refers to biased actions. Thus, a person who holds sexist attitudes may manifest those prejudiced beliefs through discriminatory behaviors. For example, a boy who believes girls should not play sports (prejudice) may harass a girl who plays soccer (discrimination). As described below, sexism can take several forms.

Traditional and Modern Sexism. Swim and her colleagues (e.g., Swim et al. 1995, Swim and Cohen 1997) distinguished between traditional (“old-fashioned”) and modern sexist attitudes. *Traditional sexism* refers to the endorsement of traditional gender roles and the differential

treatment of females and males. For example, a person who endorses traditional sexism might believe that girls should not be allowed to play sports because doing so is “unfeminine.” Conversely, *modern sexism* refers to the professed view that sexism is no longer a problem that needs to be addressed in society. For example, a person who endorses modern sexism might believe that initiatives to bring more girls into sports are unnecessary because gender equality has already been achieved. Although traditional attitudes are not overtly endorsed in modern sexism, ongoing gender inequities are ignored and thereby perpetuated. Hence, modern sexism is viewed as a more covert and subtle form of prejudice compared to traditional sexism.

Researchers have found evidence of traditional sexism in samples of adolescents in the USA and other countries (de Lemus et al. 2010; Galambos et al. 1990; Gibbons et al. 1991; Signorella and Frieze 2008). Traditional attitudes tend to increase during adolescence and are more likely among boys than girls. Research on modern sexism has been limited primarily to undergraduates and other adult samples; however, one recent study measured modern sexism in a sample of adolescents in Spain (Garaigordobil and Aliri 2012). Findings indicated that boys were, on average, higher in modern sexism than were girls, which is a pattern that has also been obtained in adult samples (e.g., Swim et al. 1995).

Hostile and Benevolent Sexism. According to Glick and Fiske's (2001) ambivalent sexism framework, females' and males' interdependence in heterosexual and family relationships contributes to the combination of hostile and benevolent sexism. *Hostile sexism* refers to overt negative attitudes about girls and women who violate traditional gender norms. This might include negative views toward girls who exhibit masculine-stereotyped traits (e.g., assertiveness) or girls who excel in masculine-stereotyped activities (e.g., sports or math). *Benevolent sexism* encompasses paternalistic attitudes as well as the belief that males and females possess attributes that are fundamentally different, yet complementary. For example, benevolent sexism is reflected in the expectation that boys are supposed to open doors

for girls (but not the reverse) and the belief that girls are better than boys in providing emotional support.

Behaviors that align with benevolent sexism (e.g., chivalry) tend to be socially acceptable and may even be encouraged. Accordingly, many people do not view benevolent sexism as a problem even though they disapprove of hostile sexism. However, benevolent sexism perpetuates the belief that girls and women need protection and that they are ill equipped to engage in masculine-stereotyped practices. Therefore, benevolent sexism works in concert with hostile sexism to reinforce girls' and women's lower-status positions in society.

Glick and Hilt (2000) posited that benevolent sexism and hostile sexism emerge during adolescence. Although most research on hostile and benevolent sexism has focused on adults, increasing attention is being paid to these processes during adolescence. Some pertinent studies have been conducted in Spain (e.g., Carrera-Fernández et al. 2013; de Lemus et al. 2010; Ferragut 2014; Garaigordobil and Aliri 2012; Lameiras et al. 2001; Montañés et al. 2013; Silvan-Ferrero and Lopez 2007), the U.S. (Farkas and Leaper 2016; Phillips 2004), Brazil (DeSouza and Ribeiro 2005), and Sweden (Zakrisson et al. 2012). Their findings are generally consistent with Glick and Hilt's (2000) developmental proposals.

Factors Contributing to Increases in Sexism During Adolescence

From a developmental perspective, several factors contribute to sexism's increase in prevalence during the transition from childhood to adolescence. First, adolescents are beginning to contemplate more seriously the adult occupational and relationship roles that they will soon hold (Kroger 2003). Depending on their gender attitudes, this may lead them to value either conventional or egalitarian roles for women and men (Farkas and Leaper 2016; Galambos et al. 1985). Adolescents with traditional values may negatively evaluate others who violate gender-typed conventions for appearance, behavior, or achievement. Second,

physical and sexual maturation contributes to the increased salience of adolescents' appearance and the potential for sexual harassment (McMaster et al. 2002; Petersen and Hyde 2009). Finally, adolescence typically marks the beginning of sexual attraction and a corresponding emphasis on heterosexual relationships. Because heterosexual dating norms call for the male to exhibit behaviors consistent with benevolent sexism, young women's experiences with benevolent sexism often increase substantially during adolescence (de Lemus et al. 2010; Montañés et al. 2013).

Sexist Discrimination During Adolescence

Two main forms of sexist discrimination are reviewed below. One pervasive form of sexism is sexual harassment. Another common type of sexism is seen in gender-biased treatment in achievement contexts. The latter includes discrimination in academics and athletics.

Sexual Harassment. Sexual harassment during adolescence involves unwanted verbal or physical actions that are sexual in nature (AAUW 2011). Physical sexual harassment may occur through unwanted touching, sexual gestures, and sexual coercion. Verbal sexual harassment includes sexually demeaning comments, homophobic insults, and spreading sexual rumors. In addition, sexual harassment can be expressed electronically through Internet chat rooms, web postings, social media, and text messaging.

Many girls and boys in the USA report experiencing sexual harassment (e.g., AAUW 2011; Bucchianeri et al. 2013; Clear et al. 2014; Espelage and Holt 2012). Sexual harassment is also common in Europe (e.g., Timmerman 2005; Vega-Gea et al. 2016), Latin America (e.g., Merkin 2008), Asia (e.g., Wei and Chen 2012), and Africa (e.g., Austrian and Muthengi 2014). Even relatively gender-egalitarian countries such as Norway and Sweden have problems with sexual harassment (Ottesen Kennair and Bendixen 2012; Witkowska and Kjellberg 2005).

Adolescents experience sexual harassment from peers, teachers, employers, co-workers, and

strangers. However, peers are the most likely sources (AAUW 2011). According to the AAUW (2011) national survey of US adolescents in grades 7–12, 56% of girls and 40% of boys reported having experienced sexual harassment either in person or online from peers. However, grade level moderated these patterns. Among seventh graders, reported rates were 48% for girls as well as boys. Among twelfth graders, rates were 62% among girls and 39% among boys. Hence, the prevalence of sexual harassment increased with age among girls and slightly decreased among boys.

The AAUW (2011) survey also pointed to average gender differences in the types of sexual harassment experienced in person or via electronic media. Across ages, girls were more likely than boys to have experienced unwanted sexual comments and gestures in person (46% vs. 22%), unwanted touching (13% vs. 3%), unwanted sexual comments or pictures online (26% vs. 13%), unwelcome sexual rumors online (17% vs. 8%), and sexual intimidation or sexual coercion (13% vs. 2%). Girls and boys reported similar rates of being called lesbian or gay in pejorative ways in person (18% vs. 19%) or online (12% vs. 12%).

The AAUW survey also assessed students' perceptions of the attributes of students most likely to be sexually harassed. Students believed girls were more prone to being sexually harassed if they were more physically developed, were pretty, were not pretty or were not feminine, or were overweight. Boys were perceived as more likely to be sexually harassed if they were not athletic or not masculine, were overweight, or were good looking. These perceptions suggest that sexual harassment is used to sexually objectify others (who are viewed as sexually attractive) and to enforce gender conformity (in those viewed as not fitting stereotypical gender ideals) (see Murnen and Smolak 2000).

Dating partners are another common source of sexual harassment for many adolescents (Break The Cycle 2008; O'Leary et al. 2008). The prevalence of dating aggression vary on the basis of one's community and background characteristics. For example, one large, statewide survey found that 18.5% of high school students had

experienced unwanted sexual activity during the past year; however, the prevalence rate varied significantly according to adolescents' age, ethnic background, socioeconomic status, and sexual orientation (Williams et al. 2014). The findings also indicated that boys were more likely than girls to perpetrate sexual aggression in their romantic relationships, which appears to be a common pattern (e.g., Swahn et al. 2008; Wolitzky-Taylor et al. 2008). This trend may be driven in part by hostile sexist attitudes that encourage boys and men to sexually objectify girls and women (Zurbriggen 2009).

Lesbian, gay, bisexual, and transgender (LGBT) youth are especially at risk for sexual harassment (Mitchell et al. 2014; Williams et al. 2005). The emphasis on heterosexual dating as the norm likely contributes to the high frequency of sexual harassment for LGBT youth (Poteat 2007). That is, LGBT youth may be the targets of sexual harassment because they do not adhere to widespread norms regarding sexuality and, further, may challenge other gender roles as well (e.g., appearance, interests, expressiveness). Sexual harassment puts gender nonconforming youth at a higher risk of experiencing psychosocial challenges such as depression, substance abuse, and reduced academic performance (e.g., Poteat and Espelage 2007).

Consequences of Sexual Harassment. Sexual harassment can negatively impact girls' and boys' subsequent adjustment. For example, sexual harassment predicts later increases in emotional distress, suicidal thoughts, substance abuse, and externalizing behaviors in both girls and boys as well as increases in negative body image and self-harm in girls (Chiodo et al. 2009; Goldstein et al. 2007). Sexual harassment also can lead to academic problems and disengagement from activities (AAUW 2011; Gruber and Fineran 2016; Poteat and Espelage 2007). Furthermore, girls who are sexually harassed within the context of a romantic relationship are at risk for lower self-esteem and dating violence (Chiodo et al. 2009; Goldstein et al. 2007). Finally, the negative impact of sexual harassment on adjustment appears to be compounded when students belong to more than one social group that is subject to discrimination,

such as being LGBT and a racial-ethnic minority (AAUW 2011; Mitchell et al. 2014).

Gender Bias in Academics and Athletics.

Some people believe that girls are not well suited to excel in particular domains simply because of their gender. This prejudice originates from stereotypes regarding girls' and boys' inherent capabilities. For example, some people believe boys are naturally better at science and math than are girls. Gender-biased beliefs about girls' abilities also may stem from traditional attitudes regarding gender roles. For example, people with more traditional gender-role attitudes may believe that rough sports are appropriate for boys but not girls (Heinze et al. 2014). When parents, teachers, or peers hold gender-biased expectations, they may treat girls and boys differently regarding their achievement in particular domains. These forms of discrimination create different opportunities for girls and boys; in turn, they foster gender inequalities in adult roles and status (see Leaper 2015a; Leaper and Brown 2014).

Girls' Experiences with Academic Sexism.

Although there has been a gender gap in achievement in science, technology, engineering, and mathematics (STEM), differences have dramatically narrowed over the years as equal opportunities have increased (Halpern et al. 2007). For example, girls and boys now demonstrate comparable rates of achievement in high school math and life sciences; and the gap in physical sciences and computers has become smaller. Nonetheless, many people continue to hold the prejudiced belief that girls and women are not capable of performing well in STEM fields.

Several studies point to ways in which academic sexism has contributed to the gender gap in STEM achievement. This work indicates that many US girls experience sexist comments about their potential to succeed in STEM fields. For instance, Leaper and Brown (2008) found that about half of the adolescent girls in their sample had heard at least one disparaging comment about girls' abilities in math, science, or computers. Girls who heard these comments indicated that they typically originated from male peers – followed by female peers, teachers/coaches, and parents and other family members.

A more recent study of high school girls in the USA indicated similar patterns in high school girls' experiences of science- and math-related gender bias (Robnett 2016). Regularly experiencing gender bias in these subjects likely has negative implications such as reduced achievement motivation and self-concepts (Leaper et al. 2012; Robnett 2016).

Academic sexism from male and female peers is significant given that many heterosexual adolescent girls want to appear attractive to boys and to be accepted by other girls (see Leaper 2015b). In some peer group cultures, girls may view excelling in math and science as incompatible with popularity and attractiveness, which may detract from their interest in these subjects. Conversely, when girls belong to a peer group that supports math and science achievement, they may be more likely to maintain their achievement in these domains (e.g., Crosnoe et al. 2008; Robnett 2013; Robnett and Leaper 2013; Stake and Nickens 2005). However, boys may be more likely than girls to have friendship networks that are perceived as supportive of math and science (Robnett and Leaper 2013).

Teachers' sexist comments about girls' abilities are also problematic given that teachers can play a critical role in shaping students' interest, efficacy, and success. Research suggests that negative comments about girls' and women's capabilities in math, science, or computers may have detrimental effects on their performance in these domains (e.g., Flore and Wicherts 2015; Huguet and Regner 2007).

Many parents also hold gender-stereotyped expectations regarding their daughters' academic abilities and potential in math, science, and computers (Eccles et al. 2000; Tenenbaum and Leaper 2003). In their longitudinal research, Eccles and her colleagues (2000 and Simpkins et al. (2015) found that parents' attitudes and beliefs predicted later gender-related variations in their children's academic self-concepts and achievement. For instance, when parents held low expectations for their daughters, the girls increasingly lost confidence in their mathematics skills; also, these girls subsequently spent less time studying mathematics in high school. Thus, parents' expectations

may affect their daughters' motivation to succeed in particular domains such as math.

Girls' Experiences with Athletic Sexism.

Athletics is another achievement domain in which many adolescent girls continue to experience sexism. Girls' participation in sports has changed over time and varies across cultures. In the USA, the passage of Title IX in 1972 had a significant impact on the number of girls and women involved with sports. Title IX prohibits gender discrimination in public education and mandates that males and females have equal opportunities to participate in athletics. Before Title IX passed, girls constituted only 7% of high school athletes; by 2011, this percentage had risen to 41% (National Coalition for Women and Girls in Education [NCWGE] 2012). However, there are still a number of high schools that are not in full compliance with Title IX, and it is not uncommon for males' athletic teams to receive more funding, better facilities, and more publicity than females' athletic teams (Messner et al. 2006; NCWGE 2012).

Despite increases in adolescent girls' participation in athletics, sexist attitudes persist. Some of these negative attitudes may have their basis in benevolent sexism (e.g., "Girls should be protected from the rough-and-tumble, competitive nature of sports"), but they can also be more overt and hostile in nature (e.g., "Girls are bad at basketball" or "You throw like a girl!"). In fact, overt sexism may be more prevalent in domains related to athletics than it is in other domains. In a survey of adolescent girls' experiences with sexism, Leaper and Brown (2008) found that over three-quarters of their participants reported hearing at least one sexist comment about their athletic abilities (versus approximately one-half who heard a sexist comment about academic abilities).

As seen with other forms of sexism, male peers play an especially prominent role in girls' experiences with athletic sexism (Leaper and Brown 2008). However, both boys and girls are complicit in establishing norms for heterosexual attractiveness and femininity that may undermine girls' participation in athletics (Carr 2007; Guillet et al. 2006; Schmalz and Kerstetter 2006; Slater

and Tiggemann 2011). Thus, many girls must overcome traditional gender stereotypes and homophobia if they pursue athletic participation into adolescence; however, these challenges are less pervasive than they were a few decades ago.

Parents can also play a role in girls' continued sport participation during adolescence (e.g., Atkins et al. 2013; Fredricks and Eccles 2002). Despite the advances in girls' sports over the decades, some parents may continue to believe that certain sports are too rough for their daughters (Heinze et al. 2014). Fredricks and Eccles (2002) found that parents' expectations can affect their children's subsequent self-concepts and motivation in sports. They observed that many parents were more likely to consider their sons than their daughters as competent at sports; however, when parents positively evaluated their daughters' athletic ability, girls were more likely to develop positive sports-related self-concepts and motivation in adolescence (controlling for their earlier athletic competence). Thus, parents' expectations may become self-fulfilling prophecies.

Consequences of Academic and Athletic Sexism for Boys. The foregoing review of academic and athletic sexism has focused on discrimination against girls. Although traditional gender roles generally benefit boys and men by conferring them with higher status and power, conforming to traditional masculinity norms can lead to costs for many boys (Levant 2005). For example, boys' notions of masculinity in some cultural contexts may include opposition to teacher authority and opposition to being a good student (Kiefer and Ryan 2008; Van Houtte 2004; Vantighem and Van Houtte 2015). In these regards, sexism can negatively affect boys' academic achievement and opportunities.

Sexism in sports may negatively affect boys' psychosocial development. The traditional macho sports culture in many high schools can foster misogyny and homophobia (Messner 2007). Boys who do not adhere to these social norms can be subject to ridicule from coaches and teammates (Messner 2007; Schissel 2000). In addition, the acceptance of violence in the masculine sports culture may extend to sexual violence. For

instance, one study illustrated that tolerance for sexual violence was more likely among young men who had participated in high school sports than those who had not (Forbes et al. 2006).

Awareness of Sexism and Coping Responses

Given the potentially negative impact of sexism on adolescents' development, it behooves researchers to identify factors that may help them cope effectively with sexist events. Effective coping begins with identifying the source of the stressor. Accordingly, factors related to adolescents' awareness of sexism are reviewed first.

Perceiving Sexist Discrimination. As research with adults has highlighted, individuals do not necessarily recognize when discrimination is directed at them (Crosby 1984). Brown and Bigler (2005) identified a combination of cognitive-developmental, individual, and situational factors that influence children's awareness of sexism (as well as other forms of discrimination). The cognitive prerequisites for perceiving discrimination (e.g., abilities to make social comparisons, moral judgments about fairness and equity) are typically achieved by middle childhood. Therefore, it is mainly individual and social factors that affect adolescents' awareness of sexism. Some individual moderators that increase the likelihood of recognizing sexism include holding gender-egalitarian attitudes or being aware of feminism (Leaper and Brown 2008). Some examples of situational moderators that can aide sensitivity to gender discrimination include a perpetrator who is known to be prejudiced or the discrimination occurring in a situation where gender is salient (Brown and Bigler 2004).

Coping with Sexism. Research on stress and coping distinguishes between approach and avoidance coping strategies (Compas et al. 2001; Roth and Cohen 1986). Approach strategies are oriented toward addressing the threat (e.g., confronting, seeking social support); in contrast, avoidance strategies are oriented away from the threat (e.g., downplaying the event, avoiding the

perpetrator). In general, research indicates that approach coping helps individuals cope more effectively with stress. With regard to coping responses to sexism, the AAUW (2011) survey indicated that students' most common responses to sexual harassment reflected avoidance strategies: About half of girls and boys stated they ignored the incident and did nothing afterward. Approach strategies were less common; approximately one-third of girls and one-sixth of boys reported confronting the perpetrator or talking to a family member or a friend. Even fewer reported the incident to a school official (12% of girls, 5% of boys). In another US study (Leaper et al. 2013), adolescent girls' endorsement of approach responses to sexual harassment was positively related to perceived social support from peers and mothers as well as their self-identification as feminists.

Possible Interventions to Reduce Sexism and to Promote Effective Coping. Researchers have identified successful strategies for reducing gender-based prejudice in schools (see Bigler and Wright 2014; Leaper and Brown 2014). First, it is important to minimize gender labeling and gender stereotyping in classrooms and playgrounds (see Bigler and Liben 2007). Second, teachers can teach students about gender discrimination (see Bigler and Wright 2014). Third, increasing cross-gender contact in cooperative group activities can reduce prejudice (see Paluck and Green 2009). Fourth, intervention programs in schools can foster children's and adolescents' use of approach coping responses to sexist events (see Bigler and Wright 2014). Finally, interventions that target the school climate (e.g., classroom practices, peer cultures, and teacher attitudes) may help to reduce peer victimization (e.g., Rinehart and Espelage 2016).

Summary and Conclusions

Sexism includes holding prejudiced gender attitudes as well as gender-based discriminatory behaviors. Although most of the research on sexism has focused on adult samples, there has been

increasing attention during the last two decades to sexism among adolescents. This research indicates that many adolescents hold sexist attitudes. In addition, gender-based discrimination is common among adolescents in the forms of sexual harassment as well as gender-biased treatment in academics and athletics. Experiencing sexism can negatively affect adolescents' adjustment, relationships, and achievement. Researchers are beginning to address factors that might help adolescents to effectively cope with these obstacles.

Definitions and Key Concepts

| | |
|---------------------------|---|
| Sexism | A form of prejudice and discrimination based on a person's gender |
| Traditional sexism | The endorsement of traditional gender roles and the differential treatment of females and males |
| Modern sexism | A covert form of sexism whereby it is professed that sexism is no longer a problem that needs to be addressed in society |
| Hostile sexism | Overt negative attitudes about girls or women who violate traditional gender norms |
| Benevolent sexism | Paternalistic attitudes that men should protect and cherish women as well as traditional beliefs that females possess particular qualities (e.g., nurturance) that complement males |
| Sexual harassment | Unwanted verbal or physical actions that are sexual in nature |
| Gender bias | Discrimination based on person's gender, included differential encouragement of girls and boys in particular academic subjects and athletics |
| Approach coping | Strategies oriented toward addressing the threat (e.g., confronting, seeking social support) |
| Avoidance coping | Strategies oriented away from the threat (e.g., downplaying the event, avoiding perpetrator) |

References

- American Association of University Women (AAUW). (2011). *Crossing the line: Sexual harassment at school*. Washington, DC: American Association of University Women (AAUW).
- Atkins, M. R., Johnson, D. M., Force, E. C., & Petrie, T. A. (2013). "Do I still want to play?" Parents' and peers' influences on girls' continuation in sport. *Journal of Sport Behavior, 36*, 329–345.
- Austrian, K., & Muthengi, E. (2014). Can economic assets increase girls' risk of sexual harassment? Evaluation results from a social, health and economic asset-building intervention for vulnerable adolescent girls in Uganda. *Children and Youth Services Review, 47*, 168–175.
- Bigler, R. S., & Liben, L. S. (2007). Developmental intergroup theory: Explaining and reducing children's social stereotyping and prejudice. *Current Directions in Psychological Science, 16*, 162–166.
- Bigler, R. S., & Wright, Y. F. (2014). Reading, writing, arithmetic, and racism? Risks and benefits of teaching children about intergroup biases. *Child Development Perspectives, 8*, 18–23.
- Break the Cycle. (2008). *State-by-state teen dating violence report card*. Los Angeles: Break the Cycle. Retrieved from <http://www.breakthecycle.org/sites/default/files/pdf/state-report-card-full-report.pdf>.
- Brown, C. S., & Bigler, R. S. (2004). Children's perceptions of gender discrimination. *Developmental Psychology, 40*, 714–726.
- Brown, C. S., & Bigler, R. S. (2005). Children's perceptions of discrimination: A developmental model. *Child Development, 76*, 533–553.
- Bucchianeri, M. M., Eisenberg, M. E., & Neumark-Sztainer, D. (2013). Weightism, racism, classism, and sexism: Shared forms of harassment in adolescents. *Journal of Adolescent Health, 53*, 47–53.
- Carr, C. L. (2007). Where have all the tomboys gone? Women's accounts of gender in adolescence. *Sex Roles, 56*, 439–448.
- Carrera-Fernández, M., Lameiras-Fernández, M., Rodríguez-Castro, Y., & Vallejo-Medina, P. (2013). Bullying among Spanish secondary education students: The role of gender traits, sexism, and homophobia. *Journal of Interpersonal Violence, 28*, 2915–2940.
- Chiodo, D., Wolfe, D. A., Croosk, C., Hughes, R., & Jaffe, P. (2009). Impact of sexual harassment victimization by peers on subsequent adolescent victimization and adjustment: A longitudinal study. *Journal of Adolescent Health, 45*, 246–252.
- Clear, E. R., Coker, A. L., Cook-Craig, P., Bush, H. M., Garcia, L. S., Williams, C. M., Lewis, A. M., & Fisher, B. S. (2014). Sexual harassment victimization and perpetration among high school students. *Violence Against Women, 20*, 1203–1219.
- Compas, B. E., Connor-Smith, J. K., Saltzman, H., Thomsen, A. H., & Wadsworth, M. E. (2001). Coping with stress during childhood and adolescence:

- Problems, progress, and potential in theory and research. *Psychological Bulletin*, *127*, 87–127.
- Crosby, F. (1984). The denial of personal discrimination. *American Behavioral Scientist*, *27*, 371–386.
- Crosnoe, R., Rieggle-Crumb, C., Field, S., Frank, K., & Muller, C. (2008). Peer group contexts of girls' and boys' academic experiences. *Child Development*, *79*, 139–155.
- de Lemus, S., Moya, M., & Glick, P. (2010). When contact correlates with prejudice: Adolescents' romantic relationship experience predicts greater benevolent sexism in boys and hostile sexism in girls. *Sex Roles*, *63*, 214–225.
- DeSouza, E. R., & Ribeiro, J. (2005). Bullying and sexual harassment among Brazilian high school students. *Journal of Interpersonal Violence*, *20*, 1018–1038.
- Eccles, J. S., Freedman-Doan, C., Frome, P., Jacobs, J., & Yoon, K. S. (2000). Gender-role socialization in the family: A longitudinal approach. In T. Eckes & H. M. Trautner (Eds.), *The developmental social psychology of gender* (pp. 333–360). Mahwah: Lawrence Erlbaum Associates.
- Espelage, D. L., & Holt, M. K. (2012). Understanding and preventing bullying and sexual harassment in school. In K. R. Harris, S. Graham, T. Urdan, S. Graham, & J. M. Royer (Eds.), *APA educational psychology handbook: vol 2. Individual differences and cultural and contextual factors* (pp. 391–416). Washington, DC: American Psychological Association.
- Farkas, T., & Leaper, C. (2016). Chivalry's double-edged sword: How girls' and boys' paternalistic attitudes relate to their possible family and work selves. *Sex Roles*, *74*, 220–230.
- Ferragut, M. (2014). Analysis of adolescent profiles by gender: Strength, attitudes toward violence and sexism. *The Spanish Journal of Psychology*, *17*(e59), 1–10.
- Flore, P. C., & Wicherts, J. M. (2015). Does stereotype threat influence performance of girls in stereotyped domains? A meta-analysis. *Journal of School Psychology*, *53*, 25–44.
- Forbes, G. B., Adams-Curtis, L. E., Pakalak, A. H., & White, K. B. (2006). Dating aggression, sexual coercion, and aggression-supporting attitudes among college men as a function of participation in aggressive high school sports. *Violence Against Women*, *12*, 441–455.
- Fredricks, J. A., & Eccles, J. S. (2002). Children's competence and value beliefs from childhood through adolescence: Growth trajectories in two male-sex-typed domains. *Developmental Psychology*, *38*, 519–533.
- Galambos, N., Almeida, D., & Petersen, A. (1990). Masculinity, femininity, and sex role attitudes in early adolescence: Exploring gender intensification. *Child Development*, *61*, 1905–1914.
- Galambos, N. L., Petersen, A. C., Richards, M., & Gitelson, I. B. (1985). The attitudes toward women scale for adolescents (AWSA): A study of reliability and validity. *Sex Roles*, *13*, 343–356.
- Garaigordobil, M., & Aliri, J. (2012). Parental socialization styles, parents' educational level, and sexist attitudes in adolescence. *The Spanish Journal of Psychology*, *15*, 592–603.
- Gibbons, J. L., Stiles, D. A., & Shkodriani, G. M. (1991). Adolescents' attitudes toward family and gender roles: An international comparison. *Sex Roles*, *25*, 625–643.
- Glick, P., & Fiske, S. T. (2001). An ambivalent alliance: Hostile and benevolent sexism as complementary justifications for gender inequality. *American Psychologist*, *56*, 109–118.
- Glick, P., & Hilt, L. (2000). Combative children to ambivalent adults: The development of gender prejudice. In T. Eckes & H. N. Trautner (Eds.), *The developmental social psychology of gender* (pp. 243–272). Mahwah: Erlbaum.
- Goldstein, S. E., Malanchuk, O., Davis-Kean, P. E., & Eccles, J. S. (2007). Risk factors of sexual harassment by peers: A longitudinal investigation of African American and European American adolescents. *Journal of Research on Adolescence*, *17*, 285–300.
- Gruber, J., & Fineran, S. (2016). Sexual harassment, bullying, and school outcomes for high school girls and boys. *Violence Against Women*, *22*, 112–133.
- Guillet, E., Sarrazin, P., Fontayne, P., & Brustad, R. J. (2006). Understanding female sport attrition in a stereotypical male sport within the framework of Eccles's expectancy-value model. *Psychology of Women Quarterly*, *30*, 358–368.
- Halpern, D. F., Benbow, C. P., Geary, D. C., Gur, R. C., Hyde, J. S., & Gernbacher, M. A. (2007). The science of sex differences in science and mathematics. *Psychological Science in the Public Interest*, *8*, 1–51.
- Heinze, J. E., Heinze, K. L., Davis, M. M., Butchart, A. T., Singer, D. C., & Clark, S. J. (2014). Gender role beliefs and parents' support for athletic participation. *Youth & Society*. [OnlineFirst].
- Huguet, P., & Régner, I. (2007). Stereotype threat among schoolgirls in quasi-ordinary classroom circumstances. *Journal of Educational Psychology*, *99*, 545–560.
- Kiefer, S. M., & Ryan, A. M. (2008). Striving for social dominance over peers: The implications for academic adjustment during early adolescence. *Journal of Educational Psychology*, *100*, 417–428.
- Kroger, J. (2003). Identity development during adolescence. In G. R. Adams & M. D. Berzonsky (Eds.), *Blackwell handbook of adolescence* (pp. 205–226). Oxford: Blackwell.
- Lameiras, M., Rodríguez, Y., & Sotelo, M. (2001). Sexism and racism in a Spanish sample of secondary school students. *Social Indicators Research*, *54*, 309–328.
- Leaper, C. (2015a). Do I belong? Gender, peer groups, and STEM achievement. *International Journal of Gender, Science, and Technology*, *7*, 166–179.
- Leaper, C. (2015). Gender and social-cognitive development. In R. M. Lerner (Series Ed.), L. S. Liben & U. Muller (Vol. Eds.), *Handbook of child psychology and developmental science: Vol. 2. Cognitive processes* (7th ed., pp. 806–853). New York: Wiley.

- Leaper, C., & Brown, C. S. (2008). Perceive experiences with sexism among adolescent girls. *Child Development, 79*, 685–704.
- Leaper, C., & Brown, C. S. (2014). Sexism in schools. In L. S. Liben & R. S. Bigler (Eds.), *Advances in child development and behavior: Vol. 47. The role of gender in educational contexts and outcomes* (pp. 189–223). San Diego: Elsevier Academic Press.
- Leaper, C., Farkas, T., & Brown, C. S. (2012). Adolescent girls' experiences and gender-related beliefs in relation to their motivation in math/science and English. *Journal of Youth and Adolescence, 41*, 268–282.
- Leaper, C., Brown, C. S., & Ayres, M. M. (2013). Adolescent girls' cognitive appraisals of coping responses to sexual harassment. *Psychology in the Schools, 50*, 969–986.
- Levant, R. F. (2005). The crises of boyhood. In G. E. Good & G. R. Brooks (Eds.), *The new handbook of psychotherapy and counseling with men: A comprehensive guide to settings, problems, and treatment approaches* (2nd ed., pp. 161–171). San Francisco: Jossey-Bass.
- Levant, R. F., & Richmond, K. (2007). A review of research on masculinity ideologies using the Male Role Norms Inventory. *The Journal of Men's Studies, 15*, 130–146.
- McMaster, L. E., Connolly, J., Pepler, D., & Craig, W. M. (2002). Peer to peer sexual harassment in early adolescence: A developmental perspective. *Development and Psychopathology, 14*, 91–105.
- Merkin, R. S. (2008). Cross-cultural differences in perceiving sexual harassment: Demographic incidence rates of sexual aggression in Latin America. *North American Journal of Psychology, 10*, 277–290.
- Messner, M. A. (2007). *Out of play: Critical essays on gender and sport*. Albany: State University of New York Press.
- Messner, M. A., Duncan, M. C., & Willms, N. (2006). This revolution is not being televised. *Contexts, 5*, 34–38.
- Mitchell, K. J., Ybarra, M. L., & Korchmaros, J. D. (2014). Sexual harassment among adolescents of different sexual orientations and gender identities. *Child Abuse & Neglect, 38*, 280–295. <https://doi.org/10.1016/j.chiabu.2013.09.008>.
- Montañés, P., de Lemus, S., Moya, M., Bohner, G., & Megías, J. L. (2013). How attractive are sexist intimates to adolescents? The influence of sexist beliefs and relationship experience. *Psychology of Women Quarterly, 37*, 494–506.
- Murnen, S. K., & Smolak, L. (2000). The experience of sexual harassment among grade-school students: Early socialization of female subordination? *Sex Roles, 43*, 1–17.
- National Coalition for Women and Girls in Education (NCWGE). (2012). *Title IX at 40*. Retrieved from <http://www.ncwge.org/athletics.html>.
- O'Leary, K. D., Slep, A. M. S., Avery-Leaf, S., & Cascardi, M. (2008). Gender differences in dating aggression among multiethnic high school students. *Journal of Adolescent Health, 42*, 473–479.
- Ottesen Kennair, L. E., & Bendixen, M. (2012). Sociosexuality as predictor of sexual harassment and coercion in female and male high school students. *Evolution and Human Behavior, 33*, 479–490.
- Paluck, E. L., & Green, D. P. (2009). Prejudice reduction: What works? A review and assessment of research and practice. *Annual Review of Psychology, 60*, 339–367.
- Petersen, J. L., & Hyde, J. S. (2009). A longitudinal investigation of peer sexual harassment victimization in adolescence. *Journal of Adolescence, 32*, 1173–1188.
- Phillips, G. C. (2004). Gender-roles and sexism in adolescents: An examination of gender and race. *Dissertation Abstracts International: Section B: The Sciences and Engineering, 64* (9-B).
- Poteat, V. P. (2007). Peer group socialization of homophobic attitudes and behavior during adolescence. *Child Development, 78*, 1830–1842.
- Poteat, V. P., & Espelage, D. L. (2007). Predicting psychosocial consequences of homophobic victimization in middle school students. *Journal of Early Adolescence, 27*, 175–191. <https://doi.org/10.1177/0272431606294839>.
- Rinehart, S. J., & Espelage, D. L. (2016). A multilevel analysis of school climate, homophobic name-calling, and sexual harassment victimization/perpetration among middle school youth. *Psychology of Violence, 6*, 213–222.
- Robnett, R. D. (2013). The role of peer support for girls and women in STEM: Implications for identity and anticipated retention in STEM. *International Journal of Gender, Science, and Technology, 5*, 232–253.
- Robnett, R. D. (2016). Gender bias in STEM fields: Variation in prevalence and links to STEM self-concept. *Psychology of Women Quarterly, 40*, 65–79.
- Robnett, R. D., & Leaper, C. (2013). Friendship groups, personal motivation, and gender in relation to high school students' STEM career interest. *Journal of Research on Adolescence, 23*, 652–664.
- Roth, S., & Cohen, L. J. (1986). Approach, avoidance, and coping with stress. *American Psychologist, 41*, 813–819.
- Schissel, B. (2000). Boys against girls: The structural and interpersonal dimensions of violent patriarchal culture in the lives of young men. *Violence Against Women, 6*, 960–986.
- Schmalz, D. L., & Kerstetter, D. L. (2006). Girlie girls and manly men: Children's stigma consciousness of gender in sports and physical activities. *Journal of Leisure Research, 38*, 536–557.
- Signorella, M. L., & Frieze, I. H. (2008). Interrelations of gender schemas in children and adolescents: Attitudes, preferences, and self-perceptions. *Social Behavior and Personality, 36*, 941–954.
- Silvan-Ferrero, M. D., & Lopez, A. B. (2007). Benevolent sexism toward men and women: Justification of the traditional system and conventional gender roles in Spain. *Sex Roles, 57*, 607–614.
- Simpkins, S. D., Fredricks, J. A., & Eccles, J. S. (2015). The role of parents in the ontogeny of achievement-

- related motivation and behavioral choices: I. introduction. *Monographs of the Society for Research in Child Development*, 80, 1–151.
- Slater, A., & Tiggemann, M. (2011). Is teasing partly to blame for dropout in sport and physical activity? *Journal of Sport & Exercise Psychology*, 33, 742–743.
- Stake, J. E., & Nickens, S. D. (2005). Adolescent girls' and boys' science peer relationships and perceptions of the possible self as a scientist. *Sex Roles*, 52, 1–11.
- Swahn, M. H., Simon, T. R., Arias, I., & Bossarte, R. M. (2008). Measuring sex differences in violence victimization and perpetration within date and same-sex peer relationships. *Journal of Interpersonal Violence*, 23, 1120–1138.
- Swim, J. K., & Cohen, L. L. (1997). Overt, covert, and subtle sexism: A comparison between the attitudes toward women and modern sexism scales. *Psychology of Women Quarterly*, 21, 103–118.
- Swim, J. K., Aikin, K. J., Hall, W. S., & Hunter, B. A. (1995). Sexism and racism: Old-fashioned and modern prejudices. *Journal of Personality and Social Psychology*, 68, 199–214.
- Tenenbaum, H. R., & Leaper, C. (2003). Parent-child conversations about science: The socialization of gender inequities? *Journal of Applied Developmental Psychology*, 26, 1–19.
- Timmerman, G. (2005). A comparison between girls' and boys' experiences of unwanted sexual behaviour in secondary schools. *Educational Research*, 47, 291–306.
- Van Houtte, M. (2004). Why boys achieve less at school than girls: The difference between boys' and girls' academic culture. *Educational Studies*, 30, 159–173.
- Vantieghem, W., & Van Houtte, M. (2015). Are girls more resilient to gender-conformity pressure? The association between gender-conformity pressure and academic self-efficacy. *Sex Roles*, 73, 1–15.
- Vega-Gea, E., Ortega-Ruiz, R., & Sánchez, V. (2016). Peer sexual harassment in adolescence: Dimensions of the sexual harassment survey in boys and girls. *International Journal of Clinical and Health Psychology*, 16, 47–57.
- Wei, H., & Chen, J. (2012). Factors associated with peer sexual harassment victimization among taiwanese adolescents. *Sex Roles*, 66, 66–78.
- Williams, T., Connolly, J., Pepler, D., & Craig, W. (2005). Peer victimization, social support, and psychosocial adjustment of sexual minority adolescents. *Journal of Youth & Adolescence*, 34, 471–482.
- Williams, C. M., Cook-Craig, P. G., Bush, H. M., Clear, E. R., Lewis, A. M., Garcia, L. S., . . . Fisher, B. S. (2014). Victimization and perpetration of unwanted sexual activities among high school students: Frequency and correlates. *Violence Against Women*, 20, 1239–1257.
- Witkowska, E., & Kjellberg, A. (2005). Dimensions of peer sexual harassment in Swedish high schools: What factor structures show the best fit to girls' and boys' self-reports? *Sex Roles*, 53, 677–687.
- Wolitzky-Taylor, K. B., Ruggiero, K. J., Danielson, C. K., Resnick, H. S., Hanson, R. F., Smith, D. W., Saunders, B. E., & Kilparick, D. G. (2008). Prevalence and correlates of dating violence in a national sample of adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry*, 47, 755–762.
- Zakrisson, I., Anderzén, M., Lenell, F., & Sandelin, H. (2012). Ambivalent sexism: A tool for understanding and improving gender relations in organizations. *Scandinavian Journal of Psychology*, 53, 64–70. <https://doi.org/10.1111/j.1467-9450.2011.00900.x>.
- Zurbriggen, E. L. (2009). Understanding and preventing adolescent dating violence: The importance of developmental, sociocultural, and gendered perspectives. *Psychology of Women Quarterly*, 33, 30–33.

Sexual Abstinence

► Abstinence

Sexual Addiction

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Overview

Sexual addiction is a concept that has many synonyms and that remains controversial. At its core, it is a condition that involves compulsive behaviors related to seeking new sexual partners, having frequent sexual encounters, engaging in masturbation, visiting strip clubs, seeking cybersex, and using pornography. This essay examines how this condition relates to adolescents. It explores what differentiates normative adolescent sexual behavior from what is increasingly being viewed as addiction, including what some view as hypersexual disorder. The literature reveals that viewing adolescents' sexual behavior as addictive remains problematic, but it also suggests the importance of continued investigations given the developmental roots of sexual compulsions and their negative outcomes.

Introduction

One of the most hotly debated aspects of sexual behavior involves the psychological condition known as sexual addiction, a condition in which individuals struggle to manage, especially limit, their excessive sexual behavior. Some experts reject the concept, while others view it in terms other than addiction, such as sexual dependency, sexual compulsivity, and sexual impulsivity (see Kingston and Firestone 2008; Karila et al. 2014). Reviews, however, approach it more as an addiction (see Garcia and Thibaut 2010) and as a condition that may fit best under the broader rubric of hypersexual disorder (Kafka 2010). Although different terms may be used, researchers tend to view the construct as a pattern of sexual behavior that, although initially pleasurable, becomes unfulfilling, self-destructive, and difficult to control (see Sussman 2007). It is the loss of self-control that is of considerable significance and object of focus.

The loss of control is of significance for highlighting not just how the behaviors become compulsive but also how they relate to negative consequences. Those consequences include negative self-evaluations, a sense of desperation, lack of true intimacy, loneliness, and inability to concentrate on other matters that may be of great significance. In many ways, these outcomes eventually parallel those of other addictions in that sexual addictions may cause familial problems as well as lead to numerous outcomes linked to risk behavior, such as delinquency, sexually transmitted infections, pregnancies, and a variety of assaults.

Adolescent Sexual Addiction

Multiple reasons make the condition important to study as it relates to adolescents. Sexually compulsive behavior is important to investigate given its many potential negative aspects. It is also important given that the condition clearly has developmental roots and adolescents who do develop a sexual addiction may embark on a lifelong struggle, engage in risky behavior, and be at

risk for a host of negative outcomes. Yet, this condition remains difficult to study as it relates to adolescents.

The adolescent period challenges efforts to understand its relevance to sexual addiction. At its core, the period of adolescence means that adolescents are differently situated than adults and that they necessarily have different experiences. These experiences mean that sexual addiction likely differs between the two groups (see Sussman 2005, 2007). For example, because sexual behavior may interfere with development, it can sometimes be considered abnormal in adolescents. As a result, it may be difficult to define abnormal when it comes to adolescents because some may view any sexual activity as abnormal, while others may view adolescents as being sexually charged.

In addition to views of normality, adolescents' sexual behaviors (and the meaning attached to them) may be different enough from those of adults. For example, high-risk situations and contexts differ depending on an individual's development. Some adolescents may engage in high-risk behaviors and not feel responsible for another individual, and their specific risky behaviors may differ. Another key difference relates to the extent to which adolescents may experience a higher rate of comorbidity of sexual addiction, including substance use or mental health disorders. Also different is the greater tendency of adolescents not to seek treatment and the likelihood of experiencing relapse. Adolescents also are differently situated in law, which protects them in many ways when they engage in sexual activity (and also, in other ways, limits their sexual freedoms). Lastly, the adolescent period is highly sexually charged, with its being a time when sexual experimentation emerges and sexual risks increase (see Chen et al. 2010). Adolescent sexuality, then, poses important challenges to understanding sexual addiction simply because of the very nature of adolescence itself.

Empirical research seeking to explain this condition tends to be quite recent. It focuses on biological, psychological, and social risk factors that contribute to it (see Fong 2006), although there has been an increased interest in prevention as

well as different aspects of sexual addiction, such as cybersex (for a review, see Wéry and Billieux 2015) and Internet pornography (Owens et al. 2012). Despite important developments, research on sexual addictions still tends to be focused on adults. Unlike research on adults, studies of the etiology of sexual addiction as it relates to adolescents focus on sexual risk taking, and that area of study highlights many factors that may relate differently to adolescents' risk taking compared to adults' risk taking.

The range of areas of focus in studies of adolescents' sexual risk taking is quite broad. It includes some that view it as a problem syndrome, as an issue relating to cognitive development, and as a matter of familial, peer, and media influences. Some view sexual risk taking as clustering with other deviant behaviors, such as drug use and also mental health disorders (Chen et al. 2010). Cognitive immaturity also may play a role, especially as it relates to sexual actions and perceptions of trust, communication, and social expectations (see Stuart-Smith 1996; Marston and King 2006). Parental behaviors, such as risk taking, sexual attitudes, monitoring, and family conflict, also relate to adolescents' sexual activity (see Wilder and Watt 2002; Silver and Bauman 2006). Similarly, peers highly influence risky sexual behavior; especially influential are peers' levels of deviancy and violence (Silver and Bauman 2006; Wilder and Watt 2002; Valois et al. 1999). The media also introduces adolescents to sexualized images and has modeling effects on youth (Levesque 2007). The media also provides outlets for self-expressive sensation seeking (Martino et al. 2006; Ybarra and Mitchell 2005), including coerced sexual victimization (Ybarra et al. 2014) and previously unheard of behaviors like sexting (Cooper et al. 2016). Although much research exists on adolescents' sexual risk taking, that research, to a large extent, reveals that sexual behaviors tend to be normative and not necessarily linked closely enough to clinical manifestations of sexual behavior.

Given the challenges of focusing on adolescence as a period that can involve sexual behavior that could be deemed an addiction, it is not

surprising that researchers have not focused much on either creating or understanding prevention efforts, nor have they focused much on treatment. As with efforts to understand etiologies, prevention efforts relating to adolescent sexuality focus more on sexual risks (see, e.g., Dixon-Mueller 2009; Walcott et al. 2008). Prevention efforts focus on sexuality education and prevention relating to risk taking and sexual activity, and the methods for preventing sexual activity include individually based, school-based, group-based, case management, family-based, and community-based modalities. These varied approaches focus on a variety of ways to deliver the programs and on a variety of factors, such as psychoeducation and cognitive-behavioral training to address peer norms, motivations, and goals. Therapeutic work focusing on adolescents has tended to focus on offenders, although treatment modes recently have widened, as reflected in a similar growth in the field of treatments for youth with sexual behavior problems (see Price 2004; Gerber 2008). Still, therapeutic efforts tend to draw from conceptualizations developed for adults (for a review of adult approaches, see Miles et al. 2016), and even they remain limited partly because the condition has yet to be recognized as a disorder (see Rosenberget al. 2014). Prevention efforts also draw on more general efforts to reduce adolescents' sexual activity and sexual risk taking rather than on what would be deemed the type of problem sexual behavior that would be considered sexual addiction in adulthood.

Conclusion

There may be an increasing recognition that what some recognize as "sexual addiction" emerges during adolescence, but research has yet to focus more earnestly on the adolescent period. The current understanding of this condition as it relates to adolescents remains considerably underinvestigated, especially in comparison to important advances in the understanding of hypersexuality as it relates to adults (see Kafka 2010), which itself remains admittedly understudied (see

Karila et al. 2014). Efforts to further understand the developmental roots of phenomena like sexual addiction and its experience during the adolescent period are likely to remain stymied as sexual activity among adolescents tends already to be seen as problem behavior and adolescents occupy a peculiar place in families and society that makes judgments about excessive or otherwise difficult to control sexual activity problematic, even when immense interest in sexuality is normative during adolescence.

Cross-References

- ▶ [Addiction](#)
- ▶ [Compulsions](#)
- ▶ [Risk-Taking](#)

References

- Chen, A. C.-C., Thompson, E. A., & Morrison-Beedy, D. (2010). Multi-system influences on adolescent risky sexual behavior. *Research in Nursing & Health*, *33*, 512–527.
- Cooper, K., Quayle, E., Jonsson, L., & Svedin, C. G. (2016). Adolescents and self-taken sexual images: A review of the literature. *Computers in Human Behavior*, *55*, 706–716.
- Dixon-Mueller, R. (2009). Starting young: Sexual initiation and HIV prevention in early adolescence. *AIDS and Behavior*, *13*, 100–109.
- Fong, T. W. (2006). Understanding and managing compulsive sexual behaviors. *Psychiatry*, *3*, 51–57.
- Garcia, F. D., & Thibaut, F. (2010). Sexual addictions. *The American Journal of Drug and Alcohol Abuse*, *36*, 254–260.
- Gerber, J. (2008). Treatment of sexually compulsive adolescents. *Psychiatric Clinic of North America*, *31*, 657–669.
- Kafka, M. P. (2010). Hypersexual disorder: A proposed diagnosis for DSM-V. *Archives of Sexual Behavior*, *39*, 377–400.
- Karila, L., Wéry, A., Weinstein, A., Cottencin, O., Petit, A., Reynaud, M., & Billieux, J. (2014). Sexual addiction or hypersexual disorder: Different terms for the same problem? A review of the literature. *Current Pharmaceutical Design*, *20*, 4012–4020.
- Kingston, D. A., & Firestone, P. (2008). Problematic hypersexuality: A review of conceptualization and diagnosis. *Sexual Addiction and Compulsivity*, *15*, 284–310.
- Levesque, R. J. R. (2007). *Adolescence, media and the law*. New York: Oxford University Press.
- Marston, C., & King, E. (2006). Factors that shape young people's sexual behavior: A systematic review. *Lancet*, *368*, 1581–1586.
- Martino, S. C., Collins, R. L., Elliott, M. N., Strachman, A., Kanouse, D. E., & Berry, S. H. (2006). Exposure to degrading versus nondegrading music lyrics and sexual behavior among youth. *Pediatrics*, *118*, 430–441.
- Miles, L. A., Cooper, R. L., Nugent, W. R., & Ellis, R. A. (2016). Sexual addiction: A literature review of treatment interventions. *Journal of Human Behavior in the Social Environment*, *26*, 89–99.
- Owens, E. W., Behun, R. J., Manning, J. C., & Reid, R. C. (2012). The impact of Internet pornography on adolescents: A review of the research. *Sexual Addiction and Compulsivity*, *19*, 99–122.
- Price, D. (2004). Youth with problem sexual behaviors: Integrating diverse models of treatment. *Sexual Addiction and Compulsivity*, *11*, 183–186.
- Rosenberg, K. P., Carnes, P., & O'Connor, S. (2014). Evaluation and treatment of sex addiction. *Journal of Sex & Marital Therapy*, *40*(2), 77–91.
- Silver, E. J., & Bauman, L. J. (2006). The association of sexual experience with attitudes, beliefs, and risk behaviors of inner-city adolescents. *Journal of Research on Adolescence*, *16*, 29–45.
- Stuart-Smith, S. (1996). Teenage sex: Cognitive immaturity increases the risks. *British Medical Journal*, *312*, 390–391.
- Sussman, S. (2005). The relations of cigarette smoking with risky sexual behavior among teens. *Sexual Addiction and Compulsivity*, *12*, 181–199.
- Sussman, S. (2007). Sexual addiction among teens: A review. *Sexual Addiction and Compulsivity*, *14*, 257–278.
- Valois, R. F., Oeltmann, J. E., Waller, J., & Hussey, J. R. (1999). Relationship between number of sexual intercourse partners and selected health behaviors among public high school adolescents. *The Journal of Adolescent Health*, *25*, 328–353.
- Walcott, C. M., Meyers, A. B., & Landau, S. (2008). Adolescent sexual risk behaviors and school-based sexually transmitted infection/HIV prevention. *Psychology in the Schools*, *45*, 39–51.
- Wéry, A., & Billieux, J. (2015). Problematic cybersex: Conceptualization, assessment, and treatment. *Addictive Behaviors*. 10.1016/j.addbeh.2015.11.007. advanced online publication
- Wilder, W. I., & Watt, T. T. (2002). Risky parental behavior and adolescent sexual activity at first coitus. *The Milbank Quarterly: A Journal of Public Health and Health Care Policy*, *80*, 481–524.
- Ybarra, M. L., & Mitchell, K. J. (2005). Exposure to internet pornography among children and adolescents: A National survey. *Cyberpsychology & Behavior*, *8*, 473–486.
- Ybarra, M. L., Strasburger, V. C., & Mitchell, K. J. (2014). Sexual media exposure, sexual behavior, and sexual violence victimization in adolescence. *Clinical Pediatrics*, *53*, 1239–1247.

Sexual Debut

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Overview

The second decade of life involves rapid development of sexuality and the onset of sexual behavior for most adolescents living in the Western world. This essay begins by describing the most common theoretical and empirical orientations to research on adolescent sexual behavior. Following this, three primary topics are addressed by drawing from the past 40 years of research in psychology, public health, and related fields. These topics include describing age-related patterns of adolescent sexual behavior; summarizing what is known about how individual biology, perceptions, attitudes, and social relationships are associated with early, typical, or delayed onset of sexual behavior; and considering how adolescents must and sometimes do balance the risks and benefits of sexual behavior. Throughout these topics, the importance of nationality, race/ethnicity, and gender are acknowledged, and known demographic differences are highlighted.

Adolescent Sexual Behavior

Adolescence brings with it exposure to a range of life experiences that are likely to impact significantly upon sexual health (Brooks-Gunn and Paikoff 1997; Savin-Williams and Diamond 2004). Moreover, the second decade of life involves rapid development of many aspects of sexuality including ways of thinking about sexual preferences and desire, understanding of the self as a sexual being, and actual behaviors. In the teenage years, most adolescents in Western countries become sexually active. Although the broad definition of “sexually active” includes kissing, fondling, oral sex, and a multitude of other sexual

behaviors, the term is most often used to refer to vaginal intercourse. Hence, it is easy to locate information on adolescent sexual intercourse – we know a great deal about when it starts, who is involved, what are the correlates, and what changes might ensue after its occurrence. However, the research conducted to answer these questions far outweighs our understanding of other important topics, such as the meaning and context of adolescent sexual behavior, the development of an understanding of sexual desire, the capacity for autonomous sexual decision making, the meaning of sex within adolescents’ couple relationships, and the pros and cons of refraining from sexual intercourse until later in life.

Surveys that provide us with knowledge of who and how many are doing “it” are numerous. A quick search of one major source of research information, PsycInfo, yields over 600 studies published in just the past 2.5 years (January 2007 to July 2009). Many of these studies provide up-to-date age-, gender-, and racial/ethnic-specific rates of vaginal intercourse. Additionally, a new direction has been reporting rates of other sexual activities, such as oral sex.

To understand both the limits and the extent of knowledge on adolescent sexual behavior, it is useful to begin by considering the underlying purpose for conducting research in the area. The core concern is the promotion of the health and well-being of young people, but the perspectives that direct the particular focus within each study are more diverse and fall into four general categories. First, some researchers begin with a problem orientation and draw from multiple theories that point toward individual and social influences on multiple risky behaviors, including sexual intercourse, sexual partnering, inconsistent condom or contraceptive use, binge drinking, aggressive behavior, school nonattendance, and others. Such theories often focus on many levels of potential influence from individual characteristics to social institutions that might assist young people to reduce their risky behaviors by providing alternative interests and goals (e.g., school) or promoting social bonds (e.g., good family relationships, having peers that are not engaging in deviant behavior). Justification for referring to sexual

behavior as “risky” comes from research showing links between earlier onset of vaginal intercourse (or the accumulation of more partners or inconsistent condom use) and higher rates of unintended pregnancy, sexually transmitted infections, or mental health problems (e.g., depressive symptoms).

Second and very much related to the first perspective, another comes from prevention science or public and population health. In this area, there is a more explicit goal of understanding adolescent behavior to guide interventions that reduce risk – most importantly reducing unprotected sexual intercourse to impact on rates of pregnancy and sexually transmitted infections (STIs). For example, many researchers have the aim of understanding adolescent sexual planning and decision making in order to guide the development of better interventions to assist adolescents to delay sexual intercourse, improve condom use, or limit their number of sexual partners.

A third category of research places more emphasis on normal or typical developmental processes as part of the emergence of sexual behavior, as well as continuing to note the importance of individual dispositions and social environments in their initiation and development. In these investigations, researchers have emphasized the importance of biological unfolding in conjunction with family and/or peer influences. For example, young people who appear more physically mature seem to prompt certain responses from the social environment, resulting in increased opportunities for romantic and sexual involvement (Graber et al. 1998).

Fourth and finally, research has turned to considering adolescents’ emotions and cognitions relevant to sexual behavior. For example, Horne and Zimmer-Gembeck (2005, 2006) have examined sexual subjectivity, defined as sexual body-esteem, perceptions of entitlement to sexual desire and pleasure, and cognitions and emotional reactions to sexual experiences. Others have proposed definitions of positive sexuality that include learning about intimacy, learning about sexual roles and responsibilities, body self-esteem, understanding and adjustment to erotic feelings, and learning about societal standards or sexual

expression (Bukowski et al. 1993; Buzwell and Rosenthal 1996) and begun to empirically investigate these aspects of sexuality during adolescence and early adulthood.

Drawing from this extensive literature, three primary topics are addressed in this essay. First, age-related patterns of adolescent sexual behavior are described. Second, a summary is provided of what is known about how individual biology, perceptions, attitudes, and social relationships are associated with early, typical, or delayed onset of sexual behavior. These comments are primarily derived from research using prospective designs to better isolate the impact of earlier behaviors, attitudes, or other factors on the emergence of first sexual behavior. This summary also highlights how the development of sexual behavior may vary as a function of gender and race/ethnicity and notes some new and preliminary findings in this area. Third, sexual behavior is considered along with sexual self-perceptions and positive sexuality in order to draw attention to both the risks and benefits of sexual behavior.

Age-Related Patterns of Sexual Behavior and Progression of Sexual Activity

The majority of young people residing in the USA have first sexual intercourse before leaving secondary school, and this is similar, albeit a bit later, among adolescents in other Western countries. Overall, among adolescents in the USA, a first experience of vaginal intercourse is most common at ages 16 or 17 years; 50–70% of 16- and 17-year-olds report a history of vaginal intercourse, and 70–90% report first sexual intercourse by age 18. In a recent Canadian survey (Boyce et al. 2006), about 45% of boys and girls in grade 11 reported they had experienced vaginal intercourse, and these are similar to rates in Australia (Skinner et al. 2008) and other non-US Western countries. Hence, in the later teen years, sexual behavior is fairly widespread – even typical, but it is usually less prevalent than alcohol use.

It also is clear that rates of sexual behavior vary from study to study within a country, so that “typical” sexual behavior is difficult to pinpoint. For example, the percentage of US young people who initiate intercourse by the end of grade

8 ranges from as low as 10% to as high as almost 40%. It also is important to note how often young people have intercourse when active; one recent survey (Boyce et al. 2006) found that about 30% of grade 8 students and 15% of grade 11 students reported they had intercourse only one time, and another 30% in each grade group reported they only had intercourse a few times. Most report they had intercourse because they were in love, but a substantial minority (20%) of boys reported they were motivated by curiosity. In summary, there is variability in the timing, frequency, and motivation for sexual activity, but sexuality is important to most adolescents, even though individual trajectories of behavior may differ.

To add to this knowledge, studies of adolescent sexual-intercourse patterns conducted outside of Western countries have become more numerous in recent years, but continue to be quite sparse in number. Nevertheless, data are available and tend to show lower rates of sexual intercourse in the early and middle teen years (ages 13–18) compared with Western populations, with rates as low as 5% in some areas of China, for example (Zabin et al. 2009). In addition, because of the emphasis on vaginal intercourse, most studies have overlooked some of the sexual activity among the 1–15% of adolescents who report same-sex attraction.

Race/ethnicity and gender. The potential impact of race/ethnicity and gender has been taken seriously in the study of adolescent sexual behavior; most researchers recognize the importance of gender and race/ethnicity by examining boys and girls separately, limiting a study to racial/ethnic minority adolescents only, or examining patterns by racial/ethnic group. Although the sexual behavior gap between boys and girls is often perceived as closing, this conclusion is far from unanimous. Many studies still report that males have their first experiences of intercourse earlier than females. However, most importantly, when gender and race/ethnicity are jointly considered, there is ample evidence to conclude that gender differences are more often found when the proportion of non-Hispanic Black study participants is relatively higher, indicating that it is Black males who are reporting the earliest onset of

vaginal intercourse, but the gender gap is narrowing in other racial/ethnic groups.

Regarding racial/ethnic patterns of sexual intercourse, a recent review of the literature (Zimmer-Gembeck and Helfand 2008) concluded that, compared to white adolescents, non-Hispanic Black males, but not females, engage in first sexual intercourse at an earlier age, Asian American adolescents have first intercourse at a later age, and Hispanic and white adolescents are quite similar. For example, collating 10 years of longitudinal studies of US adolescents revealed that a non-Hispanic Black adolescent male was, on average, 2.8 times more likely to initiate first sexual intercourse early (before age 16) compared to white males. These differences are not explained by other demographic factors that differ between racial/ethnic groups, such as socioeconomic status or parental education. This earlier onset of first sex among African American boys seems associated with the greater increase in positive self-concept, which accompanies sexual behavior for them. Yet, this is also a risk as African Americans continue to be more likely to contract STIs and HIV.

Differences by racial/ethnic group among girls are not as striking. Black and white girls may not differ in their average age of first intercourse or rates of early onset, but there may be US regional differences. In particular, non-Hispanic Black girls residing in the southern parts of the US report earlier onset of sexual behavior compared to non-Hispanic white girls.

Sexual activity other than vaginal intercourse and historical changes. In recent years, there has been an increasing focus on understanding sexual activity other than vaginal intercourse and explaining progress from “lighter” to more intimate sexual behavior. In particular, studies show rates of oral sex among teenagers that mimic or are slightly higher than rates of vaginal intercourse (Lindberg et al. 2008). Some have questioned whether oral sex has been traded for vaginal sex in the name of engaging in safer sex. Although the debate continues, the evidence tends to support the view that oral sex is initiated close to the time of first vaginal intercourse and may not be any more prevalent today compared to in the

1970s or 1980s. Diverging from what is known about vaginal intercourse, however, oral sex is *more* prevalent among higher as compared to lower socioeconomic status groups.

Just as for oral sex, when rates of vaginal intercourse among adolescents are compared to rates in previous generations, the picture is quite positive. More adolescents living in Western countries are cautious about sex and delay first intercourse compared to adolescents growing up in the 1970s or 1980s. Even more positive, rates of having vaginal intercourse without contraceptive fall below 10% in almost all recent large-scale surveys. Adolescents also have more knowledge of and consistent use of condoms than they did in previous decades. What still concerns researchers, practitioners, and policymakers, however, is the higher than desired rates of unintended pregnancy especially in the US and New Zealand, the recent rise in rates of STIs, the belief that early onset of sexual behavior can be emotionally and/or socially detrimental in both the short and the long term, and the concern that sexual behavior will detract from the important educational and vocational goals of adolescents. Some of these concerns are founded in evidence that uncovers the many physical, emotional, social, and financial challenges of an unintended pregnancy, about 10% of adolescents report being pressured to have sex, up to 15% of young people (depending on the region of the US) have first vaginal intercourse before age 13, and there are physical, social, and emotional costs of infections.

Correlates of Adolescent Sexual Behavior

Sexual behavior in adolescence is linked to a complex set of biological, individual, psychological, socioemotional, attitudinal, and environmental phenomena. Fortunately, there have been four reviews published since 2000, which together summarize research since the 1970s (Buhl and Goodson 2007; Kirby 2002; Kotchick et al. 2001; Zimmer-Gembeck and Helfand 2008). Correlates of earlier onset of first vaginal intercourse, include greater accumulation of partners, and/or inconsistent contraceptive use include adolescents' physical development and status; problem behaviors such as aggression and alcohol use;

school-related behaviors, attitudes, and future aspirations; sex-related attitudes; religious behavior and attitudes; mental health, and family and peer factors. Adolescents who have earlier first vaginal intercourse or more sexual partners report that they experience puberty relatively earlier than their peers, are more aggressive and engage in more substance use, have lower school success and aspirations, have more positive attitudes towards sex, believe there are fewer costs to having sex, believe their peers engage in sexual behavior, are not as engaged in church attendance, have more depressive symptoms, have parents who are not as involved in monitoring their behavior, and have steady romantic partners. Many of these same factors are associated with accumulating more sexual partners during adolescence and inconsistent contraceptive use (e.g., see Zimmer-Gembeck and Collins 2008).

Making this even more complex, when recent longitudinal research is examined closely (Zimmer-Gembeck and Helfand 2008), three issues emerge. First, when studies are organized by age of the participants, the particular strength of associations between a range of variables and sexual behavior changes with stronger associations in studies of early onset of vaginal intercourse (e.g., before age 16) than in studies of sexual behavior between the ages of 16 and 18, and there are some unique correlates of delaying first sex until after age 18. Second, what accounts for sexual behavior at different ages can depend on racial/ethnic group, gender, or both in combination. Third, the factors associated with adolescent sexual behavior are intercorrelated, which suggests complex pathways to sexual intercourse, with some correlates better conceptualized as distal and other as proximal correlates.

Age. Although correlations are not always found in every gender and racial/ethnic group or in every study, problem behaviors and socioemotional problems, such as aggression, substance use, depressive symptoms, and lower school grades are correlated with earlier onset of first vaginal intercourse (before age 16), referred to as "early starters" here. In contrast, it is not as clear that adolescents who have first vaginal

intercourse a little later (ages 16–18), referred to as “middle starters,” show this same confluence of problems. Other research also shows that adolescents who are middle starters, compared to early starters, engage in less sexual risk behavior, including having a lower number of different sexual partners and being more likely to use condoms and other contraception consistently, when compared to those who have first sexual intercourse earlier (Siebenbruner et al. 2007). This does not mean that middle starters do not engage in some problems behaviors; they are more likely to report alcohol use than those who delay first sex until after age 18, but middle starters do not seem to have the same school performance problems or lowered educational aspirations that are found among adolescents who have first intercourse earlier. There is also some evidence of positive functioning among middle starters; these young people report more connections to school and have more positive relationships with their peers than those who had first sexual intercourse either earlier or later.

Early and middle starters have many things in common, as well. The common features of these two groups show that adolescent sexual behavior comes with or is part of multiple other developmental tasks of adolescence, such as developing close friendships outside the family, establishing romantic relationships, and developing the capacity for intimate relationships, and this seems to be the case regardless of whether sexual behavior is initiated in early or middle adolescence. In particular, when compared to those who delay first sexual intercourse until after age 18, early and middle starters can each be identified by their greater physical maturity, greater involvement in dating behavior, more permissive attitudes toward sexual behavior, and, when general (not domain specific) measures of self-esteem are used, similar levels of self-esteem. They also have elevated perceptions that their friends are having sex and are more supportive of this behavior, have a greater likelihood of living in families without two biological parents, and report being less monitored by their parents.

Two groups of adolescents who report vaginal intercourse before age 18. Multiple theories of the

development of adolescent behavior and the above summary of findings converge on the notion that there may be two groups of adolescents who are sexually active in the later teen years, which can be demarcated by some different developmental antecedents and correlates. This makes it likely that these two groups of sexually active adolescents may appear similar in adolescence, but they have experienced different combinations of individual and environmental experiences that partially account for or covary with their current sexual behaviors. One group includes teenagers with certain dispositional traits marked by unconventionality and lack of social bonds to family, school, or other social institutions. A second group includes teenagers who have certain biological characteristics (e.g., earlier maturation, particular hormonal levels or patterns), some problem behavior at a level that is more common during adolescence (e.g., experimentation with alcohol, other minor delinquent acts) and, because popularity with peers has been associated with earlier dating (Zimmer-Gembeck et al. 2004), peer group success.

One study supports this notion of two different developmental pathways to sexual behavior during adolescence (Siebenbruner et al. 2007). In this study, higher levels of and more significant deviant behaviors, as well as involvement in dating, marked a pathway to the most high-risk sexual behavior at age 16. The second pathway to sexual behavior in adolescence was more normative and included responsible, lower-risk sexual behavior during adolescence (i.e., limiting the number of sexual partners and using contraception consistently). Adolescents who were sexually active by age 16, but were more responsible than other sexually active youth, did not have negative family and school profiles prior to age 12. Yet, in early adolescence, these young people were relatively more physically mature looking and were more likely to become involved in steady dating relationships. These teenagers also engaged in other, milder problem behavior in adolescence (but not before), and did not engage in illicit drug use to the degree of high sexual risk-takers.

Delaying sexual behavior. The minority of US adolescents who delay sexual intercourse until

after age 18 may be best identified by other factors when compared to those that predict first sexual intercourse before age 18. Although few studies follow participants beyond age 18, Asian race/ethnicity, religion, family disapproval of sexual behavior, and social anxiety seem to play roles in delaying. In particular, Asian Americans (and adolescents in Asian countries) are much more likely to delay first vaginal intercourse until after age 18 than other racial/ethnic groups living in Western countries. In addition, regardless of racial/ethnic group, girls who delay express more commitment to religious beliefs, have a friendship group that has similar commitments, and have families who communicate clear disapproval of adolescent sexual behavior and values that do not support this behavior. Boys who delay the onset of sexual intercourse have some of these same characteristics, but also may be more socially anxious. Given the nature of adolescent dating interactions and dating gender roles, boys who are anxious or shy may be limited in their interactions with the other sex, dating and sexual behavior, and have restricted opportunities for these experiences, as well as being more isolated from social contagion by peers.

Delaying first sex can be challenging for adolescents. Those who delay report increasing pressure to have sex as they get older, and about 25% of 15- to 19-year-old virgins engage in oral but not vaginal sex. Adolescents who delay also report lower peer esteem in high school, but often maintain higher family and school esteem.

Race/ethnicity and gender as moderators. As described earlier, sexual behavior patterns do show some differences when racial/ethnic groups or males and females are compared. Taking this to another level of analysis, there is also evidence that the correlates of sexual behavior may differ between racial/ethnic or gender groups (i.e., be moderated by race/ethnicity or gender). In particular, family processes, school attitudes, religion, and parent education may be differently associated with sexual behavior depending on the racial/ethnic or gender group under consideration. Parenting practices, such as monitoring and involvement, are more important correlates of delaying sexual behavior for nonwhite, especially Black

and Hispanic, adolescents compared to white adolescents. School attitudes and educational aspirations are not associated with sexual behavior among males, especially Black males, but females who have first vaginal intercourse earlier report less positive attitudes toward school and have lower aspirations. Regarding religion and parent education, delaying sexual intercourse may be more closely linked to religious behavior and attitudes among nonwhite girls, but religion plays a weaker role among other girls and boys, and higher parent-education level accompanies greater delay in onset of sexual behavior among white girls but not among other girls and boys.

Distal and proximal correlates. The many correlates of adolescent sexual intercourse should be considered as sets of distal and more proximal correlates. For example, family status (e.g., 2-parents in the home, education of parents) and processes (e.g., parental warmth, involvement, monitoring, and neglect) are often correlated with adolescent sexual behavior, but these associations rarely emerge when dating behavior, deviant peers, or adolescent problem behavior are considered at the same time. This suggests that family factors are not unimportant to sexual behavior, but that family factors may be more distal correlates of sexual behavior via the influence of family status and processes on adolescents' peer relationships and individual behaviors and attitudes. Hence, families may influence sexual behavior via their influence on adolescents' involvement with their peers, their use of alcohol, their attitudes and perceptions of sexual behavior, and their socioemotional functioning. Similarly, early temperamental characteristics (such as sociability) and pubertal development are more distal correlates linked to sexual behavior via dating and other behaviors and attitudes (Zimmer-Gembeck et al. 2004).

Risks and Benefits of Sexual Behavior

Sexual and related intimate interactions can be some of the most important and rewarding experiences in life. As it is among adults, it is no secret that adolescents think about sex and/or intimacy frequently. Hormones contribute to adolescents' growing appreciation of both pleasure and risk

taking. Hence, it just makes sense that adolescents have desires and want to experience the benefits of sexual behavior, but they also need the time to develop the cognitive and emotional capacity to balance this against the risks. Such acknowledgment of the risks and the benefits of sexual behavior has sparked one recent major transition in the field of adolescent sexual behavior and sexuality involving a call to focus on the “broader landscape of adolescent sexuality in our culture” (Russell and Consolacion 2003, p. 499) and consider the complexities of adolescent sexuality (Diamond 2006). For example, researchers have conducted investigations of sexual attraction and behavior (Russell and Consolacion 2003), sexual self-perceptions and development (Horne and Zimmer-Gembeck 2005, 2006), and sexual desire (Tolman and Szalacha 1999). Horne and Zimmer-Gembeck (2005, 2006) examined the development of sexual subjectivity, defined as sexual body-esteem, perceptions of entitlement to sexual desire and pleasure, and the ability to engage in sexual self-reflection to benefit from experience. Others have proposed definitions of positive sexuality that include learning about intimacy, learning about sexual roles and responsibilities, body self-esteem, understanding and adjustment to erotic feelings, and learning about societal standards or sexual expression (Bukowski et al. 1993; Buzwell and Rosenthal 1996), and begun to empirically investigate these aspects of sexuality during adolescence and early adulthood. Such studies and others (Brady and Halpern-Felsher 2008; Skinner et al. 2008) show that sexual behavior *and* increasing maturity accompanies improvements in adolescents ability to reflect on their capacity to make autonomous decisions about abstaining or not abstaining from future sexual behavior, helps them to be more selective about and feel more control over their behaviors, and assists them to feel more positive about their own sexual feelings and desires.

Conclusion

Adolescence is a period of new experiences and significant change and acquisition of skills.

Sexual behavior is one of these new experiences that can contribute to development of the capacity for intimacy, care for another, empathy, and autonomous decision making. It involves a complex interplay of individual biological, emotional, cognitive, and behavioral factors combined with the many levels of social forces that are important during this particular phase of life. As with much of the study of adolescent behavior, mapping the rates of behavior and focusing on risks and problems have received the most attention, and it is known that sexual behavior is not without risks especially when it starts too early or is accompanied by lack of control, choice, and pressure. However, sexuality includes a complicated set of behaviors, emotions, cognitions, and actions that overlap with the other major developmental tasks of adolescence. It can be a place where intimacy, identity, and autonomy converge. Hence, sexual behavior can provide a context where adolescents and emerging adults test their capacities, identify their beliefs, and come to understand their values. Balancing the benefits of such experiences, while reducing the risk, is the challenge that often begins in adolescence and requires support across multiple societal levels – from the family and schools all the way up to the community and broad policies related to sexual behavior and health.

Cross-References

- ▶ [Kissing](#)
- ▶ [Sexual Trajectories](#)
- ▶ [Virginity Loss](#)

References

- Boyce, W., Doherty-Poirier, M., MacKinnon, D., Fortin, C., Saab, H., King, M., & Gallupe, O. (2006). Sexual health of Canadian youth: Findings from the Canadian Youth, Sexual Health and HIV-AIDS Study. *The Canadian Journal of Human Sexuality, 15*, 59–68.
- Brady, S. S., & Halpern-Felsher, B. L. (2008). Social and emotional consequences of refraining from sexual activity among sexually experienced and inexperienced youths in California. *American Journal of Public Health, 98*, 162–168.

- Brooks-Gunn, J., & Paikoff, R. (1997). Sexuality and developmental transitions during adolescence. In J. Schulenberg, J. L. Maggs, & K. Hurrelmann (Eds.), *Health risks and developmental transitions during adolescence* (pp. 190–219). Cambridge, MA: Cambridge University Press.
- Buhl, E. R., & Goodson, P. (2007). Predictors of adolescent sexual behavior and intention: A theory-guided systematic review. *The Journal of Adolescent Health, 40*, 4–21.
- Bukowski, W. M., Sippola, L., & Brender, W. (1993). Where does sexuality come from?: Normative sexuality from a developmental perspective. In S. M. Hudson (Ed.), *The juvenile sex offender* (pp. 84–103). New York: The Guilford Press.
- Buzwell, S., & Rosenthal, D. A. (1996). Constructing a sexual self: Adolescents' sexual self-perceptions and sexual risk-taking. *Journal of Research on Adolescence, 6*, 489–513.
- Diamond, L. M. (2006). Introduction: In search of good sexual-developmental pathways for adolescent girls. In: *New directions in child and adolescent development: Rethinking positive adolescent female sexual development* (No. 112, pp. 1–7). San Francisco: Jossey-Bass.
- Graber, J. A., Brooks-Gunn, J., & Galen, B. R. (1998). Betwixt and between: Sexuality in the context of adolescent transitions. In R. Jessor (Ed.), *New perspectives on adolescent risk behavior* (pp. 270–316). New York: Cambridge University Press.
- Horne, S., & Zimmer-Gembeck, M. J. (2005). Female sexual subjectivity and well-being: Comparing late adolescents with different sexual experiences. *Sexuality Research and Social Policy, 2*, 25–40.
- Horne, S., & Zimmer-Gembeck, M. J. (2006). The female sexual subjectivity inventory: Development and validation of an instrument for late adolescents and emerging adults. *Psychology of Women Quarterly, 30*, 125–138.
- Kirby, D. (2002). Antecedents of adolescent initiation of sex, contraceptive use, and pregnancy. *American Journal of Health Behavior, 26*, 473–485.
- Kotchick, B. A., Shaffer, A., Forehand, R., & Miller, K. S. (2001). Adolescent sexual risk behavior: A multi-system perspective. *Clinical Psychology Review, 21*, 493–519.
- Lindberg, L. D., Jones, R., & Santelli, J. S. (2008). Non-coital sexual activities among adolescents. *The Journal of Adolescent Health, 43*, 231–238.
- Russell, S. T., & Consolacion, T. B. (2003). Adolescent romance and emotional health in the United States: Beyond binaries. *Journal of Clinical Child and Adolescent Psychology, 32*, 499–508.
- Savin-Williams, R. C., & Diamond, L. M. (2004). Sex. In L. Steinberg (Ed.), *Handbook of adolescent psychology* (pp. 189–225). Hoboken: Wiley.
- Siebenbruner, J., Zimmer-Gembeck, M. J., & Egeland, B. (2007). Sexual partners and contraceptive use: A 16-year prospective study predicting abstinence and risk behavior. *Journal of Research on Adolescence, 17*, 179–206.
- Skinner, S. R., Smith, J., Fenwick, J., Fyfe, S., & Hendriks, J. (2008). Perceptions and experiences of first sexual intercourse in Australian adolescent females. *The Journal of Adolescent Health, 43*, 593–599.
- Tolman, D. L., & Szalacha, L. A. (1999). Dimensions of desire: Bridging qualitative and quantitative methods in a study of female adolescent sexuality. *Psychology of Women Quarterly, 23*, 7–39.
- Zabin, L. S., Emerson, M. R., Chahua, L., Ersheng, G., Minh, N. H., Chuang, Y., Hurng, B. S., Bishai, D., & Blum, R. W. (2009). Levels of change in adolescent sexual behavior in three Asian cities. *Studies in Family Planning, 40*, 1–12.
- Zimmer-Gembeck, M. J., & Collins, W. A. (2008). Biological sex, appearance, alcohol use and dating as correlates of sexual partner accumulation from ages 16 to 26. *The Journal of Adolescent Health, 42*, 564–572.
- Zimmer-Gembeck, M. J., & Helfand, M. (2008). Ten years of longitudinal research on U.S. adolescent sexual behavior: The evidence for multiple pathways to sexual intercourse, and the importance of age, gender and ethnic background. *Developmental Review, 28*, 153–224.
- Zimmer-Gembeck, M. J., Siebenbruner, J., & Collins, W. A. (2004). A prospective study of intraindividual and peer influences on adolescents' heterosexual romantic and sexual behavior. *Archives of Sexual Behavior, 33*, 381–394.

Sexual Expression Rights

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Adolescent sexuality contributes to one of the most contentious areas of jurisprudence seeking to address concerns about adolescents' inappropriate expressions. As with other areas of adolescents' rights, this area involves considerable limits and those limits take different forms depending on contextual differences. The different contexts in which expressions are made – such as public expressions and expressions made in custodial contexts (namely, educational institutions) – lead to different analyses but they reveal strikingly similar outcomes in the manner the legal system regulates expressions. Indeed, this area of law tends to treat adolescents as de facto children, an approach that grants adults considerable control over adolescents' sexual expressions.

One of the most important limits on adolescents' sexual expression comes in the form of limits placed on child pornography. Child pornography receives little First Amendment protection, which means that states can use its laws to prohibit or otherwise curtail it. The leading case in this area is *New York v. Ferber* (1982). Ferber was the owner of an adult bookstore in Manhattan and had sold to an undercover police officer two films depicting boys masturbating. Ferber was charged with violating a New York law that forbade the sale of any performance depicting sexual conduct of children under the age of 16. That case is known for permitting the regulation of child pornography. The Court already had ruled, in *Miller v. California* (1973), that materials deemed obscene can be regulated and that "obscene" meant that, taken as a whole and applying contemporary community standards, the materials lack serious scientific, literary, artistic, or political value, are patently offensive, and aimed at prurient interests. The Supreme Court in *Ferber* found that child pornography, however, may be banned without first being deemed obscene under *Miller*. The Court offered several reasons for deeming child pornography obscene: The prevention of child sexual exploitation was a very compelling state interest; the distribution of child pornography related to sexual abuse; selling child pornography serves as incentive to produce it, and thus exploit children; and the artistic value of visual depictions of children was negligible, and negligible artistic value. *Ferber*, then, stands for the now well-accepted position that states may curb the creation and distribution of images of youth.

In addition to allowing the prohibition of child pornography, however, the case incidentally involved the rights of minors to express their sexuality. *Ferber* also stands for adolescents' limited rights in that they may not be obscene and may not be involved in expressions that would be deemed indecent if they were adults. *Ferber* had held not only that society may limit materials harmful to minors but also that society must limit materials derived from minors. Indeed, it was the involvement of minors in the production of the materials that provided the Court with its strongest rationale for limiting the expression.

This view was again affirmed in the Court's rejection of a federal law banning "virtual" child pornography (adults depicted as children) (*Ashcroft v. Free Speech Coalition*, 2002). These cases reiterate that offending speech can be limited if it involves the expressions of minors.

In addition to cases allowing censorship of adolescents' expressions deemed obscene because adolescents rather than adults express them, important cases address adolescents expressing sexual language that some may deem to be inappropriate and thus subject to censorship. The two leading cases in this area involve public schools. In the first case, *Bethel School District No. 403 v. Fraser* (1986), Matthew Fraser, a high school honor student, delivered a nominating speech on behalf of a classmate at a school-sponsored assembly. To communicate the qualities of his candidate, Fraser used crude, if humorous, sexual innuendos. School officials found his use of language unacceptable and, following school policy that prohibited the use of obscene, profane language or gestures, suspended him for a few days and kept him from speaking at his graduation as scheduled. The Supreme Court ruled that the First Amendment did not protect students' use of vulgar and offensive language in public discourse. The Court upheld the punishment and emphasized the need for judicial deference to educational institutions given their importance in inculcating manners of civility. The Court deferred to the school authorities' conclusory determination that Fraser's speech seriously disrupted the school's educational activities and that schools may suppress speech that does not directly inculcate such lessons. The *Fraser* case embraced the need for judicial deference to the authority and expertise of school officials and made it permissible for adults' opinions, rather than those of students, to control whether students may express themselves in these contexts.

The second leading case in this area, *Hazelwood School District v. Kuhlmeier* (1988), involved the extent to which school officials could exercise control over the content of an official high school newspaper produced as part of a school journalism class. Following the accepted practice in the Hazelwood School District, the

journalism teacher submitted printer proofs of the forthcoming edition of the school newspaper to the principal for review prior to publication. Without providing the student writers with any notice or opportunity to respond, the principal directed deletion of two articles (one dealing with teen pregnancy and another with teen experiences with parental divorce) from the newspaper because they were deemed inappropriate, personal, sensitive, and unsuitable. In finding for the school, the Court created a distinction between school-sponsored and incidental expression, and held that a school may regulate speech which a reasonable person would deem to be school sponsored. The Court granted school officials sweeping authority to censor expression in school-sponsored activities. The Court did so by extending *Fraser's* deference to school authorities' regulation of student speech by making a distinction between tolerating and promoting student speech. According to the Court, the First Amendment requires schools to tolerate personal student speech that happens to occur on the school premises but is unrelated to the curriculum. On the other hand, if student speech activity is curriculum related, it might be perceived by students, staff, and outsiders as having the school's sanction. As a consequence, schools have the authority to regulate (or even prohibit) such speech.

The Supreme Court permits considerable limitations of minors' expressions relating to sexual activity and sexuality. The Court broadly prohibits child pornography, which limits visual, sexual depictions involving minors. When minors express sexuality verbally, they also can be quite limited if they express in the contexts in which they most likely find themselves: homes or schools. The Court's approach stresses the doctrine of *parens patriae*, deference to school officials, and minimal constitutional protection for student speech made in contexts that can be construed as within a school's educational mission. Adolescents essentially possess the same minimal rights in schools as they do in their own homes; adults determine the limits of adolescents' expressions. These limitations are of growing significance

given the increasing extent to which adolescents' actions conducted off school grounds can be limited by school officials (see *Morse v. Frederick* 2007), a limitation similar to the broad powers parents have to limit what their children can do or say.

References

- Ashcroft v. Free Speech Coalition*, 535 U.S. 234 (2002).
Bethel School District No. 403 v. Fraser, 478 U.S. 675 (1986).
Hazelwood School District v. Kuhlmeier, 484 U.S. 260 (1988).
Miller v. California, 413 U.S. 15 (1973).
Morse v. Frederick, 551 U.S. 393 (2007).
New York v. Ferber, 458 U.S. 747 (1982).

Sexual Harassment

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Overview

Although sexual harassment is commonly considered a problem plaguing women in the workplace, sexual harassment is actually much more common among adolescent peers (AAUW 2011). Research indicates that peer sexual harassment is pervasive and problematic around the globe including in the United States, Canada, Sweden, South Africa, Israel, Taiwan, and Brazil among others (AAUW 2011; Attar-Schwartz 2009; DeSouza and Ribeiro 2005; Fineran et al. 2003; Pepler et al. 2006; Hei and Chen 2012; Witkowska and Kjellberg 2005). Much of this research indicates that peer sexual harassment is associated with negative consequences for teens such as depression, anxiety, lower school performance, and body image disturbances (Duffy et al. 2004; Lindberg et al. 2007; Nadeem and Graham 2005; Petersen and Hyde 2013). Therefore, it is imperative for researchers to examine the nature of peer sexual harassment and reduce victimization rates to improve the quality of life for adolescents worldwide. This

entry explores the research on peer sexual harassment in adolescence.

Introduction

In their pathbreaking study, the American Association of University Women (AAUW) defined peer sexual harassment victimization in school as any “unwanted sexual behavior that takes place in person or electronically” (AAUW 2011). They identified ten different behaviors that constitute peer sexual harassment victimization, which include both in-person and electronic sexual behaviors such as being called gay or lesbian in a negative way and being physically intimidated in a sexual way. According to this definition, 48% of students between grades 7 and 12 have experienced some form of peer sexual harassment in the past year. When a longer period of time is examined, over 80% of students reported some form of peer sexual harassment in their school lives (AAUW 2001). The most common sexually harassing behavior is being the victim of unwanted sexual comments, jokes, or gestures (AAUW 2011; Petersen and Hyde 2009). The least common behavior was being forced to do something sexual (AAUW 2011). In-person sexual harassment was more prevalent than electronic sexual harassment.

The most recent AAUW study (2011) indicated that girls were more likely to be the victims of peer sexual harassment than boys were, with girls twice as likely (44% girls to 22% boys) to be the victim of unwanted sexual comments, jokes, or gesture. Gender differences also emerge when a distinction is made between same-gender and cross-gender harassment (Craig et al. 2001; McMasters et al. 2002; Petersen and Hyde 2009). Studies indicate that there is no gender difference in victimization incidence for cross-gender harassment; that is, girls are just as likely to harass boys as boys are to harass girls. However, boys are more likely to harass other boys than girls are to harass other girls (Craig et al. 2001; McMasters et al. 2002; Pelligrini 2002; Petersen and Hyde 2009). This finding indicates that same-gender and cross-

gender sexual harassment victimization are distinct from one another and should be studied as separate phenomena.

Girls are more likely than boys to say that they have been negatively affected by sexual harassment (AAUW 2011). A meta-analytic review of research on gender differences in perceptions of sexual harassment indicated that girls and women considered a larger range of sexual behaviors to be upsetting than boys and men did ($d = 0.30$, Rotundo et al. 2001). For both adults and adolescents, this gender difference was even larger when the perpetrator was the victim’s peer ($d = 0.43$). Sexual harassment perpetrated by peers is often more ambiguous than harassment perpetrated by someone with more power such as in workplace harassment or harassment by teachers because interactions are more casual and may include discussions about sexuality that are not harassing. When harassment is ambiguous, such as peer sexual harassment victimization, girls were more likely than boys to interpret the behavior as harassing (Rotundo et al. 2001).

Issues of strength and power likely contribute to gender differences in perceptions of sexual harassment. Late adolescent boys are, on average, physically stronger and larger than girls are (Marshall and Tanner 1969, 1970), and regardless of their size, boys typically report more interpersonal power than girls do (Sheets and Braver 1999). Therefore, girls are likely to be more fearful of harassment because boys are stronger and more powerful. For example, boys may feel flattered by sexually harassing behaviors, particularly when perpetrated by girls (AAUW 2001; Duffy et al. 2004). In contrast, girls are more likely than boys to be fearful or feel dirty as a consequence of peer sexual harassment (AAUW 2001; Duffy et al. 2004). In fact, one study found that sexual harassment perpetrated by boys was more upsetting than sexual harassment perpetrated by girls, regardless of the gender of the victim (McMasters et al. 2002). In addition, girls are more commonly victims of rape and sexual assault than boys are (Anderson 2007). Therefore it is not surprising that peer sexual harassment is particularly upsetting for girls.

Developmental Patterns

Students report sexual harassment victimization at a very early age, with 38% of high school students reporting that they were sexually harassed before sixth grade (AAUW 2001). Alarming, victimization increases throughout middle school and into high school and then drops off again in college (Craig et al. 2001; Goldstein et al. 2007; McMasters et al. 2002; Petersen and Hyde 2009, 2013). The explanations for this developmental pattern in peer sexual harassment victimization are reviewed here.

As adolescents begin to experience the changes of pubertal development, they have an increased interest in sexuality. Because youth have little experience expressing sexual attraction, they may do so in inappropriate ways (Petersen and Hyde 2009, 2013). Sexual teasing in the form of peer sexual harassment may allow youth to express their romantic attraction without the risk of being rejected. Therefore, sexual harassment, particularly cross-gender harassment, may increase through early adolescence as youth experiment with ways of expressing attraction. As they become more experienced, most teens develop more mature ways of expressing attraction that does not include sexual harassment (Petersen and Hyde 2009).

This increase in victimization across adolescence may also be a product of changes in peer relationships during the transition from grade school to middle school and from middle school to high school. Changes in peer social structure often accompany these transitions as youth establish power hierarchies among unfamiliar peers in their new schools (Pelligrini 2001). Friendship hierarchies become increasingly important from early to middle adolescence, and youth may use peer victimization to establish dominance (Pelligrini and Long 2002). Peer sexual harassment may increase as adolescents express dominance over their peers in an attempt to develop a hierarchy in their social relationships.

Victims of Peer Sexual Harassment

It is important to identify adolescents who are often targets of sexual harassment so that these

victims may be protected from future harassment. Therefore, much research has focused on the predictors of sexual harassment victimization. Research and theory suggest that pubertal status, perceived power, school climate, and peer groups are predictors of peer sexual harassment victimization.

Youth with more advanced pubertal status are more likely than their less advanced peers to be victims of peer sexual harassment (Craig et al. 2001; Goldstein et al. 2007; McMasters et al. 2002; Petersen and Hyde 2009). As adolescents enter puberty and develop secondary sex characteristics such as larger breasts and wide hips in girls and wide shoulders and height in boys, their peers may respond with sexual interest. These secondary sex characteristics might signal to teens that these adolescents are sexually ready and thus peers may tease them with sexual harassment.

Although multiple studies document a correlation between pubertal status and peer sexual harassment victimization (Craig et al. 2001; Nadeem and Graham 2005; McMasters et al. 2002; Petersen and Hyde 2009), it is not clear whether the association applies across gender and harassment type. For example, some studies have found that girls, but not boys, with advanced pubertal status were more likely to be victims of sexual harassment than their less advanced peers (Goldstein et al. 2007; Stattin and Magnusson 1990), whereas others found the correlation for both genders (Craig et al. 2001; McMasters et al. 2002). The results of studies that distinguished between same-gender and cross-gender harassment have not been consistent. One study found that youth with advanced pubertal status were more likely to be victims of cross-gender harassment, but not same-gender harassment (McMasters et al. 2002), whereas another found the correlation for both same- and cross-gender harassment (Craig et al. 2001); a third study found a relationship between advanced pubertal development and same-gender harassment, but not cross-gender harassment (Petersen and Hyde 2009). Although more research must be done to determine the relationship between advanced pubertal status and different types of

harassment, it is clear that youth with advanced pubertal status are more commonly victims of sexual harassment than their peers are.

There are multiple possible explanations for why adolescents may target physically advanced peers for sexual harassment. First, Craig and colleagues (2001) proposed that youth with advanced pubertal status are more conspicuous than their less advanced peers, and therefore, they may receive more attention from their peers through sexual harassment. Second, youth who are advanced in development may surround themselves with an older or more deviant peer group who may find more situations to be sexual and express their sexuality by harassing their younger associates (Magnusson et al. 1985; Goldstein et al. 2007). Third, youth with advanced pubertal status are more commonly perpetrators of peer harassment (Schreck et al. 2007). Adolescents who are perpetrators may be more likely to be victims of harassment than their peers (AAUW 2001; Fineran and Bennett 1999; McMasters et al. 2002).

Bullying and other forms of victimization often target low-power youth. The perpetrator is motivated to gain social status and express dominance over the victim (Cillessen and Rose 2005; Pelligrini and Long 2002). For example, children who are low in power are more likely to be bullied than their high-power peers (Coleman and Byrd 2003). However, in contrast to research on other forms of victimization, research on sexual harassment has found that youth with *high* perceived power were more likely to be victims of harassment than youth with *low* power (Petersen and Hyde 2009). In fact, youth with high perceived power at all grades were more likely to be victims of ninth grade cross-gender harassment than their peers (Petersen and Hyde 2009). Powerful adolescents have increased influence among their peers and thus are likely objects of romantic interest. Adolescents might use sexually harassing behaviors to gain the attention of their powerful, cross-gender peers. For example, powerful youth may be told a sexual joke or left sexual messages intended to attract romantic attention rather than cause emotional distress. An interaction of power and gender in ninth grade indicated that girls in

particular may be more likely to harass their powerful male peers than less powerful boys. Girls are attracted to powerful boys who gain status through aggression and dominance (Bukowski et al. 2000; Pelligrini and Bartini 2001). Therefore, cross-gender harassment may be bidirectional. Boys who sexually harass girls may be harassed in return by girls who find this dominance attractive. Other research, which indicates that perpetrators are often also victims, supports this bidirectional effect (AAUW 2001; Fineran and Bennett 1999; McMasters et al. 2002).

Both male and female teachers report that they disapprove of peer sexual harassment (Stone and Couch 2004). Teachers report that they almost always notice peer sexual harassment, intervene as soon as they are able, and punish perpetrators (Stone and Couch 2004). However, other research suggests that these teacher reports may be inaccurate, perhaps because teachers do not notice many incidences of harassment (Hand and Sanchez 2000). The majority of students reported that teachers did not intervene to stop peer sexual harassment even though the majority of harassment occurs in public places such as school hallways and in classrooms (AAUW 2001).

Only 9% of students report peer sexual harassment to their teachers (AAUW 2011). Girls were slightly more likely to report harassment than boys were (12% versus 5%). Girls who report that their schools have a tolerant attitude toward sexual harassment, where perpetrators are rarely punished and sexual harassment goes largely unnoticed, are not only more likely to experience sexual harassment but are also more likely to report negative consequences as a result (Ormerod et al. 2008).

Peers become increasingly important to youth as they enter adolescence. Although adolescents benefit socially from a strong group of friends, deviant peer groups may lead to aggressive behavior such as sexual harassment. Teens are more likely to be harassed by their friends or acquaintances than by a stranger or dating partner (Fineran and Bennett 1999). Therefore, adolescents who spend time with aggressive friends or older friends are more likely to be harassed than their peers (Magnusson et al. 1985; Goldstein

et al. 2007). These peer groups may use sexual harassment to form a dominance hierarchy, or they may just consider sexual harassment a part of teen culture.

In contrast, other research indicates that a positive peer group may buffer the effects of peer sexual harassment. For example, sexual minorities who are victims of peer sexual harassment are less likely to report depression and externalizing symptoms if they have supportive friends (Williams et al. 2005). Therefore, although a deviant peer group might increase sexual harassment victimization, a supportive peer group may buffer against the negative consequences of sexual harassment.

Perpetrators of Peer Sexual Harassment

Much less is known about the perpetrators of peer sexual harassment than about the victims. One study indicated that the majority of boys (66%) and girls (57%) admitted that they had sexually harassed someone in their school at least once (AAUW 2001). Boys are more likely than girls to be the perpetrators of sexual harassment (AAUW 2001; Marshall and Saewyc 2012; McMasters et al. 2002; Petersen and Hyde 2009). Eighty-six percent of girl victims report that sexual harassment was perpetrated by a boy acting alone and 57% report that they were victimized by a group of boys (AAUW 2001). Only 10% of girls report harassment perpetrated by a single girl, and 3% report harassment from a group of girls (AAUW 2001).

Some research suggests that perpetrators of sexual harassment may not know that their actions are inappropriate. According to one study, 25% of perpetrators thought the victim would like the behavior, and an additional 20% of youth said they did it to get a date with the victim (AAUW 2001). Additional research suggests that boys in particular may perpetrate verbal sexual harassment because of sexual motivations such as desire for intimacy (Marshall and Saewyc 2012). Social skills training may help these perpetrators to identify appropriate ways of flirting and showing romantic interest in a way that is not offensive or unwanted.

As noted earlier, perpetrators of peer sexual harassment are also likely to be victims of harassment. Of the teens who admitted sexual harassment in the AAUW study (2001), 94% said that they had also been victims of sexual harassment. Perhaps adolescents use sexual harassment as a defense against further sexual harassment, or perhaps the dynamics of some peer groups are such that sexual harassment is so prevalent that teens are both perpetrators and victims.

Since very little research has been done to identify the perpetrators of peer harassment, researchers may look to studies on workplace sexual harassment in adulthood to determine variables that may be associated with perpetrator frequency. Research on workplace harassment suggests that endorsement of traditional gender-role values is related to the likelihood to sexually harass (Pryor 1987). Perhaps boys who hold traditional gender-role beliefs in high school are more likely than their egalitarian peers to sexually harass girls (Fineran and Bennett 1999).

Some researchers suggest that the media is at fault for peer sexual harassment perpetration (e.g., Brown and L'Engle 2009; Montemurro 2003). One content analysis reported that many television programs portray sexually harassing behaviors in a positive light, trivializing it with humor (Montemurro 2003). This portrayal of sexual harassment in the media may lead adolescents to think that sexual harassment is typical and harmless. For example, one study found that boys, but not girls, who reported watching 3 or more hours of television per day had more accepting attitudes toward sexual harassment than boys who watched fewer than 3 h of television each day (Strouse et al. 1994). This research suggests that reducing adolescents' exposure to sexualized media may help reduce sexual harassment victimization in schools.

Consequences of Peer Sexual Harassment

Research indicates that reactions to peer sexual harassment victimization vary greatly and range from feeling flattered to feeling symptoms similar

to post-traumatic stress disorder (Duffy et al. 2004). Although peer sexual harassment is most likely to cause negative consequences when the harassment occurs repeatedly, a single incidence of peer harassment may cause significant distress for the victim (Duffy et al. 2004). Negative consequences of sexual harassment may be classified into educational consequence, psychological consequences, and body esteem concerns.

Teens who are victims of frequent or intense sexual harassment are often unwilling to face their harasser at school. They are more likely than youth who are not harassed to report not wanting to go to school, cutting class, and think about changing schools (AAUW 2011). Persistent and intense sexual harassment also affects teens' ability to concentrate at school, probably because victims are worried about their next encounter with their harasser. Adolescents who are sexually harassed report not talking as much in class, making lower grades on school assignments, finding it hard to study, and even doubting whether they will be able to graduate (AAUW 2001, 2011; Duffy et al. 2004). In particular, being the victim of sexual rumors, sexual jokes, comments, gestures, and looks or sexual pictures, messages, or notes increases negative educational consequences (Duffy et al. 2004). Reducing the rates of sexual harassment, particularly for girls, may increase students' academic performance in addition to increasing psychological well-being.

A broad range of psychological consequences are correlated with sexual harassment victimization. These consequences typically include internalizing behaviors such as depression, anxiety, low self-esteem, and body dissatisfaction. Research suggests that youth who are victims of sexual harassment are more likely than their non-harassed peers to report symptoms of depression such as depressed mood, reduced appetite, loss of interest and pleasure, and sleep disturbances (Nadeem and Graham 2005). Peer sexual harassment may also increase anxiety for adolescent victims. For example, victims of sexual harassment may report symptoms similar to post-traumatic stress disorder such as reexperiencing the event and purposefully avoiding situations and people who remind them

of the event (Murdoch et al. 2006). Adolescents who are victims of peer sexual harassment also report a lower sense of global self worth than those who are not victimized (Nadeem and Graham 2005). Even children as young as third, fourth, and fifth grade who reported being victims of sexual harassment reported lower levels of self-esteem than their non-harassed peers (Murnen and Smolak 2000).

Peer sexual harassment focuses negative attention on the victim's body, which may decrease body esteem. Youth, particularly girls, who report peer sexual harassment victimization are more likely to want an ideal body and feel shame for their own body than their peers are (Lindberg et al. 2007). Even elementary school girls who have been sexually harassed report lower body esteem than their non-harassed peers (Murnen and Smolak 2000). As girls develop a decreased sense of body esteem, they are likely to try to alter their body shape by engaging in disordered eating behaviors such as bulimia and anorexia nervosa. Petersen and Hyde (2013) found that peer sexual harassment was related to disordered eating behaviors as moderated by self-surveillance of body image. Girls, in particular, reported more upsetting sexual harassment, more self-surveillance, and therefore more disordered eating behaviors than boys did.

Intervention Programs

Intervention programs for peer sexual harassment in the schools are in their infancy and long-term results are not yet available. However, intervention programs for peer sexual harassment may benefit from knowledge about successful interventions to reduce bullying and other forms of victimization. Intervention programs for bullying have had mixed results. Although some programs have been very successful in reducing bullying (Olweus 1993), others have not been successful and may have actually increased the rates of bullying (Roland 2000). A meta-analysis of 16 intervention programs concluded that the majority of intervention program had no effect (Merrell et al. 2008). The key to a successful program

seems to be a “whole school” approach (Olweus 1993). This approach includes educational materials and interventions with teachers, school principals, bullies, victims, and parents to teach social skills, appropriate behavior for peer interactions and anger expression, warning signs for identifying bullies and victims, and how to identify the consequences of bullying. The whole school approach involves follow-up sessions and assessment of procedures throughout the intervention. Interventions that pass out materials to teachers or school principals and do not follow-up with them are not likely to significantly reduce bullying (Roland 2000).

The Expect Respect program was an intervention program designed to reduce the rates of bullying and sexual harassment among fifth graders in six elementary schools (Meraviglia et al. 2003). This program used the whole school approach and included education for students, teachers, school administrators, and parents to recognize bullying and sexual harassment, minimize its occurrence, and help the victims cope. When compared with control schools, schools in the intervention program were better able to recognize sexual harassment after the intervention, but were not better at recognizing bullying. This indicates that intervention programs for sexual harassment might be even more effective than bullying interventions. Future research should examine whether interventions such as these can reduce the prevalence of sexual harassment in the schools.

One intervention created a women’s study course designed to increase high school girls’ locus of control with the hope that these young women would have an increased feeling of control and report sexual harassment when it occurred (Martin 2008). Following the intervention, girls reported more incidents of sexual harassment because they were better able to recognize harassing behaviors and know how to report them. Students also reported that they were more likely to stand up for another young woman in the school who was being harassed. Providing young women with information about sexual harassment and giving them the courage to stand up against harassment directed toward oneself and others seems to be an effective intervention strategy.

Prevention of sexual harassment may be more effective than intervention programs for victims. Students should be taught to recognize and avoid sexual harassment before it becomes a problem. They should be taught appropriate ways of expressing sexual attraction and cautioned that sexual harassment may occur both within and across genders. Teachers should also be taught to recognize sexual harassment, to avoid blaming the victim, and to implement consequences for inappropriate behaviors.

Future Directions

Research on peer sexual harassment has a number of limitations. First, most samples have been primarily White and middle class. Only a few studies have examined the role of ethnicity in peer sexual harassment victimization and they have indeed found that patterns of sexual harassment victimization differ as a function of ethnicity (AAUW 2001, 2011; Goldstein et al. 2007; Nadeem and Graham 2005). For example, African American and Hispanic students were more likely than White students to change the way they went to school or change schools as a result of sexual harassment (AAUW 2011). In one study, African American women reported that sometimes it is hard to separate harassment based on race and gender, which creates a type of racialized sexual harassment (Buchanan and Omerod 2002). This suggests that the specific behaviors that constitute peer sexual harassment victimization and the meaning of these behaviors may be different for ethnic minorities and those with low socioeconomic status. Additionally, sexual harassment may be different when it is perpetrated within or across races. For example, in one study, African American women reported being more upset by harassment perpetrated by White men than by African American men (Woods et al. 2009). Future research should include participants from all ethno-racial groups in order to determine the predictors and consequences of peer sexual harassment for all people and include forms of racialized sexual harassment in sexual harassment measures.

Research on sexual harassment among sexual minorities is also scarce. Sexual minorities are at particular risk of experiencing sexual harassment victimization. Reports suggest that sexual harassment victimization is more commonly reported by sexual minority high school students than by heterosexual students regardless of gender (AAUW 2011; Williams et al. 2005). Increased rates of victimization are also more likely to lead to internalizing and externalizing symptoms for sexual minorities. Future research on peer sexual harassment should include sexual minorities and identify which types of sexual harassment are targeted toward them. Reducing sexual harassment victimization targeted toward sexual minorities may help reduce depression and externalizing behaviors in this population.

The field of sexual harassment research could also benefit from more careful consideration of the measures. All studies reviewed here have used youths' self-reports of behaviors. One of the advantages of self-report measures in sexual harassment research is that measurement typically uses a series of behaviors rather than asking students whether they have ever been victims of sexual harassment. If research used the term "sexual harassment," responses might be distorted by the respondent's lack of knowledge of the definition of sexual harassment or unwillingness to acknowledge the self as a victim. Instead, researchers typically ask whether specific behaviors have occurred, such as "has anyone ever made sexual comments, jokes, gestures, or looks toward you?" and "has anyone ever called you gay or lesbian?" (AAUW 2011), which should lead to optimal accuracy of self-reports. However, self-reports may still be biased. No studies have attempted to directly observe these behaviors or use others' reports of peer sexual harassment victimization. Research on other forms of peer victimization such as bullying often relies on peer and teacher nomination to identify students who are frequent victims of harassment. Although students are likely the best reporters of their own experiences, they may be unwilling to admit that they were victimized. Including peer nominations in peer sexual harassment research in combination with self-reports would strengthen this field of study.

The majority of sexual harassment research to date has focused on predictors and consequences of harassment victimization. Future research should identify the perpetrators of sexual harassment. Models used by research in workplace sexual harassment (Pryor 1987), bullying, and other forms of victimization (Olweus 1993) may provide insight about the characteristics of perpetrators to be applied to research on the study of peer sexual harassment in adolescence. Identifying characteristics of perpetrators is an essential step to reducing the prevalence of peer sexual harassment.

Finally, additional research must be done on intervention programs for peer sexual harassment. Research indicates that this problem is pervasive and may have severe negative consequences. Intervention programs should be a priority to help prevent and reduce the incidence of harassment, support the victims, and teach teachers and parents observational skills and victim sensitivity. Research on peer sexual harassment has been growing rapidly over the past few decades, and the application of this research to reduce sexual harassment in the schools is arguably the most important future direction for this field of study.

Conclusions

Peer sexual harassment is a pervasive and a difficult problem for adolescents and for the adults responsible for guiding them. From the research reviewed here, it is clear that there is a spectacular diversity in the behaviors that fall into the category of peer sexual harassment. Moreover, the meaning of the behavior to the victim and to the perpetrator may differ considerably, and the meaning of a behavior may vary from one victim to the next. What flatters one student might frighten the next. Even when the perpetrator's intentions are harmless, the target of the harassment may be distressed by this unwanted attention, and it may cause negative psychological and educational consequences for the victim. Regardless of the perpetrator's intentions, negative perceptions of harassment by the victim are associated with a variety of negative outcomes ranging from embarrassment to a severe drop in

self-esteem or depression (AAUW 2001; Nadeem and Graham 2005). The alarming increase in sexual harassment during adolescence requires more research to expand on existing knowledge and identify interventions to prevent and reduce rates of peer sexual harassment in the schools.

References

- American Association of University Women (AAUW). (2001). *Hostile hallways: Bullying, teasing, and sexual harassment in schools*. New York: Harris/Scholastic Research.
- American Association of University Women (AAUW). (2011). *Crossing the line: Sexual harassment at school*. New York: Harris/Scholastic Research.
- Anderson, I. (2007). What is a typical rape: Effects of victim and participant gender in female and male rape perceptions. *British Journal of Social Psychology, 46*, 225–245.
- Attar-Schwartz, S. (2009). Peer sexual harassment victimization at school: The role of student characteristics, cultural affiliation, and school factors. *American Journal of Orthopsychiatry, 79*, 407–420.
- Buchanan, N. T., & Ormerod, A. (2002). Racialized sexual harassment in the lives of African American women. *Women and Therapy, 25*, 107–124.
- Bukowski, W. M., Sippola, L. K., & Newcomb, A. F. (2000). Variations in patterns of attraction to same- and other-sex peers during early adolescence. *Developmental Psychology, 36*, 147–154.
- Brown, J.D., & L'Engle, K. L. (2009). X-rated sexual attitudes and behaviors associated with U.S. early adolescents exposure to sexually explicit media. *Communication Research, 36*, 129–151.
- Cillessen, A. H. N., & Rose, A. J. (2005). Understanding popularity in the peer system. *Current Directions in Psychological Science, 14*, 102–105.
- Coleman, P. K., & Byrd, C. P. (2003). Interpersonal correlates of peer victimization among young adolescence. *Journal of Youth and Adolescence, 32*, 301–314.
- Craig, W., Pepler, D., Connolly, J., & Henderson, K. (2001). Developmental context of peer harassment in early adolescence. In J. Juvonen & S. Graham (Eds.), *Peer harassment in school: The plight of the vulnerable and victimized* (pp. 242–261). New York: Guilford.
- DeSouza, E. R., & Ribeiro, J. (2005). Bullying and sexual harassment among Brazilian high school students. *Journal of Interpersonal Violence, 20*, 1018–1038.
- Duffy, J., Wareham, S., & Walsh, M. (2004). Psychological consequences for high school students of having been sexually harassed. *Sex Roles, 50*, 811–821.
- Espelage, D. L., & Swearer, S. M. (2011). *Bullying in North American schools* (2nd ed.). New York: Routledge.
- Fineran, S., & Bennett, L. (1999). Gender and power issues of peer sexual harassment among teenagers. *Journal of Interpersonal Violence, 14*, 626–641.
- Fineran, S., Bennett, L., & Sacco, S. (2003). Peer sexual harassment and peer violence among adolescents in Johannesburg and Chicago. *International Social Work, 43*, 387–401.
- GLSEN: gay, Lesbian, and Straight Education Network. (2005). *From teasing to torment: School climate in America, a survey of students and teachers*. New York: Author.
- Goldstein, S. E., Malanchuk, O., Davis-Kean, P. E., & Eccles, J. S. (2007). Risk factors of sexual harassment by peers: A longitudinal investigation of African American and European American adolescents. *Journal of Research on Adolescence, 17*, 285–300.
- Hand, J. Z., & Sacher, L. (2000). Badgering or bantering? Gender differences in experience of, and reaction to, sexual harassment among U.S. high school students. *Gender and Society, 14*, 718–746.
- Harned, M. S. (2000). Harassed bodies: An examination of the relationships among women's experiences of sexual harassment, body image, and eating disorders. *Psychology of Women Quarterly, 24*, 336–348.
- Harned, M. S., & Fitzgerald, L. F. (2002). Understanding a link between sexual harassment and eating disorder symptoms: A meditational analysis. *Journal of Counseling and Clinical Psychology, 70*, 1170–1181.
- Lindberg, S. M., Grabe, S., & Hyde, J. S. (2007). Gender, pubertal development, and peer sexual harassment predict objectified body consciousness in early adolescence. *Journal of Research on Adolescence, 17*, 723–742.
- MacKinnon, C. (1979). *Sexual harassment of working women: A case of sex discrimination*. New Haven: Yale University Press.
- Magnusson, D., Stattin, H., & Allen, V. (1985). Biological maturation and social development: A longitudinal study of some adjustment processes from mid-adolescence to adulthood. *Journal of Youth and Adolescence, 14*, 267–283.
- Marshall, S. K., & Saewyc, E. (2012). Peer sexual harassment and sex motives: A gendered analysis. *Journal of Adolescent Health, 50*, S31.
- Marshall, W. A., & Tanner, N. M. (1969). Variations in the pattern of pubertal changes in girls. *Archives of Diseases in Childhood, 44*, 291–303.
- Marshall, W. A., & Tanner, N. M. (1970). Variations in the pattern of pubertal changes in boys. *Archives of Diseases in Childhood, 45*, 15–23.
- Martin, J. L. (2008). Peer sexual harassment: Finding voice, changing culture – an intervention strategy for adolescent females. *Violence Against Women, 14*, 100–124.
- McMasters, L., Connolly, J., Pepler, D., & Craig, W. (2002). Peer to peer sexual harassment in early adolescence: A developmental perspective. *Development and Psychopathology, 14*, 91–105.

- Meraviglia, M. G., Becker, H., Rosenbluth, B., Sanchez, E., & Robertson, T. (2003). The expect respect project: Creating a positive elementary school climate. *Journal of Interpersonal Violence, 18*, 1347–1360.
- Merrell, K. W., Gueldner, B. A., Ross, S. W., & Isava, D. M. (2008). How effective are school bullying intervention programs? A meta-analysis of intervention research. *School Psychology Quarterly, 23*, 26–42.
- Montemurro, B. (2003). Not a laughing matter: Sexual harassment as “material” on workplace-based situation comedies. *Sex Roles, 48*, 433–445.
- Murdoch, M., Poulsny, M. A., Hodges, J., & Copwer, D. (2006). The association between in-service sexual harassment and post-traumatic stress disorder among department of veterans’ affairs disability applicants. *Military Medicine, 171*, 166–173.
- Murnen, S. K., & Smolak, L. (2000). The experience of sexual harassment among grade-school students: Early socialization of female subordination? *Sex Roles, 43*, 1–17.
- Nadeem, E., & Graham, S. (2005). Early puberty, peer victimization, and internalizing symptoms in ethnic minority adolescents. *Journal of Early Adolescence, 25*, 197–222.
- Olweus, D. (1993). *Bullying at school: What we know and what we can do*. Oxford: Blackwell.
- Ormerod, A. J., Collingsworth, L. L., & Perry, L. A. (2008). Critical climate: Relations among sexual harassment, climate, and outcomes for high school girls and boys. *Psychology of Women Quarterly, 32*, 113–125.
- Pelligrini, A. D. (2001). A longitudinal study of heterosexual relationships, aggression, and sexual harassment during the transition from primary school through middle school. *Applied Developmental Psychology, 22*, 119–133.
- Pelligrini, A. D. (2002). Bullying, victimization, and sexual harassment during the transition to middle school. *Educational Psychologist, 37*, 151–163.
- Pelligrini, A. D., & Bartini, M. (2001). Dominance in early adolescent boys: Affiliative and aggressive dimensions and possible functions. *Merrill-Palmer Quarterly, 47*, 142–163.
- Pelligrini, A. D., & Long, J. D. (2002). A longitudinal study of bullying, dominance, and victimization during the transition from primary school through secondary school. *British Journal of Developmental Psychology, 20*, 259–280.
- Pepler, D. J., Craig, W., Connolly, J., Yuile, A., McMasters, L., & Jiang, D. (2006). A developmental perspective on bullying. *Aggressive Behavior, 32*, 376–384.
- Petersen, J. L., & Hyde, J. S. (2009). A longitudinal investigation of peer sexual harassment victimization in adolescence. *Journal of Adolescence, 32*, 1173–1188.
- Petersen, J., & Hyde, J. S. (2013). Peer sexual harassment and disordered eating in early adolescence. *Developmental Psychology, 49*, 184–195.
- Pryor, J. B. (1987). Sexual harassment proclivities in men. *Sex Roles, 17*, 269–290.
- Roland, E. (2000). Bullying in schools: Three national innovations in Norwegian schools in 15 years. *Aggressive Behavior, 26*, 135–143.
- Rotundo, M., Nguyen, D., & Sackett, P. R. (2001). A meta-analytic review of gender differences in perceptions of sexual harassment. *Journal of Applied Psychology, 86*, 914–922.
- Sagrestano, L. M. (2009). *Nowhere to hide: A look at the pervasive atmosphere of sexual harassment in Memphis middle and high schools*. Memphis: Center for research on Women.
- Schreck, C. J., Burek, M. W., Stewart, E. A., & Mitchell, J. M. (2007). Distress and violent victimization among young adolescence. Early puberty and the social interactionist explanation. *Journal of Research in Crime and Delinquency, 44*, 381–405.
- Sheets, V. L., & Braver, S. L. (1999). Organization status and perceived sexual harassment: Detecting the mediators of a null effects. *Personality and Social Psychology Bulletin, 25*, 1159–1171.
- Sjostrom, L., & Stein, N. (1996). *Bullyproof: A teacher’s guide on teaching and bullying for use with fourth and fifth grade students*. Boston: Wellesley College Center for research on Women.
- Smith, J. N., Van Deven, M., & Huppuch, M. (2011). *Hey, shorty! A guide to combating sexual harassment and violence in schools and on the streets*. New York: Feminist Press.
- Stattin, H., & Magnusson, D. (1990). *Pubertal maturation in female development*. Hillsdale: Lawrence Erlbaum Associates.
- Stone, M., & Souch, S. (2004). Peer sexual harassment among high school students: Teachers’ attitudes, perceptions, and response. *The High School Journal, 88*, 1–13.
- Strouse, J. S., Goodwin, M. P., & Roscoe, B. (1994). Correlates of attitudes toward sexual harassment among early adolescents. *Sex Roles, 31*, 559–577.
- Wei, H., & Chen, J. (2012). Factors associated with peer sexual harassment victimization among Taiwanese adolescents. *Sex Roles, 66*, 66–78.
- Woods, K. C., Buchanan, N. T., & Settles, I. H. (2009). Sexual harassment across the color line: Experiences and outcomes of cross-versus interracial sexual harassment among Black women. *Cultural Diversity and Ethnic Minority Psychology, 15*, 67–76.
- Williams, T., Connolly, J., Pepler, D., & Craig, W. (2005). Peer victimization, social support, and psychosocial adjustment of sexual minority adolescents. *Journal of Youth and Adolescence, 34*, 471–482.
- Witkowska, E., & Kjellberg, A. (2005). Dimensions of peer sexual harassment in Swedish high schools: What factor structure shows the best fit to girls’ and boys’ self reports? *Sex Roles, 53*, 677–687.

Sexual Health

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Overview

Adolescent sexuality is usually equated with risk and danger. However, from a developmental perspective, becoming a sexual self, negotiating relationships that involve sexuality, engaging with social contexts and institutions that bring sexuality to the fore are normative features of adolescence. Sexual health provides an alternative to the risk-only model of adolescent sexuality. This entry provides an expansive discussion of what sexuality is and a model of adolescent sexual health. The analysis reframes an approach that focuses exclusively on preventing or diminishing threats or challenges to sexual health with another approach that develops an individual-in-context perspective: individual, interpersonal, social, and sociocultural dimensions of sexuality in adolescence. The model further explains the importance of considering young people's social locations in general, and the social meaning of gender as it intersects with race/ethnicity, class, and sexual orientation in particular. From personal history to public policy, adolescent sexual health as a multidimensional and normative dimension of young people's lives is discussed.

Introduction

Because American society is simultaneously scandalized and obsessed by adolescent sexuality, it is rarely conceived of beyond the scope of risk. Like a car accident, society is squeamish even as it is preoccupied with fears and fascination about the sexual risks that adolescents might be taking. Adolescent sexuality is thought of and treated as a pathology or disease, reduced to or never expanded beyond sexual behavior that can be

prevented. But this view of sexuality is impoverished, even as sexual behavior can have visible consequences for some teens (Jewell et al. 2000). Sexuality is in fact far more than a set of behaviors that may or may not lead to pregnancy and/or sexually transmitted diseases. It is a complicated package of thoughts, desires, or attractions and feelings, identities, relationships, and behaviors; sexuality is an interplay of the mind, body, and soul. Sexuality is a basic human right (Aggleton and Parker 2010; Correa and Petchesky 1994), and sexuality is a fundamental part of a person's humanity (World Association for Sexual Health 2008). Over the course of adolescence, young people go through processes of understanding, exploring, and making sense of their maturing sexuality, which involves their physical, emotional, moral, intellectual, social, and relational development (O'Sullivan and Thompson 2014; Planned Parenthood Federation of America Inc. 2001; Tolman 1999; Tolman and Diamond 2014). In short, sexuality happens in adolescence, it is not pathological or a disease to be avoided or eliminated. And it is not simply, solely, or necessarily contingent upon or expressed through behavior (Diamond and Savin-Williams 2009). Broken hearts, identity questions, powerful desires, and joyful relationships can all be part of sexuality development in adolescence.

Sexual health or healthy sexuality, then, provides a useful way to think about adolescent sexuality. In the fast-growing tradition of positive youth development (Amodeo and Collins 2007), considering what facilitates development, resilience, and thriving as young people move through adolescence into early or emerging adulthood is recognized as a more comprehensive and productive approach (Arbeit 2014). Rather than simply ameliorating risks associated with sexuality – what to avoid – healthy sexuality shifts the perspective toward how to support adolescents' negotiation and experience of sexuality (Ehrhardt 1996). The 1995 National Commission on Adolescent Sexual Health (SIECUS 1995) consensus statement from 50 national organizations and 35 professional organizations, including the American Psychological Association and the Society for Adolescent

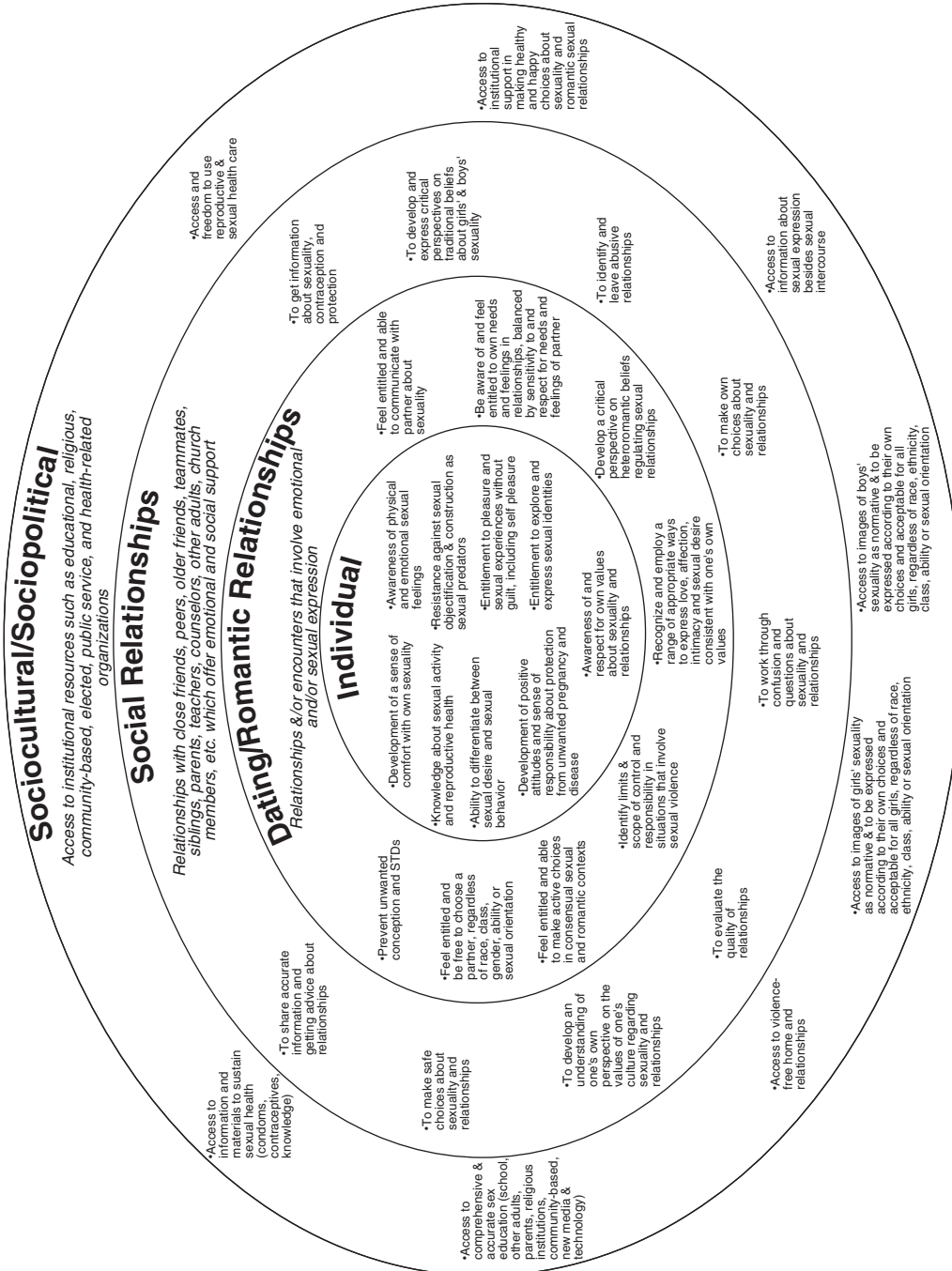
Medicine, includes as part of sexual health the abilities (a) to develop and maintain meaningful personal relationships; (b) to appreciate one's own body; (c) to interact with both genders in interactive and appropriate ways; and (d) to express affection, love, and intimacy in ways consistent with one's own values. Achieving sexual health requires psychological, physical, societal, cultural, educational, emotional, and spiritual factors.

Diminishing sexual risk, then, is part of rather than definitive of healthy sexuality; learning to avoid and protect oneself from unwanted pregnancy, sexually transmitted disease, and HIV/AIDS are one dimension. However, healthy sexuality provides a much more expansive conception. Over the course of the adolescent years, the development of healthy sexuality in this society includes: becoming knowledgeable and comfortable with one's sexuality; learning to apprehend and respect one's own feelings (emotional, sexual) and those of others; gaining viable sexual knowledge and learning to communicate with partners, adults, and peers; gaining access to resources for sexual safety and health; developing a sense of empowerment to make active choices in and about sexual situations; establishing a sense of entitlement to physical and emotional dimensions of connection, desire, and pleasure as well as freedom from sexual violation; and acquiring experience, insight, and/or information about romantic and sexual relationships.

A conception of sexual health shifts questions and concerns: What are the threats to adolescents' sexual and reproductive health, sexual choices, sexual identities, sexual safety, sexual subjectivity, or the sense of oneself as a sexual person? It also changes the central issue: Rather than an exclusive focus on preventing risky sex, how can healthy sexuality and its development be supported for adolescents? Answering these questions requires challenging the assumption that sexuality is hardwired, genetically or physically determined, and simply unfolding according to a predetermined and natural course (Tolman and Diamond 2001, 2014). Current research and theory understand sexuality as the product of constant interplay between the body, including

anatomy, physiology, hormones, the brain, and the society or social contexts in which the body develops. Sexuality does not emerge fully formed; rather than nature vs. nurture, the physical and the social work together to "produce" the many dimensions of sexuality. While individual histories will always bring variability into all adolescents' experiences of sexuality, the body does not develop or "unfold" in a predetermined vacuum. Thus, the new questions that a conception of healthy sexuality raises means not just focusing on the individual adolescent but recognizing the multiple, critical contexts in which he or she is developing into a sexual person: relationships (romantic, peer, family), geography (neighborhoods, multicultural communities), state institutions (school, religion, law), structural differences and disparities (gender, health care, resources, race/class/ethnicity, immigrant status), and increasingly complex social landscape of public perceptions and representations of (or discourses about) and dynamic social norms regarding teens and sex, technologies, and media (McClelland and Fine 2008; Russell 2005; Strasburger et al. 2013; Stefanone et al. 2010; Ward et al. 2014; Welsh et al. 2005).

This ecological model highlights how adolescent sexual health can be understood as a person-in-contexts phenomenon (Bronfenbrenner 1979). At the center of the circle in Fig. 1 is individual and the dimensions of sexuality that adhere to her: the next concentric circle highlights interpersonal relationships; proximate social contexts follows, all contextualized by the sociocultural/sociopolitical dimensions of sexual health. Each of these interrelated contexts informs the other, constituting and highlighting how sexual health for adolescents is multidimensional. Thus, threats to adolescent sexual health as well as potential support of it range from the intrapersonal to the sociopolitical. This conception of adolescent sexual health makes visible the complexity of sexuality as well as the levels and types of challenge that individual adolescents negotiate. This model also underscores how sexuality comes into being by individuals, in their individual bodies and psyches and personal histories and experiences, and that sexual health is always



Sexual Health, Fig. 1 Model of adolescent sexual health (Revised from Tolman 1999)

informed and shaped by and interacting within relationships and meanings as well as institutions and social policies within which they live and develop. The lines between these nested characteristics of sexual health should be seen as permeable, with interplay assumed between and among these levels, like a complex play that requires each character to exist but interact together to create the whole that is greater than its parts.

Sexuality is at its very core relational (Sprecher and Regan 2000; Wilde 2014). In particular, healthy sexuality for teens is most often predicated on having trustworthy, reliable adults in their lives on whom they can rely to find information, ask questions, and turn to in the inevitable times of challenges and of curiosity. Thus, adolescents' ability to develop healthy sexuality rests in part on adults' capacity to recognize, acknowledge, and provide resources for what adolescents are negotiating. The specter of adult anxiety and even panic is among the greatest threats to young people's healthy sexuality (Tolman 2013). Ultimately, garnering resources to handle both the risks and the pleasures that are part and parcel of sexuality across the lifespan is the "normative" task of adolescence (Tolman and McClelland 2011).

In some sense, "adolescent sexuality" is a misnomer, suggesting a monolithic construct that is the same for all teens (Fine 1988). First, adolescence is comprised of very distinct periods of development (Collins et al. 2009; Fortenberry 2013); late adolescents, who are completing high school (approximately ages 18–21), are in all dimensions of their development (cognitive, moral, emotional, social, physical) far different than early adolescents (Else-Quest and Hyde 2009; Tolman et al. 2015). More recent research in this field has addressed the intertwining physiological and psychological processes involved in developing as a sexual person at various developmental moments over the course of an adolescent's life. Tolman (2002) argued for the importance of conceptually expanding what has been called sexual development into the broader, more comprehensive construct of "sexuality development."

With an understanding of sexuality as "constituted" by meanings that are culturally available (Rubin 1984), the ways that adolescents whose lived experiences and realities are shaped by specific systems of meaning shed light on what threats to and possibilities for healthy sexuality are for them. Because of these and individual differences, there is no set or proscriptive "pathway" for the development of healthy sexuality or uniformity in the challenges young people face as they negotiate their personal, interpersonal, social, and societal landscapes (Hensel et al. 2008; Fine and McClelland 2007; Tolman 2002).

Gender is a key example of this interplay. Gender is more than, and in some cases not related to, biological sex; rather, it is a social construct, consisting of social norms, beliefs, and practices that are associated with masculinity and femininity, often assumed to be inextricably linked to male and female bodies (Fausto-Sterling 2000). Gender as social rather than hardwired explains the variability and changes over time, history, and culture that characterize male and female human behavior; it also explains the fluidity in gender (i.e., gender nonconforming) and changes in gender identity (transgender) that adolescents are now expressing (Diamond 2013). Rather than just identifying what have been called "gender differences" in sexuality, such as different rates of behavior for girls and boys, gender is a critical dimension of how sexuality is experienced and understood by adolescents. Therefore, threats to sexual health are gendered (Tolman 1999). For instance, while girls struggle with embodiment and awareness of their own sexual feelings, boys struggle with feeling able to realize, recognize, and act upon their emotions and wishes for relationship. Avoiding sexually transmitted diseases is a shared outcome for healthy sexuality, but what is involved is different for male and female teens: for girls, it may be negotiating with a partner about condom use in the context of power differences in any given context, while for boys it may be lacking access to condoms in a situation where he is expected to provide them. The social processes in which individual adolescent girls and boys engaged that produce gender inequity,

which has been shown to be an entrenched dimension of heterosexual sexual encounters and relationships (Tolman et al. 2015)

Equally important is an intersectional perspective on gender, that is, how race, class, and/or sexual orientation (structural or societal differences that create disparities and inequities) interact with gender to produce specific threats to sexual health (Crenshaw 1995). A Black middle-class lesbian may have to deal with the specific contours of homophobia in a community setting that is often a refuge for African American teens, the church (Cohen 2010), while a poor White heterosexual male might feel few options for establishing his masculinity and engage in “trash talk” about a group of girls with his male peers, thereby threatening his much-needed emotional connection with his disapproving girlfriend (Reigeluth and Adams 2016; Tolman et al. 2003). Rather than seeing particular populations simply as sets of individual adolescents making poor decisions, disparities in sexual health can be redressed by understanding how contexts and social forces play out for different individuals and constitute differential threats to sexual health for different populations of young people as well as understanding how adolescents’ resilience in the face of intersectional threats to sexual health can be resources for them and for others who can learn from them.

The next part of this entry will provide some of the specific challenges to sexual health. To do so, it examines the challenges posed at each level of Fig. 1. When examining these levels, it is critical to keep in mind that the specific contours of challenges and possibilities for any individual and for populations of adolescents will be shaped by their social and cultural locations as well as their personal histories.

Intrapersonal: Development of the Sexual Self

Becoming a sexual actor has been an acknowledged task of adolescence (Adelson 1980) but prior to the 1990s was implicitly meant as part of male adolescent development. The emergence of

the term “sexuality development” (as opposed to sexual development) is both an example and a product of these changes (Tolman 2002, 2006; Tolman and McClelland 2011). Originally with a focus on documenting physiological stages, more recent research in this field has addressed the physiological and psychological processes involved in developing a sexual self, including various developmental moments over the course of an adolescent’s life that help to generate what one comes to understand as their sexual self. Seen through this lens, the development of sexuality includes research on: pubertal development, body image and its relationship to sexuality, gender and sexual identity development, sexual self concept and subjectivity, and motivations for engaging in positive and developmentally appropriate sexual experiences. Taken together, these dimensions of the self provide guidelines for understanding how young people physiologically and psychologically mature into adulthood with a healthy sexual self – meaning that individuals have positive associations with their physical body, their own experience of sexual desire, feelings of attraction toward potential partners, an emerging understanding of their sexual identity, and a sense of agency in sexual decision-making and other social dimensions of sexuality.

Tolman’s research (2002, 2015) on adolescent girls’ experiences of sexual desire identified a complicated landscape of social, material, and personal dilemmas that characterized girls’ diverse experiences negotiating their sexuality. She found three distinct dilemmas and a variety of ways for resolving them, including “silent bodies” (dissociation from embodied feelings), resisting or hiding their sexual desire, or refusing to comply with the norm that girls are not supposed to feel desire, have sexual feelings, and deal with the consequences. In particular, this very small group of girls refused to accept the double standard, fought back against negative labels (“slut”) for themselves and their friends, and felt entitled to protect themselves from pregnancy and disease. Girls as well as boys develop a sexual self-concept, which can include a sense of agency (entitlement to act on one’s own feelings) and subjectivity (experiencing oneself as a sexual

person entitled to their embodied feelings and choices (Barker 2013; Horne and Zimmer-Gembeck 2005, 2006; O'Sullivan et al. 2006). Researchers working with these concepts have investigated the relationships between sexual identity formation, sexual decision-making, and sexual behaviors and outcomes. Recently, the question of desire has taken on a new form, as queries about and understanding of girls' "sexual empowerment" and what such claims mean have recently emerged (Lamb and Peterson 2012; Tolman 2012).

Sexual identity development has become a much more prominent area of research, as society recognizes the variability in people's sexual attractions, behaviors, and identification with communities. The process of coming out – of self-recognition and informing people in one's life, parents, peers, teachers, community members of one's attractions to and desire for attachment to same-gendered partners – is now accepted as normative (Boxer et al. 1999). In fact, difficulties in developing an "integrated LGB identity" can lead to poor psychological adjustment and sexual risk taking (Rosario et al. 2011). More recently, research on sexual orientation development for the cohort born in the 1990s has raised questions about how this process is historically and culturally situated and not "writ in stone" and may be very distinct for males and females (Diamond 2008; Savin-Williams 2005). And some young women who identify as lesbian or bisexual can change how they identify themselves, including refusing any of the available labels, over time (Diamond 2008), raising questions about whether the concept of one normative developmental trajectory even makes sense. Rather than categorizing an adolescent as a "gay teen" or "young lesbian," "sexual minority youth" or "queer identities" describe an extremely diverse group who may shift into and out of a gay, lesbian, bisexual, or no specific sexual identity, may be actively questioning their identity as an identity, may engage in same-sex sexual activities without any identification, some may be "questioning" or identify as "queer" (a broader category/concept meaning desires, behaviors, or attractions that are not heterosexual), may report same-sex

attractions without any same-sex behavior or identity or even identify as "asexual" (feeling romantic but not sexual attractions and desires) (Cohler and Hammack 2007; Wadsworth and Hayes-Skelton 2015). Research is just emerging to identify how LGBT young people can be supported in healthy sexuality development (Greene et al. 2015), for instance, being part of GSAs (gay-straight alliances) in school (Toomey and Russell 2013).

Interpersonal: Romantic and Sexual Relationships

The phrase "hooking up" is a kind of moving target for describing adolescent behavior. While often assumed to mean having sexual intercourse out of the context of a committed or even any relationship, it has a panoply of meanings, from getting together, to making out, to engaging in oral sex or intercourse, with a stranger, a friend, or a romantic partner outside of a relationship commitment. Among adolescents, "hooking up" actually rarely includes sexual intercourse; this meaning of hooking up is most often for late adolescents or college-aged young people (Bogle 2008). A new concern, especially for girls, is expressing sexuality without a relational "net" (Shalit 2007). While there is a lot of public discussion (and distress) about adolescents "hooking up," the evidence suggests that the most common context in which adolescents experience sexuality is still a boyfriend/girlfriend/romantic relationship (Garcia et al. 2012; Kaestle and Halpern 2005; Manning et al. 2006). This concern about the interpersonal contexts in which young people express sexuality suggests an implicit social contract about what is an expected or appropriate context in which adolescents might express sexuality: "monogamous-enough" relationships (Tolman and McClelland 2011). Adolescents themselves hold a wide range of opinions about when and under what circumstances it is appropriate or meaningful to engage in different sexual behaviors and are often very thoughtful about making these choices carefully, considering the resources they do and do not have. The sexual

double standard remains entrenched, despite claims of sexual empowerment (Tanenbaum 2015; Tolman et al. 2015); slut shaming – bullying of girls who are labeled “sluts” for supposed or actual sexual behavior outside of “acceptable” contexts, such as relationships, or seeming excessively sexual – is evidence of its persistence (McClelland and Fine 2008). Unfortunately, it is still not uncommon for young women in particular to consume alcohol and then engage in sexual activity that they may or may not really want (O’Donnell et al. 2010) and for young men to proceed with sexual “opportunities” about which they may feel ambivalent or not ready or not interested, because of the pressure to prove their masculinity to their peers and to themselves through sex (Tolman et al. 2003).

Dating and sexual violence are also threats to sexual health among young people (Cauffman et al. 2000; Halpern et al. 2001). Young people with a history of sexual abuse can have challenges in developing healthy sexuality, including early unprotected intercourse, vulnerability to coercion by a partner, or difficulty feeling entitled to sexual choices (Wekerle et al. 2013), though some have shown to be resilient and develop a sense of entitlement to sexual agency (Tolman 2002). Sexual violence, though no more frequent than in the past, has become much more visible and normalized (Hlavka 2014), a recognized concern for any adolescent (more for girls than for boys, though boys experience sexual assault as well). In fact, the ostensible rise in “rape culture” has put more emphasis on dangers associated with sexuality than possibilities for healthy sexuality, with the unintended consequence of making the development of positive sexuality more difficult. With the availability of pornography on the Internet for adolescents, research has shown that porn can inflate or create vulnerability to engaging in or experiencing unwanted sex (Bonino et al. 2006). The construct of “everyday” victimization and/or violation (Tolman 2000) of girls by boys are one specific context that is so pervasive as to be normative (but not normal) and threatens as well as constitutes danger (Shute et al. 2008). Shortcomings in the research, including that girls are not investigated as sexual aggressors and boys who report experiences of sexual harassment are

not asked to report the gender of the aggressor, leave the question of whether it is boys’ sexual aggression toward boys and/or the possibility of girls’ sexual aggression unanswered (Masters et al. 2013).

Romantic and sexual relationships in adolescence can also be positive not just “danger zones,” although most research studies negative outcomes. For instance, intimacy in adolescent romantic relationships has been found to be a possible “positive motivation” for sexual behavior. Ott et al. (2006) evaluated adolescents’ goals for intimacy, sexual pleasure, and social status within a romantic relationship as well as their expectations that sex would lead to these goals. Among 9th graders, they found that intimacy was valued the most, then status, and then pleasure. Girls valued intimacy significantly more and pleasure significantly less than boys, while those with more sexual experience valued both intimacy and pleasure more than those who were sexually inexperienced.

There is almost no research on adolescent masturbation practices, so most of what is known about adolescent sexual behavior occurs in relational contexts. In fact, sexual behavior is a perfect example of the individual-in-context; while identifying how much and which sexual behaviors individual experience, the experience of sexual behavior, and the negotiation of it, is profoundly interpersonal (Gagnon and Simon 1973). Sexual health from a behavioral perspective includes choosing safe sexual behaviors and/or diminishing the risk of risky ones (condom use), and also knowing and enacting sexual choice, requiring individual self-awareness and also a sense of entitlement to make and enact sexual choices. The interpersonal context highlights how power relations are central to understanding these factors in adolescent sexual behavior: differences in gender, age, socioeconomic status, and sexual experience can motivate sexual behavior that may not be entirely wanted (Diamond and Savin-Williams 2009). Sexual scripts for adolescents about how to express sexuality, for instance engaging in sexual behaviors, have developed in this context. However, some behaviors that have been less acknowledged, such

as heterosexual anal sex among late adolescents, are less scripted and thus have opportunities for young women in particular to take the lead or explore their curiosity; at the same time, safe behavior (i.e., use of condoms and lubrication) can be elusive without a script informed by education (Roye et al. 2013).

In recent years, a more normative perspective on adolescent sexuality and its development is reflected in researchers approaching sexual behavior not solely in terms of risk but also in terms of how these behaviors are interrelated and what multiple expected trajectories of behavior might be (Hensel et al. 2008). At the beginning of the decade, there was concern that girls may have been providing oral sex to boys as a way to “stay abstinent,” that is, avoid having intercourse (Remez 2000). However, this pattern has not been found (Burns et al. 2011). The shift in regards to oral sex is less about prevalence and more about expectations within repertoires, with oral sex most frequently immediately preceding heterosexual intercourse. Some research indicates that oral sex is less of a “choice” behavior and more of an expected behavior, especially fellatio (Kaestle 2009). Understanding how girls experience fellatio, as a kind of ability or “achievement” that focuses on boys’ desire and pleasure and not their own, may be understood as an effect of a “missing discourse” of girls’ sexual desire (Fine 1988), yielding the current achievement discourse in education as the way girls make meaning out of fellatio (Burns et al. 2011). Gender inequities in relationships can lead girls to engage in sexual behavior they do not want due to threats or fears of losing a partner or for perceived expectations of what behaviors peers have experienced (Lescano et al. 2009; Tolman et al. 2015).

Social Relationships: Family and Friends

The role of families in adolescent sexual health is very significant. Three key factors are the role of maternal beliefs and attitudes on adolescent sexual decision-making, the overall quality of parental relationships on subsequent sexual outcomes, and communication styles when talking with

teens about sex. Various studies have found that maternal disapproval of sexual activity was associated with delayed onset of intercourse (Khurana and Cooksey 2012; Sieving et al. 2006), decreased likelihood of sexually transmitted disease infection (Ford et al. 2005), and increased birth control use (Jaccard et al. 2000). However, interventions that enhance mother–daughter communication can be effective in supporting sexual health (Romo et al. 2014). Very little is known specifically about fathers. Some ethnic/racial differences have been identified. One recent study found that African American adolescents reported receiving the most parental communication and Asian American boys reported the least (Epstein and Ward 2008). Kim (2009) found that Asian adolescents often date without parent knowledge, date longer, delay intercourse until college, and enter monogamous relationships with less prior relational experience than other peers (see also Kao and Martyn 2014). Recent immigration and levels of acculturation are also factors in sexual behavior (Raffaelli and Ontai 2001).

As adolescents develop, there is an increasing salience of peers. One important question is the relative importance of parents vs. peers in relation to sexual attitudes, behavior, and decision-making. Current research suggests that parents and families continue to remain important even as peers become a more significant factor in adolescents’ lives. O’Sullivan and her colleagues (2001) found in a study of how African American and Latina mothers communicated with their daughters about sex that because antagonistic relationships often developed around this sensitive material, teen girls may need sex education from sources other than their families.

The role of peers in socializing young people in sexual norms, attitudes, and behaviors is considered an effect of an assumed normative developmental process of adolescents’ shift away from families and toward peers, yet the types and range of peer influence are not well understood. In fact, peers have been found to be a negative influence on different types of risky behaviors, including smoking, alcohol and drug consumption, and sex (Maxwell 2002a, b). In particular, older males with younger female partners have a

negative impact. Gowen et al. (2004) found that girls with older boyfriends were more likely to believe that guys are sexually driven, that sex mostly “just happens,” and that having sex is a sign of maturity. Peer networks, or interlocking webs of friends and relationships, have been shown to influence sexuality development via other factors. It is often perceptions of peer sexual experience rather than knowledge about it that is influential in teen sexual decision-making (Santelli et al. 2004); this perception holds true in the context of youth online social networks (Black et al. 2013).

One very significant study examined the effect of social networks to track the impact of virginity pledges – a public affirmation by a young person that he or she promises to abstain from sex until marriage that became popular in the conservative movement demanding sexual abstinence in adolescence (see below). Evaluating the effect of these pledges on the likelihood to transition to first sexual intercourse, they found that, initially, those who pledged abstinence were more likely to delay first intercourse. However, when they took the specifics of social group contexts into account, they found that pledging delayed intercourse only in contexts where there were some, but not too many, pledgers. Their interpretation was that the pledge worked in contexts where group membership constituted an identity in the particular school context. Thus, to be effective, it had to be pervasive enough to constitute group membership but not so pervasive that it is no longer a distinguishing characteristic (Bearman and Bruckner 2001). Importantly, in a subsequent study they found that so-called promise-breakers, pledgers who did not in fact wait until marriage for sex, were less likely than their peers to use contraception at first intercourse and just as likely, over time, to contract an STI (Brückner and Bearman 2005).

Sociopolitical/Sociocultural: Media and Institutions

The media has proliferated into a cornucopia of possibilities for young people today: innumerable

network and cable television channels, the Internet providing access to everything from YouTube to Facebook to Instagram to Snapchat, vehicles for downloading and sending a plethora of images, music and concomitant videos, video games, and movies (Ward 2003b, 2016). With the deregulation of many of these outlets in the 1980s, and emergence of others that pose vexing dilemmas about regulation, sexual and sexualizing images targeting and to which young people have (not always intentional) access have intensified at a geometric rate (American Psychological Association 2007). The relationship between seeing representations of sex and sexuality and impact on behavior and attitudes is hard to untangle in research. There is a “chicken or egg” phenomenon at play that makes causal relationships extraordinarily difficult to determine: Are young people exposed to sexual media that may make them become sexual or are more sexual young people drawn to more sexual media? Given that caveat, it is clear that the media is a major factor in young people’s healthy sexuality development.

For instance, researchers have found that media that convey traditional gender roles are associated with endorsement of more traditional perspectives regarding male and female sexuality (Ward 2003a; Kim et al. 2007; Rivadeneyra and Lebo 2008; Ward et al. 2005). They have found associations of nonbehavioral negative sexual outcomes (endorsement of coercion in heterosexual relationships, negative attitudes about sex and the potential for mutuality in sexual relationships) with media images reflecting scripts in traditional gendered relational practices. Brown and colleagues developed the concept of the sexual media diet as part of a media “identity toolkit” that adolescents utilized to explore the self; they suggest that media can serve as a kind of sexual “super peer” (Brown et al. 2005). The presence of parents is one of the few moderating factors in associations between viewing sexual media and sexual attitudes and to some extent behavior; however, as children become adolescents, they are much less likely to consume media with their parents (Schooler et al. 2006). An analysis of the collected data from many studies (a “meta-analysis” on sexual activity and media exposure)

showed that media exposure is not associated with earlier or increased sexual activity (Ferguson et al. 2016).

Media is also a useful resource that can support young people's sexuality development (Bay-Cheng 2001; Bay-Cheng et al. 2009; Dake et al. 2012; Ward and Friedman 2006). While the Internet is often portrayed as a dangerous arena of sexual predators and pervasive "sexting" (sending revealing pictures by text that can be posted on the Internet), actual analyses of online environments show how adolescents use it to search out peers, ask questions about sexual topics, and construct sexual identities (Suzuki and Calzo 2004). In one study of teen chat rooms, Subrahmanyam et al. (2004) found that online spaces provided safer environments than the teenage participants found elsewhere in their lives in which they learned to exchange information with peers and to explore their emerging sexuality. In line with a moral panic that ignores actual research, the legal system has deemed "sexts" to be child pornography, with terrible legal consequences (Gillespie 2013). Gender inequities in heterosexual relationships and the sexual double standard are often the culprits when sexting has negative effects (Rice and Watson 2016); thus, interventions that simply tell adolescents about dangers fail to illuminate one of the sources of how this dimension of sexuality becomes a problem. In essence, making sexting illegal for adolescents under the age of consent denies their agency, an important arena for sexual health.

The rise of concern about sexualization – that is, pervasive sexualized objectification and representations of women and girls and increasingly of boys – is a public concern. The American Psychological Association Task Force on the Sexualization of Women and Girls (2007) raised awareness about this issue, spurring a new body of research on negative impacts (McKenney and Bigler 2014). However, some have argued that the response to sexualization that hinges on anxieties that girls and young women are "out of control," that is less inhibited about expressing themselves as sexual (i.e., behaving less in line with the notion that girls should not want sex and dressing in what is considered "provocative" fashion), constitutes a "moral" in the face of girls

being simply more sexual (Best and Bogle 2014; Tolman 2013). What is often a purely negative perspective on what scholars in the UK denote as "sexualization" overlooks girls' sexual agency or safe exploration of sexual expressions and identities on social media (Ringrose 2016). Girls have begun engaging in activism to challenge sexualization and garner attention for how they themselves want to be represented in the media, in general as competent and powerful young women and as having the right to express their sexuality without derision (Cover 2012; Edell et al. 2013).

Religion can be both protective for and threatening to adolescent sexual health (Rostosky et al. 2003), including religious identification, religious practices, and the role of religious communities as buffers against such sexual outcomes as age of sexual initiation, psychological well-being, and use of birth control (Hernandez et al. 2014). For instance, while greater religiosity has been associated with fewer sexual partners, it has also been found to predict lower rates of condom use (Manlove et al. 2008). These results indicate that while religious identification may protect against initiating sexual activity, it may disable or undermine safe sex practices among young people who become or are already sexually active (Zaleski and Schiaffino 2000). These protective and challenging qualities of religion have been found to differ by gender and race (Rostosky et al. 2003) and ethnicity (Espinosa-Hernández et al. 2015).

At the turn of the century, federal legislation in the USA tied funding for sex education to mandates for abstinence-only programs, even as research showed that these programs were not effective and in some cases harmful (Fields 2008; Kirby 2002b). Though no longer exclusionary of more comprehensive sex education and now required to be medically accurate, the legacy of a decade of frequently "fear-based" abstinence-only sex education lingers, with many young people lacking basic factual information about their sexual health. Kirby (2002a) found that some sex education programs had strong evidence that they delayed sex, increased condom or contraceptive use, or reduced teen pregnancy, including sex and HIV education curricula with specified

characteristics, one-on-one clinician–patient interventions, and several service learning programs. Johnson et al. (2003) found that the more effective interventions were characterized by providing more condom and HIV information and skills training than the comparison groups and by actually providing condoms to participants. Where adolescent sexuality is acknowledged by condom availability in schools, it may be more possible to support adolescent sexual health. However, these studies fail to include indicators of sexual health, focusing exclusively on eliminating or reducing risk. With the change in the political climate making it possible to recognize sexuality development as a normative dimension of adolescence, new programs and research that is grounded in supporting young people and making sex education more salient to them, for instance using media (Neustifter et al. 2015) in this aspect of their development are likely to become available. Recently, the United Nations (2016) issued a proclamation that abstinence-only sex education should be curtailed and substituted with comprehensive sex education that provided guidance about gender power relations in particular. As McClelland and Fine (2008) have noted, increasing the body of knowledge that provides nuanced information about how sexuality develops in adolescence will provide the fuel to expand how society talks about and represents young people’s sexuality and also public policies, such as sex education, aimed at “managing” adolescent sexuality development.

Conclusion

Adolescent sexual health offers a kind of map for recognizing the expectation and reality that the development of sexuality is part of adolescence. This model of sexual health both articulates and calls attention to how sexuality is so much more than whether or not adolescents are engaging in specific behaviors. Understanding the many complexities, challenges, and possibilities for sexual health in terms of how individuals develop in expanding contexts – interpersonal and social

relationships and sociopolitical/sociocultural contexts – opens up the category of “adolescent sexuality” and represents the many ways that sexuality is indeed connected to everything else that adolescents are experiencing as they develop. Recognizing that both threats and opportunities to sexual health are anchored in the particulars of young people’s social locations, and both the meanings and resources that therefore accrue to or are denied to them, enables parents, families, peers, teachers, health-care providers, youth workers, and communities to provide a wide array of supports to enable young people to emerge from adolescence as sexually healthy adults. Adolescents deserve and need what Sara McClelland (2010) calls “intimate justice” – the protection of the ability to express sexuality in all of its dimensions safely and with support – in order to develop healthy adult sexuality.

References

- Adelson, J. (Ed.). (1980). *Handbook of adolescent psychology*. New York: Wiley.
- Aggleton, P., & Parker, R. (Eds.). (2010). *Routledge handbook of sexuality, health and rights*. London: Routledge.
- American Psychological Association. (2007). *APA task force on sexualization of girls*. Washington, DC: American Psychologist Association.
- Amodeo, M., & Collins, M. E. (2007). Using a positive youth development approach in addressing problem-oriented youth behavior. *Families in Society*, 88(1), 75–85.
- Arbeit, M. R. (2014). What does healthy sex look like among youth? Towards a skills-based model for promoting adolescent sexuality development. *Human Development*, 57(5), 259–286.
- Barker, M. (2013). New femininities: Postfeminism, neoliberalism and subjectivity. *Psychology & Sexuality*, 4(3), 323–325.
- Bay-Cheng, L. Y. (2001). SexEd.com: Values and norms in web-based sexuality education. *The Journal of Sex Research*, 38(3), 241–251.
- Bay-Cheng, L., Robinson, A. D., & Zucker, A. N. (2009). Behavioral and relational contexts of adolescent desire, wanting, and pleasure: Undergraduate women’s retrospective accounts. *Journal of Sex Research*, 46(6), 511–524.
- Bearman, P. S., & Bruckner, H. (2001). Promising the future: Virginity pledges and first intercourse. *The American Journal of Sociology*, 106(4), 859–913.

- Best, J., & Bogle, K. A. (2014). *Kids gone wild: From rainbow parties to sexting, understanding the hype over teen sex*. New York: New York University Press.
- Black, S. R., Schmiege, S., & Bull, S. (2013). Actual versus perceived peer sexual risk behavior in online youth social networks. *Translational Behavioral Medicine*, 3(3), 312–319.
- Bogle, K. A. (2008). *Hooking up: Sex, dating, and relationships on campus*. New York: New York University Press.
- Bonino, S., Ciairano, S., Rabaglietti, E., & Cattellino, E. (2006). Use of pornography and self-reported engagement in sexual violence among adolescents. *European Journal of Developmental Psychology*, 3(3), 265–288.
- Boxer, A. M., Cook, J. A., & Herdt, G. (1999). Experiences of coming out among gay and lesbian youth: Adolescents alone. In *The adolescent alone: Decision making in health care in the United States* (pp. 121–138). Cambridge: Cambridge University Press.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.
- Brown, J. D., Halpern, C. T., & L'Engle, K. L. (2005). Mass media as a sexual super peer for early maturing girls. *Journal of Adolescent Health*, 36(5), 420–427.
- Brückner, H., & Bearman, P. (2005). After the promise: The STD consequences of adolescent virginity pledges. *Journal of Adolescent Health*, 36(4), 271–278.
- Burns, A., Futch, V., & Tolman, D. L. (2011). "It's like doing homework": Young women's narratives of fellatio. *Sexuality Research and Public Policy*, 8, 239.
- Cauffman, E., Feldman, S. S., Arnett Jensen, L., & Jensen Arnett, J. (2000). The (un)acceptability of violence against peers and dates. *Journal of Adolescent Research*, 15(6), 652–673.
- Cohen, C. J. (2010). *Democracy remixed*. Oxford/New York: Oxford University Press.
- Cohler, B. J., & Hammack, P. L. (2007). The psychological world of the gay teenager: Social change, narrative, and "normality". *Journal of Youth & Adolescence*, 36(1), 47–59.
- Collins, W. A., Welsh, D. P., & Furman, W. (2009). Adolescent romantic relationships. *Annual Review of Psychology*, 60, 631–652.
- Correa, S., & Petchesky, R. (1994). Reproductive and sexual rights: A feminist perspective. In A. Germaine & L. Chen (Eds.), *Population policies reconsidered* (pp. 107–123). Cambridge, MA: Harvard University Press.
- Cover, R. (2012). Transforming scandal: The 'St Kilda Schoolgirl', digital media activism and social change. *Media International Australia*, 143(1), 47–56.
- Crenshaw, K. (1995). Mapping the margins: Intersectionality, identity politics, and violence against women of color. In K. Crenshaw, N. Gotanda, G. Peller, & K. Thomas (Eds.), *Critical race theory: The key writings that formed the movement* (pp. 357–383). New York: The New Press.
- Dake, J. A., Price, J. H., Maziarz, L., & Ward, B. (2012). Prevalence and correlates of sexting behavior in adolescents. *American Journal of Sexuality Education*, 7(1), 1–15.
- Diamond, L. (2008). *Sexual fluidity: Understanding women's love and desire*. Cambridge: Harvard University Press.
- Diamond, L. M. (2013). Chapter 11. Sexual-minority, gender-nonconforming, and transgender youths. In *Handbook of child and adolescent sexuality*. Elsevier Inc.
- Diamond, L. M., & Savin-Williams, R. (2009). Adolescent sexuality. In L. Steinberg (Ed.), *Handbook of adolescent psychology, vol 1: Individual bases of adolescent development* (3rd ed., pp. 479–523). Hoboken: Wiley.
- Ehrhardt, A. A. (1996). Editorial: Our view of adolescent sexuality – A focus on risk behavior without the developmental context. *American Journal of Public Health*, 86(11), 1523–1525.
- Else-Quest, N. M., & Hyde, J. S. (2009). The missing discourse of development: Commentary on Lerum and Dworkin. *Journal of Sex Research*, 46(4), 264–267.
- Epstein, M., & Ward, L. M. (2008). 'Always use protection': Communication boys receive about sex from parents, peers, and the media. *Journal of Youth and Adolescence*, 37(2), 113–126.
- Espinosa-Hernández, G., Bissell-Havran, J., & Nunn, A. (2015). The role of religiousness and gender in sexuality among Mexican adolescents. *The Journal of Sex Research*, 52(8), 887–897.
- Fausto-Sterling, A. (2000). *Sexing the body: Gender politics and the construction of sexuality*. New York: Basic Books.
- Ferguson, C. J., Nielsen, R. K., & Markey, P. M. (2016). Does sexy media promote teen sex? A meta-analytic and methodological review. *Psychiatric Quarterly*, 1–10.
- Fields, J. (2008). *Risky lessons: Sex education and social inequality*. New Brunswick: Rutgers University Press.
- Fine, M. (1988). Sexuality, schooling, and adolescent females: The missing discourse of desire. *Harvard Educational Review*, 58(1), 29–53.
- Fine, M., & McClelland, S. I. (2007). The politics of teen women's sexuality: Public policy and the adolescent female body. *Emory University School of Law*, 56(4), 993–1038.
- Ford, C. A., Pence, B. W., Miller, W. C., Resnick, M. D., Bearinger, L. H., Pettingell, S., et al. (2005). Predicting adolescents' longitudinal risk for sexually transmitted infection: Results from the national longitudinal study of adolescent health. *Archives of Pediatrics & Adolescent Medicine*, 159(7), 657–664.
- Fortenberry, J. D. (2013). Sexual development in adolescents. In *Handbook of child and adolescent sexuality: Developmental and forensic psychology* (p. 589).

- Gagnon, J. H., & Simon, W. (1973). Social change and sexual conduct. In J. H. Gagnon & W. Simon (Eds.), *Sexual conduct: The social sources of human sexuality* (pp. 283–307). Chicago: Aldine Publishing Company.
- Gillespie, A. A. (2013). Adolescents, sexting and human rights. *Human Rights Law Review*, 13, 623, ngt032.
- Gowen, L. K., Feldman, S. S., Diaz, R., & Yisrael, D. S. (2004). A comparison of the sexual behaviors and attitudes of adolescent girls with older vs. similar-aged boyfriends. *Journal of Youth and Adolescence*, 33(2), 167–175.
- Halpern, C. T., Oslak, S., & Young, M. L. (2001). Partner violence among adolescents in opposite-sex romantic relationships: Findings from the national longitudinal study of adolescent health. *American Journal of Public Health*, 91(10), 1679–1685.
- Hensel, D. J., Fortenberry, J. D., & Orr, D. P. (2008). Variations in coital and noncoital sexual repertoire among adolescent women. *Journal of Adolescent Health*, 42(2), 170–176.
- Hernandez, K. M., Mahoney, A., & Pargament, K. I. (2014). Sexuality and religion. In *APA handbook of sexuality and psychology* (Vol. 2). Washington, DC: American Psychological Association.
- Hlavka, H. R. (2014). Normalizing sexual violence young women account for harassment and abuse. *Gender & Society*. <https://doi.org/10.1177/0891243214526468>.
- Horne, S., & Zimmer-Gembeck, M. (2006). The female sexual subjectivity inventory: Development and validation of a multidimensional inventory for late adolescents and emerging adults. *Psychology of Women Quarterly*, 30(2), 125–138.
- Jaccard, J., Dittus, P. J., & Gordon, V. V. (2000). Parent–teen communication about premarital sex: Factors associated with the extent of communication. *Journal of Adolescent Research*, 15(2), 187–208.
- Jewell, D., Tacchi, J., & Donovan, J. (2000). Teenage pregnancy: Whose problem is it? *Family Practice*, 17(9), 522–528.
- Johnson, B. T., Carey, M. P., Marsh, K. L., Levin, K. D., & Scott-Sheldon, L. (2003). Interventions to reduce sexual risk for the human immunodeficiency virus in adolescents, 1985–2000: A research synthesis. *Archives of Pediatrics & Adolescent Medicine*, 157(4), 381–388.
- Kaestle, C. E. (2009). Sexual insistence and disliked sexual activities in young adulthood: Differences by gender and relationship characteristics. *Perspectives on Sexual and Reproductive Health*, 41(1), 33–39.
- Kaestle, C. E., & Halpern, C. T. (2005). Sexual intercourse precedes partner violence in adolescent romantic relationships. *Journal of Adolescent Health*, 36(5), 386–392.
- Kao, T. S. A., & Martyn, K. K. (2014). Comparing White and Asian American adolescents' perceived parental expectations and their sexual behaviors. *Sage Open*, 4(2). <https://doi.org/10.1177/2158244014535411>.
- Khurana, A., & Cooksey, E. C. (2012). Examining the effect of maternal sexual communication and adolescents' perceptions of maternal disapproval on adolescent risky sexual involvement. *Journal of Adolescent Health*, 51(6), 557–565.
- Kim, J. L. (2009). Asian American women's retrospective reports of their sexual socialization. *Psychology of Women Quarterly*, 33(3), 334–350.
- Kim, J. L., Sorsoli, C. L., Collins, K., Zylbergold, B. A., Schooler, D., & Tolman, D. L. (2007). From sex to sexuality: Exposing the heterosexual script on primetime network television. *Journal of Sex Research*, 44(2), 145–157.
- Kirby, D. (2002a). Effective approaches to reducing adolescent unprotected sex, pregnancy, and childbearing. *The Journal of Sex Research*, 39(1), 51–57.
- Kirby, D. (2002b). *Do abstinence-only programs delay the initiation of sex among young people and reduce teen pregnancy?* Washington, DC: The National Campaign to Prevent Teen Pregnancy.
- Lamb, S., & Peterson, Z. D. (2012). Adolescent girls' sexual empowerment: Two feminists explore the concept. *Sex Roles*, 66(11–12), 703–712.
- Lescano, C. M., Houck, C. D., Brown, L. K., Doherty, G., DiClemente, R. J., Fernandez, M. I., et al. (2009). Correlates of heterosexual anal intercourse among at-risk adolescents and young adults. *American Journal of Public Health*, 99(6), 1131–1136.
- Manlove, J., Logan, C., Moore, K. A., & Ikramullah, E. (2008). Pathways from family religiosity to adolescent sexual activity and contraceptive use. *Perspectives on Sexual & Reproductive Health*, 40(2), 105–117.
- Manning, W. D., Giordano, P. C., & Longmore, M. A. (2006). Hooking up: The relationship contexts of 'non-relationship' sex. *Journal of Adolescent Research*, 21(5), 459–483.
- Masters, N. T., Casey, E., Wells, E. A., & Morrison, D. M. (2013). Sexual scripts among young heterosexually active men and women: Continuity and change. *Journal of Sex Research*, 50(5), 409–420.
- Maxwell, K. A. (2002a). Do friends matter? The role of peer crowd affiliation: Linkages with health-risk behaviors and close friendships. *Journal of Youth and Adolescence*, 31(4), 267–277.
- Maxwell, K. A. (2002b). Friends: The role of peer influence across adolescent risk behaviors. *Journal of Youth and Adolescence*, 31(4), 267–277.
- McClelland, S. I. (2010). Intimate justice: A critical analysis of sexual satisfaction. *Social and Personality Psychology Compass*, 4(9), 663–680.
- McClelland, S. I., & Fine, M. (2008). Rescuing a theory of adolescent sexual excess: Young women and wanting. In A. Harris (Ed.), *Next wave cultures: Feminism, subcultures, activism*. London: Routledge.
- McKenney, S. J., & Bigler, R. S. (2014). High heels, low grades: Internalized sexualization and academic

- orientation among adolescent girls. *Journal of Research on Adolescence*, 26, 30.
- Neustifter, R., Blumer, M. L., O'Reilly, J., & Ramirez, F. (2015). Use of sexuality-focused entertainment media in sex education. *Sex Education*, 15(5), 540–552.
- O'Donnell, L., Myint-U, A., Duran, R., & Stueve, A. (2010). Especially for daughters: Parent education to address alcohol and sex-related risk taking among urban young adolescent girls. *Health Promotion Practice*, 11(3), 70S–78S.
- O'Sullivan, L., & Thompson, A. W. (2014). Sexuality and adolescence. In D. L. Tolman & L. M. Diamond (Eds.), *APA handbook of sexuality and psychology, vol. 1: Person-based approaches* (pp. 433–486). Washington, DC: American Psychological Association.
- O'Sullivan, L. F., Meyer-Bahlburg, H. F. L., & Watkins, B. X. (2001). Mother-daughter communication about sex among urban African American and Latino families. *Journal of Adolescent Research*, 16(3), 269–292.
- O'Sullivan, L. F., Meyer-Bahlburg, H., & McKeague, I. W. (2006). The development of the sexual self-concept inventory for early adolescent girls. *Psychology of Women Quarterly*, 30(2), 139–149.
- Ott, M. A., Millstein, S. G., Ofner, S., & Halpern-Felsher, B. L. (2006). Greater expectations: Adolescents' positive motivations for sex. *Perspectives on Sexual and Reproductive Health*, 38, 84–89.
- Planned Parenthood Federation of America, Inc. (2001). *Adolescent sexuality*. New York: Katherine Dexter McCormick library.
- Raffaelli, M., & Ontai, L. L. (2001). 'She's 16 years old and there's boys calling over to the house': An exploratory study of sexual socialization in Latino families. *Culture, Health & Sexuality*, 3(3), 295–310.
- Reigeluth, C. S., & Addis, M. E. (2016). Adolescent boys' experiences with policing of masculinity: Forms, functions, and consequences. *Psychology of Men & Masculinity*, 17(1), 74.
- Remez, L. (2000). Oral sex among adolescents: Is it sex or is it abstinence? *Family Planning Perspectives*, 32(6), 298–304.
- Rice, C., & Watson, E. (2016). Girls and sexting: The missing story of sexual subjectivity in a sexualized and digitally-mediated world. In *Learning bodies* (pp. 141–156). Singapore: Springer.
- Rivadeneira, R., & Lebo, M. J. (2008). The association between television-viewing behaviors and adolescent dating role attitudes and behaviors. *Journal of Adolescence*, 31(3), 291–305.
- Romo, L. F., Bravo, M., & Tschann, J. M. (2014). The effectiveness of a joint mother–daughter sexual health program for Latina early adolescents. *Journal of Applied Developmental Psychology*, 35(1), 1–9.
- Rosario, M., Schrimshaw, E. W., & Hunter, J. (2011). Different patterns of sexual identity development over time: Implications for the psychological adjustment of lesbian, gay, and bisexual youths. *Journal of Sex Research*, 48(1), 3–15.
- Rostosky, S. H., Regnerus, M. D., & Wright, M. L. C. (2003). Coital debut: The role of religiosity and sex attitudes in the add health survey. *Journal of Sex Research*, 40(4), 358–367.
- Roye, C. F., Tolman, D. L., & Snowden, F. (2013). Heterosexual anal intercourse among Black and Latino adolescents and young adults: A poorly understood high-risk behavior. *Journal of Sex Research*, 50(7), 715–722.
- Rubin, G. (1984). Thinking sex: Notes for a radical theory on the politics of sexuality. In C. Vance (Ed.), *Pleasure and danger: Exploring female sexuality* (pp. 267–319).
- Russell, S. T. (2005). Introduction to positive perspectives on adolescent sexuality: Part 2. *Sexuality Research and Social Policy: Journal of NSRC*, 2(4), 1–3.
- Santelli, J. S., Kaiser, J., Hirsch, L., Radosh, A., Simkin, L., & Middlestadt, S. (2004). Initiation of sexual intercourse among middle school adolescents: The influence of psychosocial factors. *The Journal of Adolescent Health*, 34(3), 200–208.
- Savin-Williams, R. (2005). *The new gay teenager*. Cambridge: Harvard University Press.
- Schooler, D., Kim, J. L., & Sorsoli, L. (2006). Setting rules or sitting down: Parental mediation of television consumption and adolescent self-esteem, body image, and sexuality. *Sexuality Research & Social Policy: A Journal of the NSRC*, 3(4), 49–62.
- Shalit, W. (2007). *Girls gone mild: Young women reclaim self-respect and find it's not bad to be good*. New York: Random House.
- Shute, R., Owens, L., & Slee, P. (2008). Everyday victimization of adolescent girls by boys: Sexual harassment, bullying or aggression? *Sex Roles*, 58(7–8), 477–489.
- SIECUS. (1995). *Consensus statement from the national commission on adolescent sexual health*. New York: SIECUS.
- Sieving, R. E., Eisenberg, M. E., Pettingell, S., & Skay, C. L. (2006). Friends' influence on adolescents' first sexual intercourse. *Perspectives on Sexual and Reproductive Health*, 38, 13–19.
- Sprecher, S., & Regan, P. C. (2000). Sexuality in a relational context. In C. Hendrick & S. Hendrick (Eds.), *Close relationships: A sourcebook* (pp. 217–227). Thousand Oaks: Sage.
- Stefanone, M. A., Lackaff, D., & Rosen, D. (2010). The relationship between traditional mass media and "social media": Reality television as a model for social network site behavior. *Journal of Broadcasting & Electronic Media*, 54(3), 508–525.
- Strasburger, V. C., Hogan, M. J., Mulligan, D. A., Ameenuddin, N., Christakis, D. A., Cross, C., . . . , & Moreno, M. A. (2013). Children, adolescents, and the media. *Pediatrics*, 132(5), 958–961.
- Subrahmanyam, K., Greenfield, P. M., & Tynes, B. (2004). Constructing sexuality and identity in an online teen chat room. *Journal of Applied Developmental Psychology*, 25(6), 651–666.

- Suzuki, L. K., & Calzo, J. P. (2004). The search for peer advice in cyberspace: An examination of online teen bulletin boards about health and sexuality. *Journal of Applied Developmental Psychology, 25*(6), 685–698.
- Tanenbaum, L. (2015). *I am not a slut: Slut-shaming in the age of the Internet*. New York: Harper Perennial.
- Tolman, D. (1999). Femininity as a barrier to adolescent girls' sexual health. *Journal of American Medical Women's Association, 54*(3), 134–138.
- Tolman, D. L. (2000). Object lessons: Romance, violation, and female adolescent sexual desire. *Journal of Sex Education and Therapy, 25*(Part 1), 70–79.
- Tolman, D. L. (2002). *Dilemmas of desire: Teenage girls talk about sexuality*. Cambridge, MA: Harvard University Press.
- Tolman, D. L. (2006). In a different position: Conceptualizing female adolescent sexuality within compulsory heterosexuality. *New Directions for Child and Adolescent Development, 2006*(112), 71–89.
- Tolman, D. L. (2012). Female adolescents, sexual empowerment and desire: A missing discourse of gender inequity. *Sex Roles, 66*(11–12), 746–757.
- Tolman, D. (2013). Afterword insisting on “both/and”: Artifacts of excavating the moral panics of sexuality. In *The moral panics of sexuality* (pp. 245–255). Basingstoke: Palgrave Macmillan.
- Tolman, D. L., & Diamond, L. (2001). Desegregating sexuality research: Cultural and biological perspectives on gender and desire. *Annual Review of Sex Research, 12*, 33–74.
- Tolman, D. L., & Diamond, L. M. (2014). Sexuality theory: A review, a revision, and a recommendation. In *APA handbook of sexuality and psychology*, (Vol. 1, pp. 3–27).
- Tolman, D. L., & McClelland, S. I. (2011). Normative sexuality development in adolescence: A decade in review, 2000–2009. *Journal of Research on Adolescence, 21*, 242–255.
- Tolman, D. L., Spencer, R., Rosen-Reynoso, M., & Porche, M. V. (2003). Sowing the seeds of violence in heterosexual relationships: Early adolescents narrate compulsory heterosexuality. *Journal of Social Issues, 59*(1), 159–178.
- Tolman, D. L., Davis, B. R., & Bowman, C. P. (2015). “That’s just how it is” a gendered analysis of masculinity and femininity ideologies in adolescent girls’ and boys’ heterosexual relationships. *Journal of Adolescent Research, 31*(1), 3–31.
- Toomey, R. B., & Russell, S. T. (2013). Gay-straight alliances, social justice involvement, and school victimization of lesbian, gay, bisexual, and queer youth implications for school well-being and plans to vote. *Youth & society, 45*(4), 500–522.
- United Nations Population Fund. (2016). Comprehensive Sex Education. <http://www.unfpa.org/comprehensive-sexuality-education>
- Wadsworth, L. P., & Hayes-Skelton, S. A. (2015). Differences among lesbian, gay, bisexual, and heterosexual individuals and those who reported an other identity on an open-ended response on levels of social anxiety. *Psychology of Sexual Orientation and Gender Diversity, 2*(2), 181.
- Ward, J. (2003a, February 11). Sex-ed battles inspire Fairfax. *Washington Times*.
- Ward, L. M. (2003b). Understanding the role of entertainment media in the sexual socialization of American youth: A review of empirical research. *Developmental Review, 23*(3), 347–388.
- Ward, L. M. (2016). Media and sexualization: State of empirical research, 1995–2015. *The Journal of Sex Research, 53*(4–5), 560–577.
- Ward, L. M., & Friedman, K. (2006). Using TV as a guide: Associations between television viewing and adolescents’ sexual attitudes and behavior. *Journal of Research on Adolescence, 16*(1), 133–156.
- Ward, L. M., Hansbrough, E., & Walker, E. (2005). Contributions of music video exposure to black adolescents’ gender and sexual schemas. *Journal of Adolescent Research, 20*(2), 143–166.
- Ward, L. M., Reed, L., Trinh, S. L., & Foust, M. (2014). Sexuality and entertainment media. In *APA handbook of sexuality and psychology*, (Vol. 2, pp. 373–423).
- Wekerle, C., Bennett, T., & Francis, K. (2013). Chapter 13. Child sexual abuse and adolescent sexuality. In *Handbook of child and adolescent sexuality*. Elsevier Inc.
- Welsh, D. P., Haugen, P. T., Widman, L., Darling, N., & Grello, C. M. (2005). Kissing is good: A developmental investigation of sexuality in adolescent romantic couples. *Sexuality Research & Social Policy: A Journal of the NSRC, 2*(4), 32–41.
- Wilde, J. (2014). Dimensional sexuality: Exploring new frameworks for bisexual desires. *Sexual and Relationship Therapy, 29*(3), 320–338.
- World Association for Sexual Health. (2008). *Sexual health for the millennium: A declaration and technical document*. Minneapolis: World Association for Sexual Health.
- Zaleski, E. H., & Schiaffino, K. M. (2000). Religiosity and sexual risk-taking behavior during the transition to college. *Journal of Adolescence, 23*(2), 223–227.

Sexual Minority Youth

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Overview

The study of sexual minority youth identity has been shaped within three narratives of the meaning of same-sex desire over the course of the

twentieth and early twenty-first centuries. Following an initial narrative of *sickness*, early research appropriated a model of homosexuality as abnormal or deviant, based on cultural conceptions of same-sex desire, the use of primarily clinical samples, and the dominance of psychoanalytic theories of sexuality. Youth with same-sex desire were pathologized in this initial line of research, which was dominant until the 1980s. Social and political activism of the 1960s, coupled with growing evidence of the dubious link between homosexuality and mental illness, culminated in the official removal of homosexuality as a diagnosable mental illness from the *Diagnostic and Statistical Manual (DSM)* of the American Psychiatric Association in 1973. Subsequently, a *species* narrative emerged in the literature that positioned individuals with same-sex desire as a unique minority subpopulation. The vast majority of empirical research with same-sex attracted adolescents emerged within the framework of this narrative, which itself was rooted in the identity-based claims of the gay civil rights movement. Studies of same-sex attracted adolescents began to flourish in the 1980s and then increased exponentially in the 1990s. Initial studies sought to chart identity development trajectories for sexual minorities but relied primarily on retrospective accounts of white gay men presenting with clinical concerns, primarily in the USA and other Western nations. A third narrative, derived primarily from the queer theory movement within gender and cultural studies, has begun to characterize some work on same-sex attracted youth. Following what we call a *subject* script, this work more critically interrogates the meaning that individuals make of the received taxonomy of gender and sexual identity. Hence, this research disrupts notions of an essential sexual minority identity and instead challenges the larger interpretive framework within which individuals make meaning of desire.

This essay reviews and analyzes literature relating to sexual minority youth by providing a historical lens through which to view knowledge produced about their identity. This history of the field highlights debates about the focus of

study (e.g., risk vs. resilience) and the nature of the population to study (e.g., self-identified or not). The essay concludes with a call for empirical research that is historically informed and attends to the meanings individuals make of sexual desire in a given cultural and political context.

The Sexual Minority as Deviant: The Sickness Script

The first generation of scholarship on what is now referred to as *sexual minority identity* identified same-sex attraction and behavior as deviant and indicative of a clinical syndrome. The term *homosexuality* emerged in the late nineteenth century in Europe to describe a pattern of desire and behavior primarily directed toward members of the same sex. Interestingly, the conception of homosexuality as a form of mental illness was intended to challenge the notion of homosexuality as a form of deviance under conscious control, thus suggesting a *medical* rather than a *legal* response to same-sex desire (Brennan and Hegarty 2009; Bullough and Bullough 1997).

The sickness narrative that framed early research on same-sex attraction assumed an idea of “normativity” with regard to sex and gender and hence viewed homosexuality as indicative of *inversion* (e.g., Ellis 1925). Adolescents did not represent a population of study in this area until the 1930s and 1940s. Studies conducted in this era uncritically appropriated a sickness narrative of same-sex attraction, suggesting its link to “character disturbances” (Horney 1935), “delinquency” (Valentine 1943), and a disturbance in normal psychosexual development (Bender and Paster 1941). Research conducted in this era thus assumed a presupposed normative order with regard to gender and sexual behavior, as well as human development in general.

The view of homosexuality as deviant and indicative of psychopathology was dealt a major blow in the mid-twentieth century by the publication of the famous Kinsey report on sexuality among men in the USA (Kinsey et al. 1948). The report revealed that homosexuality

in some form was common among a substantial number of US men at some point in their lives. Kinsey and his colleagues argued that the common occurrence of homosexuality suggested that it could not be considered “abnormal,” as it appeared to be within the normal range of human behavior. In spite of the challenge to the sickness narrative brought by the Kinsey report and its widespread popularity in the USA, research on homosexuality in adolescence continued to be framed within the interpretive lens of sickness. This association was maintained at least in part by the reliance on institutionalized and/or clinical samples of adolescents (e.g., Ward 1958), thus suggesting a likely spurious link between same-sex desire and deviant behavior.

The sickness narrative was dealt a second blow in the 1950s with the pioneering work of Evelyn Hooker. Hooker responded directly to the problem of sampling same-sex attracted individuals from criminal or psychiatric institutions by recruiting two samples of men (self-identified homosexual and self-identified heterosexual) without psychopathology. She administered a standard battery of personality assessment to both groups of men and provided them to expert analysts to determine which subjects were homosexual and which were heterosexual. The expert judges were unable to distinguish the profiles of the men. These findings led Hooker (1957) to argue that “homosexuality as a clinical entity does not exist” (p. 30).

Research on same-sex attracted youth continued to promulgate a vision of homosexuality as mental disturbance in the 1960s – a decade that witnessed the growth of a civil rights movement for equality based on race, gender, and sexual identity. In part, the sustenance of the sickness narrative was connected to interpretations of psychoanalytic theory that remained hegemonic in US psychiatry and clinical psychology at the time (e.g., Bieber et al. 1962; see Friedman 2002). Growing cultural, political, and intellectual momentum against this narrative in the late 1960s and early 1970s culminated in the decision in

1973 to remove homosexuality as a diagnosable mental illness from the DSM. This watershed historic moment opened up the space within scientific discourse for a revision of the guiding sickness narrative of same-sex attraction.

From Pathology to Identity: The Species Script

The removal of homosexuality from the DSM in 1973 allowed the scientific rhetoric to meet what had become the narrative of a community of same-sex attracted individuals seeking political and cultural recognition. This narrative, which can be called a *species* narrative after Foucault (1978) and, more recently, Savin-Williams (2005), centered on the idea of same-sex attraction as a normative form of diversity and indicative of a particular *category* of minority identity, akin to race, ethnicity, and the like. With this narrative shift, the political and scientific context of research on youth with same-sex desire changed dramatically. The analytic lens shifted from adolescent homosexuality as deviant to the social and psychological consequences of stigma among youth who identify as non-heterosexual (e.g., Hetrick and Martin 1987). Models of counseling and identity development emerged in the 1970s (e.g., Brown 1975; Cass 1979; Jones 1978; Troiden 1979). Scholarship in this period reflected the narrative shift from pathology to identity, creating a corpus of knowledge on the same-sex attracted individual.

The majority of research produced in the 1980s and 1990s focused on the adjustment difficulties of sexual minority youth, including self-esteem and parental disclosure (Savin-Williams 1989), depression (e.g., Safren and Heimberg 1999), suicide risk (e.g., Garofalo et al. 1999; Remafedi et al. 1991), sexual risk behavior in the time of AIDS (e.g., Remafedi 1994), and problem behaviors in general (e.g., Rotheram-Borus et al. 1995). A major emphasis on the consequences of victimization and bullying also emerged at this time (e.g., Hershberger and D’Augelli 1995;

Pilkington and D'Augelli 1995). These studies revealed the social and psychological struggles of non-heterosexual youth to develop healthy and meaningful identities in the midst of continued societal stigma.

Though studies in this period documented important developmental issues for same-sex attracted youth, they have been criticized for methodological problems related to sampling and measurement, as well as conceptual problems related to a view of sexual minority identity as an essential trait. Regarding issues of sampling and methodology, Savin-Williams (2001, 2005) suggested that the emphasis on risk and pathology among same-sex attracted youth is problematic because it is based on a limited sample of youth who identify as lesbian, gay, or bisexual. He argued that researchers have constructed a narrative of gay adolescence based on samples of a particular group of self-identified sexual minority youth in the USA. Because youth who do not present with clinical concerns or do not identify as gay are excluded from such studies, we know little about resilience and diversity among the larger population of same-sex attracted adolescents. Savin-Williams (2005) argued that youth in the early twenty-first century are less socially or psychologically troubled by same-sex desire compared with prior generations and that, due to conceptual and methodological limitations, researchers have failed to accurately portray the successful development of most youth with same-sex desire.

The second critique of this line of research on same-sex attracted youth centers on the assumption of sexual minority identity as an essential trait of the person rather than as a historical response to cultural limitations imposed upon desire. Researchers assuming a cultural or life-course approach to youth in this period began to challenge an essentialist stance (e.g., Boxer and Cohler 1989; Herdt and Boxer 1993), even as they suggested the globalization of a sexual minority identity (Herdt 1989). These researchers called in particular for more empirical work beyond the USA and greater use of prospective

longitudinal methods, as opposed to the common reliance on retrospective accounts at the time.

The period of research on sexual minority identity that relied upon a *species* narrative thus viewed same-sex attraction as indicative of a particular category of person, appropriating a similar framework from the sickness narrative (though importantly depathologizing desire). The majority of studies with youth assessed sexual identity by presenting respondents with a predefined set of identity labels (e.g., gay, lesbian, bisexual), limiting the ability of youth to describe their identities freely and excluding youth whose senses of self do not map onto the received taxonomy of sexual identity.

Problematizing Identity: The Subject Script

Beginning in the 1990s, a third narrative began to guide research on sexual minority identity and same-sex attracted youth. This narrative can be referred to as a *subject* script, following Foucault's (1982) use of the term:

There are two meanings of the word "subject": subject to someone else by control and dependence; and tied to his own identity by a conscience or self-knowledge. Both meanings suggest a form of power which subjugates and makes subject to. (Foucault 1982, p. 781)

This notion of subjectivity speaks to the growing recognition of sexual taxonomies as both confining and psychologically comforting. The subject narrative of sexual identity can be linked to the emergence of queer theory in the humanities and cultural studies (e.g., Butler 1990; de Lauretis 1991). Scholarship in queer theory has challenged the idea of gender and sexual categories as timeless and "natural." As Hostetler and Herdt (1998) note, the term *queer* is intended to promote a more open, multiperspectival space from which to contest heteronormativity.

A key theme of empirical social science research following the subject script involves direct access to the voices of individuals who

actively engage with a matrix of gender and sexual identity. Thus, work that follows this narrative relies more often on qualitative methods to gain access to the way in which individuals negotiate taxonomies of identity. This approach can be directly linked to the labeling of queer theory as such, given that de Lauretis (1991) was motivated by her own recognition that the term *queer* (a highly pejorative term in the twentieth century) was being reclaimed and used among youth (Halperin 1995).

Beyond the humanities, queer theory and the subject narrative initially had the most influence on studies in the field of education (e.g., Leck 1993; Lewis and Karin 1994; Rodriguez 1998). Concurrent with the growth of Gay-Straight Alliances (GSAs) in high schools in the USA, scholars began to recognize that youth were charting their own trajectories and were engaging with gender and sexual taxonomies in ways that challenged the species narrative of gay, lesbian, and bisexual identity. In a major essay titled "Queer in America: Citizenship for Sexual Minority Youth," Stephen Russell (2002) suggested that youth were creating their own settings in which to "explore their identities, develop community, and create social change" (p. 258). These settings included the GSA and online communities.

The infiltration of queer theory and a subject script into social science research on sexual minority youth created a major controversy in the field centered on the continued relevance of a sexual minority identity label for same-sex attracted youth. The assumption of a gay, lesbian, or bisexual identity label was critical to the political movements for social equality that led to the cultural transformation in views of homosexuality in the USA and Europe in the mid to late twentieth century (Gamson 1995). Scholars have suggested that a new generation of youth might inhabit a "post-gay" political context in which being attracted to members of the same sex is less of a social stigma (e.g., Savin-Williams 2005). This issue remains controversial in the study of sexual minority youth because some have suggested that claims of a "post-gay" era interrupt political

movements for sexual liberation (Warner 1999). In addition, survey studies suggest that a sexual minority label continues to be significant for the majority of youth with same-sex desire (Russell et al. 2009a).

Reconciling Scripts: The Idea of Narrative Engagement

The historical analysis presented thus far suggests a linear account of narrative development with regard to same-sex attraction from the late nineteenth to early twenty-first centuries. However, recent research on the narratives of same-sex attracted youth challenges such an account. Rather, research suggests that contemporary youth have access to all three of these master narratives of sexual identity and appropriate various aspects of each.

Following the publication of Savin-Williams' (2005) book, which challenged the dominance of the species narrative of gay adolescence, Cohler and Hammack (2007) argued that youth with same-sex desire engage with at least two competing master narratives as they form their identities. They suggested that youth have access to the redemptive narrative of *struggle and success* constructed by a species script. This narrative reflects the classic coming-out storyline which emerged in the mid-twentieth century to challenge prior notions of homosexuality as sickness. By coming out, the same-sex attracted individual could find meaning and community in solidarity with others. Assumption of a sexual minority identity label is key to this narrative identity development process.

A narrative of struggle and success does not, however, represent the only discourse on sexual identity to which contemporary youth are exposed. Cohler and Hammack (2007) argued that youth actively engage with an *emancipation* narrative which challenges the received sexual and gender identity taxonomy, constructing new forms of identity at a time in which the essential basis of a sexual minority

identity is a matter of interrogation. Thus, Cohler and Hammack (2007) sought to reconcile prior formulations of “gay adolescence” with recent claims of a “post-gay” context for same-sex attracted youth.

Integrating ideas about narrative identity development with a life-course perspective, Hammack and Cohler (2009) further developed the theoretical idea of *narrative engagement*, suggesting that human development can be conceived as a process of engagement with multiple discourses on identity, themselves a legacy of history in a given cultural and political setting. These ideas have begun to be demonstrated empirically with studies of contemporary same-sex attracted youth and adults. For example, Hammack et al. (2009) conducted intensive life-story interviews with same-sex attracted youth. In an interpretive analysis of their life stories, they found evidence for the engagement with both the classic narrative of struggle and success and the emancipation or “post-gay” narrative among contemporary youth. Westrate and McLean (2010) examined cultural and personal memories among same-sex attracted individuals from multiple cohorts. Their findings revealed the way in which master narratives of sexual identity over the course of the twentieth century impact the ability of individuals to generate particular kinds of memories. For example, younger participants generated more personal memories unrelated to sexuality compared with older participants, whose memories focused on political events (e.g., the Stonewall Inn riots) or events directly related to sexuality. They concluded that the nature of narrative identity development for sexual minorities has shifted over time, with less of a focus on political events among contemporary youth.

Regardless of whether studies assume a narrative approach, there is an increasing emphasis on *contextualizing* the development and experience of youth, which reflects a deeper concern for social and political settings. A special issue of the *Journal of Youth and Adolescence* was published in 2009 on this topic, with particular attention to

the way in which particular features of the school context impact adjustment and development (Birkett et al. 2009; Chesir-Teran and Hughes 2009; Kosciw et al. 2009). These studies document the way in which heterosexism remains pervasive in schools, but the emergence of gay-straight alliances in high schools in the USA has provided a setting for youth empowerment in the context of social stigma (Russell 2002; Russell et al. 2009b). Empirical research has thus increasingly focused on issues of context in the experience and development of same-sex attracted youth, examining settings such as institutions.

Gaps in Knowledge

The account of sexual minority identity constructed above is intended to increase sensitivity to issues of history and culture in the study of same-sex attracted adolescents. Unfortunately, the primary gaps in knowledge are linked to the tendency toward ahistoric, decontextualized approaches that rely upon samples almost exclusively studied in the USA. This tendency reveals four key gaps in our current knowledge of sexual minority identity in adolescence. Gaps in knowledge of sexual minority youth identity center on (1) lack of attention to cultural and historical forces that shape sexual identity trajectories, (2) reliance on an ontogenetic view of sexual minority identity development rooted primarily in retrospective reports of white gay-identifying men in the USA, (3) uncritical “naturalization” of sexual minority identity categories that results in a narrow view of diversity in sexual development, and (4) lack of sufficient attention on transgender youth.

The lack of attention to cultural and historical forces that influence sexual identity trajectories has resulted in a monolithic, ahistorical account of sexual minority identity formation. Scholars have increasingly embraced a more contextualist account of sexual identity development (e.g., Hostetler and Herdt 1998), recognizing that the

nature and meaning of sexual identity categories varies across time and place. A view of the life course as socially and historically situated allows scholars to better conceive of the context dependence of sexual identity development (Hammack 2005). Empirical studies that examine contextual variations in the meaning of sexual desire, behavior, and identity are extremely uncommon but needed to address this gap in knowledge. In addition, systematic analysis of generational differences is needed to better elaborate the historical contingency of sexual identity development. In a multi-cohort sample in Canada, Westrate and McLean (2010) discovered that contemporary youth narrate more self-defining memories that are *personal* in nature, relative to members of an older cohort who narrate more self-defining memories that are *political* in nature. Studies such as this reveal the link among politics, social history, and personal meaning-making.

Although the cultural grounding of sexual identity negotiation is increasingly recognized, the research on cross-cultural variation in adolescent sexuality is becoming rapidly outdated. Gay (1985) documented the existence of mummy–baby relationships between schoolgirls in Lesotho in southern Africa. These erotic friendships were formed between an older “mother” and a younger “child” and involved hugging, kissing, and sexual relations. Herdt (1982) examined the sexual culture of the Sambia in Papua New Guinea. He found that age-structured homoerotic relations and ritual insemination were thought vital to an adolescent male’s transition into adulthood. More recent research on same-sex relations across cultures has focused on adults, leaving adolescent experiences of same-sex sexual desire, behavior, and identity virtually unexplored.

The reliance on retrospective self-reports of white gay-identifying men in the USA has produced a narrow picture of the developmental trajectories of sexual minority youth. The identity acquisition models derived from these data have measured progress in terms of movement along a US white male continuum (Savin-Williams

2005). Recent research has attempted to expand this restricted rendering of identity development processes. Savin-Williams and Diamond (2000) found that males and females in the USA tend to display different sequencing and context of various sexual identity milestones, such as first same-sex attractions, first same-sex sexual contact, and self-labeling. Dubé and Savin-Williams (1999) found that African American, Latino, Asian American/Pacific Islander, and white gay males varied with respect to the timing and sequencing of identity milestones, disclosure to family members, and opposite-sex romantic and sexual relationships. Empirical research that considers diversity in sexual identity trajectories among youth is extremely uncommon.

It is important to recognize the variable timing of sexual identity milestones across social groups. However, it is unclear whether the milestones have equivalent meanings or manifestations across groups. For example, “coming out” may not have the same significance or even describe the same event for one individual as it does for the next. That is, the meaning of disclosure is likely contingent upon a number of factors, and researchers must move beyond the simple mapping of milestones to examine the context-dependent social meanings with which they are endowed. More important, the focus on reified social groups leaves many intersections unexplored. The meaning an individual makes of sexual identity may be inflected in unique ways depending on gender, racial, ethnic, class, religious, political, family, and community affiliations (see Cole 2009). There is need for exploration of sexual identity as a complex set of subjectivities constantly renegotiated throughout an individual’s life (Hostetler and Herdt 1998).

An *essentialist* view of sexual orientation has treated sexual identity categories (homosexual, gay, lesbian, bisexual) as mere reflections of natural, biologically rooted human kinds (Hammack 2005). By framing social phenomena as the inevitable outcome of natural characteristics, naturalization reifies social identity categories (Reicher

and Hopkins 2001). The reification of sexual minority identity categories has constructed group differences, most notably those between the categories of “homosexual” and “heterosexual,” as essential and biological. The naturalization of the gay-straight dichotomy (as well as the male–female dichotomy) has fostered the conceptualization of sexual minority youth as a separate “species” (Savin-Williams 2005), one that is characterized by emotional distress and mental health problems.

Although many scholars have attempted to dismantle the gay-straight dichotomy and deconstruct essentialized sexual identity categories, this area of theory and empirical research remains underdeveloped, particularly in the study of adolescence. Conceptualizations of sexual identities as dynamic and fluid (Diamond 2005, 2008) and the intersection of crosscutting identifications along several axes of social difference (Valocchi 2005) support the conclusion that sexual identities cannot be fully captured by a single identity category such as “homosexual” or “heterosexual.” Recent research on adolescent females in the USA has suggested that their experiences especially fail to be captured by static, reified sexual identity labels. Diamond (2005) has questioned the usefulness of the lesbian/bisexual/heterosexual classification scheme in light of the marked sexual fluidity displayed by many young women. Building upon these findings, Thompson and Morgan (2008) have postulated the existence of an additional category – mostly straight – thereby challenging the categorical nature of traditional sexual identity labels. Prospective, longitudinal data on the experiences of adolescents over time and across cultural settings are needed to further interrogate the meaning youth make of sexual desire, behavior, and identity.

The final major gap in the literature concerns the study of transgender youth. *Transgender* typically refers to an individual whose internalized sense of gender identity does not match anatomy. *Male-to-female (MTF)* transgender individuals possess primary sex characteristics associated with being male (e.g., penis and testicles) but

identify as a woman. *Female-to-male (FTM)* transgender individuals possess primary sex characteristics associated with being female (e.g., breasts, vagina) but identify as male. These individuals often undergo hormonal treatments and sex reassignment surgery. *Transgender* identity (sometimes also called *transsexualism*) is not to be confused with *transvestitism*, which refers to a sexual fetish by which individuals become aroused when wearing the clothing of the opposite sex. (Individuals who practice transvestitism do not typically report a desire to identify as the opposite sex.)

Empirical study of transgender youth is extremely rare, in spite of the growing number of youth who are assuming a transgender identity. Though distinct from sexual identity in the sense that transgender identification is concerned with *gender* identity, transgender individuals are part of the larger community of sexual minorities and are included in social services and political organizing with individuals who identify as lesbian, gay, bisexual, or queer. Studies that have focused explicitly on the experience and development of transgender youth have revealed the vulnerability of this population (Grossman and D’Augelli 2006, 2007), as well as their distinct experiences relative to lesbian, gay, and bisexual youth (McGuire et al. 2010). Unfortunately, though, very little empirical research focuses primarily on transgender youth, revealing a major gap in the literature.

Summary

Empirical study of youth with same-sex desire has shifted from the consideration of homosexuality as deviant or pathological in most of the twentieth century to the idea of same-sex attracted youth as a distinct subpopulation of youth. Following the institutional depathologization of homosexuality in 1973, a new wave of research emerged on sexual minority youth, particularly in the 1980s and 1990s. The majority of this research documented the challenges and struggles of

development for sexual minority youth, including risk for depression, suicide, and victimization. The focus of this work has become increasingly controversial as scholars recognize the challenges of population and measurement in the context of a shifting historical and political setting for sexual identity development (Cohler and Hammack 2007; Savin-Williams 2001, 2008). Evidence suggests that, in spite of these controversies, sexual minority youth continue to struggle with social stigma (e.g., Almeida et al. 2009) and to benefit from the assumption of a sexual minority label (e.g., Russell et al. 2009a). It may be best to conceptualize contemporary adolescents as exposed to multiple discourses on the nature and meaning of sexual desire and identity, thus recognizing the narrative complexity that has emerged over the last century in the USA (Hammack and Cohler 2009).

In the study of sexual minority identity among adolescents, there is a need for systematic empirical inquiry that considers cultural and historical forces, challenges essentialized notions of sexual identity, and considers populations beyond the USA. In addition, there is a need to expand the study of sexual minority youth to include transgender youth and document their unique experience and development. Such inquiry would address critical gaps in our knowledge of diversity in sexual desire, behavior, and identity among the world's youth.

Cross-References

- ▶ [Coming out as Lesbian, Gay, Bisexual, and Transgender](#)
- ▶ [Coming Out Process](#)
- ▶ [Transgender Youth](#)

References

- Almeida, J., Johnson, R. M., Corliss, H. L., Molnar, B. E., & Azrael, D. (2009). Emotional distress among LGBT youth: The influence of perceived discrimination based on sexual orientation. *Journal of Youth and Adolescence*, 38(7), 1001–1014.
- Bender, L., & Paster, S. (1941). Homosexual trends in children. *American Journal of Orthopsychiatry*, 11, 730–744.
- Bieber, I., Dain, H. J., Dince, P. R., Drellich, M. G., Grand, H. G., Gundlach, R. H., Kremer, M. W., Rifkin, A. H., Wilbur, C. B., & Bieber, T. B. (1962). *Homosexuality: A psychoanalytic study*. New York: Basic Books.
- Birkett, M., Espelage, D. L., & Koenig, B. (2009). LGB and questioning students in schools: The moderating effects of homophobic bullying and school climate on negative outcomes. *Journal of Youth and Adolescence*, 38(7), 989–1000.
- Boxer, A. M., & Cohler, B. J. (1989). The life course of gay and lesbian youth: An immodest proposal for the study of lives. *Journal of Homosexuality*, 17, 315–355.
- Brennan, T., & Hegarty, P. (2009). Magnus Hirschfeld, his biographies and the possibilities and boundaries of “biography” as “doing history”. *History of the Human Sciences*, 22(5), 24–46.
- Brown, D. A. (1975). Counseling the youthful homosexual. *School Counselor*, 22(5), 325–333.
- Bullough, V. L., & Bullough, B. (1997). The history of the science of sexual orientation 1880–1980: An overview. *Journal of Psychology & Human Sexuality*, 9(2), 1–16.
- Butler, J. (1990). *Gender trouble: Feminism and the subversion of identity*. New York: Routledge.
- Cass, V. C. (1979). Homosexual identity formation: A theoretical model. *Journal of Homosexuality*, 4, 219–235.
- Chesir-Teran, D., & Hughes, D. (2009). Heterosexism in high school and victimization among lesbian, gay, bisexual, and questioning students. *Journal of Youth and Adolescence*, 38(7), 963–975.
- Cohler, B. J., & Hammack, P. L. (2007). The psychological world of the gay teenager: Social change, narrative, and “normality”. *Journal of Youth and Adolescence*, 36, 47–59.
- Cole, E. R. (2009). Intersectionality and research in psychology. *American Psychologist*, 64(3), 170–180.
- de Lauretis, T. (1991). Queer theory: Gay and lesbian sexualities. *Differences: A Journal of Feminist Cultural Studies*, 3, iii–xviii.
- Diamond, L. M. (2005). A new view of lesbian subtypes: Stable versus fluid identity trajectories over an 8-year period. *Psychology of Women Quarterly*, 29, 119–128.
- Diamond, L. M. (2008). Female bisexuality from adolescence to adulthood: Results from a 10-year longitudinal study. *Developmental Psychology*, 44(1), 5–14.
- Dubé, E. M., & Savin-Williams, R. C. (1999). Sexual identity development among ethnic sexual-minority male youths. *Developmental Psychology*, 35(6), 1389–1398.
- Ellis, H. (1925). *Sexual inversion: Studies in the psychology of sex* (3rd rev. ed.). Philadelphia: F.A. Davis.
- Foucault, M. (1978). *The history of sexuality: An introduction* (Vol. 1). New York: Vintage.

- Foucault, M. (1982). The subject and power. *Critical Inquiry*, 8, 777–795.
- Friedman, R. C. (2002). Homosexuality. *Annual of Psychoanalysis*, 30, 69–80.
- Ganson, J. (1995). Must identity movements self-destruct? A queer dilemma. *Social Problems*, 42(3), 390–407.
- Garofalo, R., Wolf, R. C., Wissow, L. S., Woods, E. R., & Goodman, E. (1999). Sexual orientation and risk of suicide attempts among a representative sample of youth. *Archives of Pediatrics & Adolescent Medicine*, 153, 487–493.
- Gay, J. (1985). “Mummies and babies” and friends and lovers in Lesotho. *Journal of Homosexuality*, 2(3–4), 97–116.
- Grossman, A. H., & D’Augelli, A. R. (2006). Transgender youth: Invisible and vulnerable. *Journal of Homosexuality*, 51(1), 111–128.
- Grossman, A. H., & D’Augelli, A. R. (2007). Transgender youth and life-threatening behaviors. *Suicide and Life-threatening Behavior*, 37(5), 527–537.
- Halperin, D. (1995). *Saint Foucault: Towards a gay hagiography*. New York: Oxford University Press.
- Hammack, P. L. (2005). The life course development of human sexual orientation: An integrative paradigm. *Human Development*, 48, 267–290.
- Hammack, P. L., & Cohler, B. J. (2009). Narrative engagement and sexual identity: An interdisciplinary approach to the study of sexual lives. In P. L. Hammack & B. J. Cohler (Eds.), *The story of sexual identity: Narrative perspectives on the gay and lesbian life course* (pp. 3–22). New York: Oxford University Press.
- Hammack, P. L., Thompson, E. M., & Pilecki, A. (2009). Configurations of identity among sexual minority youth: Context, desire, and narrative. *Journal of Youth and Adolescence*, 38, 867–883.
- Herdt, G. (1982). *Rituals of manhood: Male initiation in Papua New Guinea*. Berkeley: University of California Press.
- Herdt, G. (1989). Introduction: Gay and lesbian youth, emergent identities, and cultural scenes at home and abroad. *Journal of Homosexuality*, 17, 1–42.
- Herdt, G., & Boxer, A. (1993). *Children of Horizons: How gay and lesbian teens are leading a new way out of the closet*. Boston: Beacon.
- Hershberger, S. L., & D’Augelli, A. R. (1995). The impact of victimization on the mental health and suicidality of lesbian, gay, and bisexual youths. *Developmental Psychology*, 31(1), 65–74.
- Hetrick, E. S., & Martin, A. D. (1987). Developmental issues and their resolution for gay and lesbian adolescents. *Journal of Homosexuality*, 14, 25–43.
- Hooker, E. (1957). The adjustment of the male overt homosexual. *Journal of Projective Techniques*, 21, 18–31.
- Horney, K. (1935). Personality changes in female adolescents. *American Journal of Orthopsychiatry*, 5, 19–26.
- Hostetler, A. J., & Herdt, G. H. (1998). Culture, sexual lifeways, and developmental subjectivities: Rethinking sexual taxonomies. *Social Research*, 65, 249–290.
- Jones, G. P. (1978). Counseling gay adolescents. *Counselor Education and Supervision*, 18(2), 144–152.
- Kinsey, A., Pomeroy, W., & Martin, C. (1948). *Sexual behavior in the human male*. Philadelphia: W.B. Saunders.
- Kosciw, J. G., Greytak, E. A., & Diaz, E. M. (2009). Who, what, where, when, and why: Demographic and ecological factors contributing to hostile school climate for lesbian, gay, bisexual, and transgender youth. *Journal of Youth and Adolescence*, 38(7), 976–988.
- Leck, G. M. (1993). Politics of adolescent sexual identity and queer responses. *High School Journal*, 77(1–2), 186–192.
- Lewis, M., & Karin, B. (1994). Queer stories/straight talk: Tales from the school playground. *Theory into Practice*, 33(3), 199–205.
- McGuire, J. K., Anderson, C. R., Toomey, R. B., & Russell, S. T. (2010). School climate for transgender youth: A mixed method investigation of student experiences and school responses. *Journal of Youth and Adolescence*, 39(10), 1175–1188.
- Pilkington, N. W., & D’Augelli, A. R. (1995). Victimization of lesbian, gay, and bisexual youth in community settings. *Journal of Community Psychology*, 23, 34–56.
- Reicher, S., & Hopkins, N. (2001). Psychology and the end of history: A critique and proposal for the psychology of social categorization. *Political Psychology*, 22(2), 383–407.
- Remafedi, G. (1994). Cognitive and behavioral adaptations to HIV/AIDS among gay and bisexual adolescents. *Journal of Adolescent Health*, 15(2), 142–148.
- Remafedi, G., Farrow, J. A., & Deisher, R. W. (1991). Risk factors for attempted suicide in gay and bisexual youth. *Pediatrics*, 87, 869–875.
- Rodriguez, N. (1998). (Queer) youth as political and pedagogical. In W. F. Pinar (Ed.), *Queer theory in education* (pp. 173–185). Mahwah: Lawrence Erlbaum.
- Rotheram-Borus, M. J., Rosario, M., Van Rossem, R., Reid, H., & Gillis, R. (1995). Prevalence, course, and predictors of multiple problem behaviors among gay and bisexual male adolescents. *Developmental Psychology*, 31(1), 75–85.
- Russell, S. T. (2002). Queer in America: Citizenship for sexual minority youth. *Applied Developmental Science*, 6(4), 258–263.
- Russell, S. T., Clarke, T. J., & Clary, J. (2009a). Are teens “post-gay”? Contemporary adolescents’ sexual identity labels. *Journal of Youth and Adolescence*, 38(7), 884–890.
- Russell, S. T., Muraco, A., Subramaniam, A., & Laub, C. (2009b). Youth empowerment and high school gay-straight alliances. *Journal of Youth and Adolescence*, 38(7), 891–903.
- Safren, S. A., & Heimberg, R. G. (1999). Depression, hopelessness, suicidality, and related factors in sexual

- minority and heterosexual adolescents. *Journal of Consulting and Clinical Psychology*, 67, 859–866.
- Savin-Williams, R. C. (1989). Coming out to parents and self-esteem among gay and lesbian youths. *Journal of Homosexuality*, 18, 1–35.
- Savin-Williams, R. C. (2001). A critique of research on sexual-minority youths. *Journal of Adolescence*, 24, 5–13.
- Savin-Williams, R. C. (2005). *The new gay teenager*. Cambridge, MA: Harvard University Press.
- Savin-Williams, R. C. (2008). Then and now: Recruitment, definition, diversity, and positive attributes of same-sex populations. *Developmental Psychology*, 44(1), 135–138.
- Savin-Williams, R. C., & Diamond, L. M. (2000). Sexual identity trajectories among sexual-minority youths: Gender comparisons. *Archives of Sexual Behavior*, 29(6), 607–627.
- Thompson, E. M., & Morgan, E. M. (2008). “Mostly straight” young women: Variations in sexual behavior and identity development. *Developmental Psychology*, 44(1), 15–21.
- Troiden, R. R. (1979). Becoming homosexual: A model of gay identity acquisition. *Psychiatry*, 42, 362–373.
- Valentine, C. W. (1943). Adolescence and some problems of youth training. *Nature*, 152, 122–124.
- Valocchi, S. (2005). Not yet queer enough: The lessons of queer theory for the sociology of gender and sexuality. *Gender and Society*, 19(6), 750–770.
- Ward, J. L. (1958). Homosexual behavior of the institutionalized delinquent. *Psychiatric Quarterly Supplement*, 32, 301–314.
- Warner, M. (1999). *The trouble with normal: Sex, politics, and the ethics of queer life*. Cambridge, MA: Harvard University Press.
- Westrate, N. M., & McLean, K. C. (2010). The rise and fall of gay: A cultural-historical approach to gay identity development. *Memory*, 18(2), 225–240.

homosexuality, or bisexuality. Historically typical sexual identity labels (“gay,” “lesbian,” and “bisexual”) also relate to adolescents, even though researchers tended to not view adolescents as mature enough to be able to identify themselves appropriately and that their sexual orientation was likely to change as they reached adulthood. New understandings of sexual identities emphasize the potential for fluidity and diversity in labels and meanings associated with sexual identities (Horner 2007). Research also reveals that adolescents increasingly are resisting sexual identity labels (Savin-Williams 2008). Despite that fluidity and increasing resistance, recent large-scale research (Russell et al. 2009) reveals that historically typical sexual identity labels are endorsed by the majority (71%) of nonheterosexual adolescents, with others reporting that they are “questioning” (13%) their sexual identities, or that they are “queer” (5%), or that they have their own labels that describe ambivalence or resistance to sexual identity labels, or fluidity in sexual identities (9%).

Cross-References

- ▶ [Bisexuality](#)
- ▶ [Compulsory Heterosexuality](#)
- ▶ [Transgender Youth](#)

References

- Horner, E. (2007). Queer identities and bisexual identities: What’s the difference? In B. A. Firestein (Ed.), *Becoming visible: Counseling bisexuals across the lifespan* (pp. 287–296). New York: Columbia University Press.
- Russell, S. T., Clarke, T. J., & Clary, J. (2009). Are teens “post-gay”? Contemporary adolescents’ sexual identity labels. *Journal of Youth and Adolescence*, 38, 884–890.
- Savin-Williams, R. C. (2008). Refusing and resisting sexual identity labels. In D. L. Browning (Ed.), *Adolescent identities: A collection of readings* (pp. 67–91). New York: Analytic Press.

Sexual Orientation and Identity Labels

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Traditionally, sexual orientation and identity referred to the preferred adult sexual behavior of a person; it specifically referred to heterosexuality,

Sexual Trajectories

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Overview

This entry starts by defining a sexual trajectory as an age-graded set of various new sexual experiences based on three key dimensions: sequence of new experiences, duration, and timing. Empirical knowledge of each of these key dimensions is described. In addition, a typology of (the early stages of) sexual trajectories will be identified, based on these three key dimensions. Subsequently, the entry will present associations between these sexual trajectory types and demographic characteristics, such as sex, ethnic background, and educational level. It also will try to answer the question of which sexual trajectories are most beneficial, based on its relationship with subjective evaluations and recent sexual risks. Most of the findings in this entry are based on two representative Dutch population studies of adolescents' sexual health behavior, conducted in 2005 and 2012. These studies provided evidence that not all adolescents follow a progressive sexual trajectory from less intimate (e.g., kissing) to more intimate behavior (e.g., sexual intercourse). Immigrant groups and lower educated youth are more likely to follow a nonlinear trajectory. A progressive trajectory has been associated with a higher likelihood of consistent contraceptive use with the most recent partner and, for girls, with a lower likelihood of having unprotected anal intercourse with the last partner. To explain this finding, it is suggested that some adolescents reporting a nonlinear trajectory have insufficient knowledge and skills (such as being aware of their own sexual likes and dislikes and being able to protect their boundaries) to gradually progress

from less to more sexually intimate behavior. To the extent that this interpretation is correct, it is plausible that these limitations are fairly stable over time and that the likelihood of some sexual risks were therefore higher for individuals following a nonlinear sexual trajectory.

Investigating Sexual Trajectories

Although sexual development is a lifelong process, there is no other life stage where it is more striking than adolescence. In Western countries, most young people have not yet kissed at the start of adolescence, whereas by the end of this period, the majority has engaged in sexual intercourse (De Graaf et al. 2012b; Mosher et al. 2005). Understanding the beginning of sexual development involves investigating adolescents' sexual trajectories.

The *sexual trajectory* is an age-graded set of various new sexual experiences. Most prior research on sexual development has been restricted to first sexual intercourse, an important turning point in the sexual trajectory. The sexual trajectory, however, also encompasses other forms of sexual behavior, such as kissing and manual stimulation of the genitals. New experiences with these forms of sexual behavior offer opportunities for adolescents to learn about their sexual likes and dislikes, in order to be better prepared for subsequent sexual experiences. A comprehensive description of various trajectories creates the possibility to investigate potential risks of certain trajectories and potential risk groups. According to Hagestad (1996), who investigated trajectories in aging and illness processes, a full description of trajectories encompasses three key dimensions: (1) sequence (i.e., the order of the various experiences), (2) timing (i.e., the age of various first sexual experiences), and (3) duration (i.e., the time it takes to go through the various steps).

Sequence of Sexual Trajectories

Many studies of sexual milestones show that the most common sequence in sexual trajectories is a

progression from less to more sexually intimate behavior (e.g., from kissing to intercourse). A number of studies based this conclusion on the average ages or frequency distributions of first sexual experiences (Feldman et al. 1999; Rosenthal and Smith 1997). Other studies demonstrated that individuals who had engaged in sexual behavior higher on a scale from less to more sexually intimate behavior, in general, also experienced all behaviors lower on the scale (Guttman scale) or had a greater probability than null to have experienced these earlier behaviors (Mokken scale) (Jakobsen 1997; Lam et al. 2002; Shtarkshall et al. 2009). O’Sullivan et al. (2007) asked respondents to rank 15 social, romantic, and sexual events with regard to their most recent romantic relationship. They described sexual trajectories based on the frequency distribution of these events within relationships and the average ranking score of each event.

Both frequency distributions and Guttman or Mokken scale analyses provide no insight into individual variation of patterns of sexual trajectories. Even if the majority of adolescents follow a progressive trajectory, one could imagine some individuals engage in more sexually intimate behaviors (e.g., sexual intercourse) without having experienced (all of) the less intimate ones (e.g., fondling and petting). According to qualitative research (Symons et al. 2014), some adolescents are having their first sexual intercourse with almost no sexual preliminaries.

De Graaf et al. (2009, 2012a) investigated individual patterns of sexual trajectories. In the study published in 2009, they assessed Dutch 12- to 24-year-olds’ ages of first experiences with kissing, petting while dressed, petting while undressed, and sexual intercourse (vaginal and anal). In the second study, petting while undressed was replaced with mutual masturbation. Based on these ages, all participants received a code representing the sequence of their first sexual experiences. This method provides insight into the percentage of individuals who abandon the well-known progressive trajectory (Table 1). This percentage differs between the two studies that were included. In 2009, about three-quarters of the participants followed the well-documented progression from kissing to petting

Sexual Trajectories, Table 1 Percentage of individuals following a progressive, unknown, or nonlinear trajectory (%)

| | De Graaf et al. (2009) | | De Graaf et al. (2012a) | |
|-------------------------------|------------------------|-------|-------------------------|-------|
| | Boys | Girls | Boys | Girls |
| Progressive trajectory | 72 | 76 | 60 | 67 |
| All experiences within 1 year | 9 | 8 | 16 | 15 |
| Nonlinear trajectory | 19 | 16 | 25 | 18 |

when dressed and undressed to sexual intercourse. Eighteen percent reported a “nonlinear” trajectory, having more sexually intimate before less sexually intimate experiences. Nine percent of participants could not be categorized as either progressive or nonlinear, because all new sexual experiences occurred within a single year. In 2012, when petting while naked was replaced with mutual masturbation, a smaller group followed the progressive trajectory. Possibly, petting while undressed is a clearer marker of a next step in the sexual trajectory than mutual masturbation. The year of data collection could also play a role, however.

Timing of Sexual Experiences

The measurement of timing encounters several difficulties. For one thing, the age of various new sexual experiences is usually measured in years. When someone reports that he was 13 years of age when he kissed for the first time, he thus could have been just 13, or almost 14, or somewhere in between. In addition, especially in younger samples, not everybody has experience with all forms of sexual behavior. Consequently, information about the timing of these new experiences is still missing for a substantial subgroup. The mean age of first sexual experiences is, therefore, not a very good descriptive measure for the timing of sexual experiences. In an adolescent sample, the mean of the reported ages will be an underestimate of the real age of first experiences, because it can only be calculated for sexually active participants, whose timing was relatively early. The median age (i.e., the age at which half of participants had had a particular experience) is,

Sexual Trajectories, Table 2 Experience with and timing of various forms of sexual behavior

| | 12–13 (%) | 14–15 (%) | 16–17 (%) | 18–20 (%) | 21–24 (%) | Median age first experience |
|---------------------|-----------|-----------|-----------|-----------|-----------|-----------------------------|
| Masturbation | 27 | 50 | 71 | 84 | 90 | 15.0 |
| Kissing | 32 | 57 | 84 | 91 | 94 | 14.4 |
| Petting | 20 | 45 | 79 | 90 | 94 | 15.2 |
| Mutual masturbation | 9 | 27 | 63 | 83 | 91 | 16.3 |
| Vaginal intercourse | 3 | 16 | 51 | 77 | 88 | 17.1 |
| Oral sex | 5 | 18 | 53 | 77 | 88 | 16.9 |
| Anal sex | 2 | 3 | 8 | 20 | 32 | – |

therefore, more accurate. Furthermore, as stated earlier, timing is most often measured with regard to first sexual intercourse. Information of the timing of other forms of sexual behavior is scarce.

Table 2 shows median ages of first experiences with various forms of sexual behavior in a Dutch representative sample aged 12–24 (De Graaf et al. 2012b). At age 14.4, half of Dutch adolescents have experienced (French) kissing. About 1 year later, 50% has experienced petting while dressed. Another 1 year later, half of young people also engaged in mutual masturbation. Shortly after their 17th birthday, 50% of adolescents have had their first experience with sexual intercourse.

The timing of first sexual experiences differs according to the year and country in which a study is conducted. In the Netherlands, the percentage of sexually active 15-year olds is one of the lowest in Europe and North America (Inchley et al. 2016). In countries where early marriage is the norm (for example, in South Asia and some parts of Africa), women tend to have sex earlier. In Latin America and in some countries of the Middle East and Southeast Asia, median ages of first sexual intercourse are higher for women. For men, links between age at first intercourse and age at marriage are, in general, less strong. Historical trends in the timing of first intercourse vary with region and gender. In some Western countries, sexual activity before age 15 became more common recently. In some countries in Africa and South Asia, a trend toward later marriage corresponds with a trend toward later sex in females (Wellings et al. 2006).

Duration of Sexual Trajectory

In general, it takes some time to progress from kissing to sexual intercourse. Rademakers and Straver (1986) described the process of constructing the sexual trajectory based on in-depth interviews. They concluded that, in general, adolescents play an active role in the arrangement of their first sexual experiences. At the start of the sexual trajectory, most adolescents engage in the least sexually intimate behaviors because these are consistent with their own needs. They experiment with these behaviors for a while, investigate their own thoughts and feelings about them, and gradually move on to other forms of sexual behavior when merely kissing or petting is no longer satisfactory. In the Netherlands, it takes about 2.9 years to complete the whole sexual trajectory. In an American sample, the same duration was found for white and Latino adolescents, but sexual trajectories of Asian and African-Americans progressed quicker (respectively, 2.3 and 1.6 years between first kiss and first sexual intercourse) (Feldman et al. 1999).

A Typology of Sexual Trajectories

De Graaf and her colleagues (2009) distinguished a typology in sexual trajectories, using a cluster analysis on the three key dimensions of trajectories: sequence of new behaviors, timing, and duration. Cluster analysis is an exploratory analytic tool, which aims to sort participants into groups so that the degree of association is strong between

participants in the same group and weak between participants in different groups (Everitt et al. 2011). This cluster analyses revealed two sexual trajectory subtypes: the type that follows the well-documented progression from less to more sexually intimate behavior (e.g., from kissing to intercourse), and the type that follows a different path (having either more sexually intimate before less sexually intimate experiences or having all new sexual experiences within a single year). Nonlinear trajectories start earlier and progress quicker than progressive trajectories.

To explain why some adolescents follow a nonlinear trajectory, different interpretations could be put forward. Possibly, these adolescents lack the skills required for arranging the sexual trajectory in a gradual, progressive manner. Adolescents who derail the progressive trajectory could be less aware of their own wishes and needs, less able to communicate these to a partner, or less able to refuse unwanted sexual experiences. Due to these insufficient skills, they could be prematurely persuaded into more sexually intimate behavior, or, on the contrary, not able to find a willing partner when they themselves are ready for a new sexual experience (Baumeister 2000). It cannot be ruled out, however, that the nonlinear sexual trajectory was consistent with some adolescents' own sexual wishes and needs. Furthermore, it is possible that some adolescents deliberately engage in sexual interactions not consistent with their own sexual needs, for example, to gain self-confidence, to please a partner, to impress their peer-group, or to rebel against their parents (Feldman et al. 1999). Whatever be the explanation for following a nonlinear sexual trajectory, doing so potentially leaves adolescents with limited learning opportunities before moving on to sexual behaviors that make higher demands on one's emotional, social, and planning skills.

Sexual Trajectories in Different Population Groups

A number of studies investigated differences between certain population groups on key dimensions of sexual trajectories. The majority of these

Sexual Trajectories, Table 3 Progressive sexual trajectories within population groups

| | | N | % |
|-------------------|-----------------|------|----|
| Gender | Males | 2134 | 60 |
| | Females | 2110 | 67 |
| Ethnic background | Dutch | 3590 | 66 |
| | Moroccan | 106 | 46 |
| | Turkish | 109 | 51 |
| | Surinamese | 129 | 50 |
| | Antillean | 77 | 51 |
| Education | Lower educated | 2656 | 59 |
| | Higher educated | 1557 | 72 |

studies focus on either timing of first sexual intercourse or the sequence of various new sexual experiences. The timing of sexual trajectories appeared to be earlier for people with certain immigrant backgrounds and lower educated youth (de Graaf et al. 2014; Feldman et al. 1999; Mosher et al. 2005). The sequence of new sexual behaviors also appears to differ between population groups. De Graaf and her colleagues (2009) investigated differences in sexual trajectory types with regard to sex, ethnic backgrounds, and educational level. Table 3 shows the percentage of males and females, different ethnic groups, and higher and lower educated youth, which followed a progressive trajectory, in a representative Dutch sample.

Nonlinear trajectories were more common among young people whose parents were born in Morocco, Turkey, Surinam, or the Dutch Antilles (the four largest immigrant groups in the Netherlands) compared to native Dutch youth ($\chi^2(4) = 74.02, p < .001$). The same was found for lower educated youth compared to the higher educated group ($\chi^2(1) = 69.01, p < .001$). In 2009, the likelihood of following a nonlinear sexual trajectory was nearly equal for males and females, whereas in 2012, females more often followed a progressive trajectory than males ($\chi^2(1) = 27.70, p < .001$).

As stated earlier, differences could be the result of different sexual desires but also of less opportunities and skills to fulfill these sexual desires within these population groups. Differences in family background and attitudes with regard to

Sexual Trajectories, Table 4 Subjective evaluation of progressive and nonlinear trajectories (%)

| | | Males (<i>N</i> = 2115) | | Females (<i>N</i> = 2100) | |
|--------------|------------------------|--------------------------|-------------|----------------------------|-------------|
| | | Nonlinear | Progressive | Nonlinear | Progressive |
| Expectedness | Unexpected | 39 | 37 | 35 | 29 |
| | Unexpected on that day | 44 | 50 | 47 | 56 |
| | Expected | 17 | 14 | 18 | 16 |
| Timing | Too late | 9 | 10 | 2 | 2 |
| | Right time | 81 | 84 | 70 | 79 |
| | Too soon | 10 | 7 | 28 | 20 |
| Evaluation | Pleasant | 71 | 74 | 40 | 45 |
| | Normal | 23 | 21 | 34 | 34 |
| | Unpleasant | 6 | 5 | 27 | 22 |
| Regret | No | 82 | 85 | 65 | 74 |
| | Yes | 18 | 12 | 35 | 26 |

sexuality, and lower levels of sexual knowledge and communication, could all potentially affect the development of these insufficient skills and opportunities (de Graaf et al. 2014; Van Ginneken et al. 2004).

Which Sexual Trajectories Are Most Beneficial?

Information about which sexual trajectories are typical or expectable does not address the question what is healthy or beneficial. In order to understand these last issues, it is important to know whether some trajectory types are evaluated more negatively or entail more sexual risks (e.g., unintended pregnancy, sexually transmitted infections [STIs], or sexual coercion) than others. There are indications that early sexual intercourse (before age 15) is potentially more harmful than sexual intercourse at older ages. An early sexual debut is more often the result of persuasion or coercion, and also more often unprotected, than among older adolescents (De Graaf et al. 2012b; Hawes et al. 2010). Furthermore, having sex at an early age is associated with certain long-term negative sexual health outcomes (Huibregtse et al. 2011; Magnusson and Trost 2006; Sandfort et al. 2008). Additionally, it has been found that following a progressive sexual trajectory is related to more healthy outcomes. De Graaf and colleagues investigated the subjective evaluation of

progressive and nonlinear trajectories. Table 4 shows that females who followed a deviant sexual trajectory are more likely to report that their first sexual experiences came unexpected ($\chi^2(2) = 15.35, p < .001$) and too soon ($\chi^2(2) = 18.46, p < .001$), that it was unpleasant ($\chi^2(2) = 7.72, p < .021$), and that they experienced regret ($\chi^2(1) = 28.28, p < .001$). Males who followed a deviant sexual trajectory are also more likely to describe their first sexual experiences as being unexpected ($\chi^2(1) = 7.77, p < .021$) and coming too soon ($\chi^2(1) = 6.16, p < .048$), but the relation with trajectory type is less strong than for females. In a qualitative study, Symons et al. (2014) investigated the contextual factors that are related to the evaluation (positive or negative) of an early sexual debut (at age 14 or younger). She found that adolescents who evaluated their first sexual intercourse, although at an early age, positively, more often followed a progressive sexual trajectory prior to first sexual intercourse. She also found indications that this positive experience could be partly ascribed to healthier decision-making during this trajectory.

In addition, De Graaf et al. (2009) investigated the association between the course of the sexual trajectory and recent efforts to protect against unwanted pregnancy (Table 5). Individuals who followed a nonlinear trajectory in the earliest stages of their sexual histories more often had vaginal intercourse without contraception with their last partner, although they reported no desire to conceive a child. This association was stronger

Sexual Trajectories, Table 5 Association between sexual trajectory type and recent sexual risks (%)

| | Males (<i>N</i> = 1231) | | Females (<i>N</i> = 1316) | |
|--------------------------------------|--------------------------|-------------|----------------------------|-------------|
| | Nonlinear | Progressive | Nonlinear | Progressive |
| Intercourse without contraception | 28 | 20 | 34 | 21 |
| Vaginal intercourse without a condom | 59 | 65 | 77 | 81 |
| Anal intercourse without a condom | 14 | 12 | 23 | 13 |

for females ($OR = .58 (.43-.79)$, $p < .001$) than for males ($OR = .73 (.53-.99)$, $p < .047$), indicating that pregnancy prevention may still be perceived as the responsibility of the female. To the extent that the earlier hypothesis regarding insufficient knowledge, skills, and learning opportunities in the nonlinear trajectory type is correct, it could be suggested that these same limitations have an effect on contraceptive behavior in the most recent sexual interactions.

Furthermore, females whose sexual trajectory developed in a progressive way were less likely to have practiced unprotected anal intercourse with the last partner ($OR = .51 (.37-0.72)$, $p < .001$). This could be explained in terms of a higher prevalence of anal intercourse with the last partner among these females. Anal intercourse is not a common form of sexual behavior in heterosexual relationships. There is evidence that, especially for females, engaging in anal intercourse is more often a result of persuasion than engaging in vaginal intercourse (de Graaf et al. 2012b). It is possible that females in the nonlinear trajectory group were more easily persuaded to have anal intercourse than females following a progressive trajectory.

Future Research Directions

The description of sexual trajectory types was based on reported ages of first new experiences in years, making it impossible to determine the exact sequence of two experiences if these happened within 1 year. Fortunately, the cluster analyses showed that the trajectory for which the sequence was unknown did not differ strongly from the linear trajectory, with regard to timing and duration. The ages of first sexual experiences were measured retrospectively and, therefore, could be distorted by memory or social

acceptability biases. Future studies should use more sensitive measurements of sexual trajectories, for example, by asking respondents themselves to put their experiences in the order in which they first occurred.

In addition, longitudinal studies of sexual trajectories are currently missing. The conclusions in this entry on links between sexual trajectories and sexual risk behavior are based on a cross-sectional study, making it hard to draw conclusions about developmental sequence. Longitudinal studies could shed light on the factors that cause adolescents to follow the progressive trajectory or to follow a different path. These studies could test whether the hypothesis regarding insufficient knowledge, skills, and learning opportunities in the nonlinear trajectory type is correct, or other explanations are more suitable. If limited skills and knowledge appear to be most determinative, it is of interest what causes these limited skills and knowledge to develop in the first place. In short, there is a need for longitudinal investigations of sexual trajectories and their causes and consequences. The possible relationship of sexual trajectories with long-term sexual risks, together with the emotional, medical, and financial costs of these risks, makes a comprehensive understanding of sexual trajectories important.

Cross-References

► [Sexual Debut](#)

References

- Baumeister, R. F. (2000). Gender differences in erotic plasticity: The female sex drive as socially flexible and responsive. *Psychological Bulletin*, 126, 347–374.
- De Graaf, H., Vanwesenbeeck, I., Meijer, S., Woertman, L., & Meeus, W. (2009). Sexual trajectories during

- adolescence: Relation to demographic characteristics and sexual risk. *Archives of Sexual Behavior*, 38(2), 276–282.
- De Graaf, H., Beyers, W., & van Acker, J. (2012a). De seksuele carrière van Nederlandse en Vlaamse jongeren [Sexual Trajectories of Dutch and Flemish youth]. *Kind & Adolescent*, 4, 179–187.
- De Graaf, H., Kruijjer, H., Van Acker, J., & Meijer, S. (2012b). *Seks onder je 25e: Seksuele gezondheid van jongeren in Nederland anno 2012 [Sex under 25: Sexual health of young people in the Netherlands in the year 2012]*. Delft: Eburon.
- De Graaf, H., Vanwesenbeeck, I., & Meijer, S. (2014). Educational differences in adolescents' sexual health: A pervasive phenomenon in a national Dutch sample. *The Journal of Sex Research*, 52, 747–757.
- Everitt, B. S., Landau, S., Leese, M., & Stahl, D. (2011). *Cluster analysis* (5th ed.). Chichester: Wiley.
- Feldman, S. S., Turner, R. A., & Araujo, K. (1999). Interpersonal contexts as an influence on sexual timetables of youths: Gender and ethnic effects. *Journal of Research on Adolescence*, 9, 25–52.
- Hagestad, G. (1996). On-time, off-time, out of time? Reflections on continuity and discontinuity from an illness process. In V. Bengtson (Ed.), *Adulthood and aging: Research on continuities and discontinuities* (pp. 204–222). New York: Springer.
- Hawes, Z. C., Wellings, K., & Stephenson, J. (2010). First heterosexual intercourse in the United Kingdom: A review of the literature. *Journal of Sex Research*, 47, 137–152.
- Huibregtse, B. M., Bornoalova, M. A., Hicks, B. M., McGue, M., & Iacono, W. (2011). Testing the role of adolescent sexual initiation in later-life sexual risk behavior: A longitudinal twin design. *Psychological Science*, 22, 924–933.
- Inchley, J., Currie, D., Young, T., Samdal, O., Torsheim, T., Augustson, L., Mathison, F., Aleman-Diaz, A., Molcho, M., Weber, M., & Barnekow, V. (Eds.). (2016). *Growing up unequal: Gender and socioeconomic differences in young people's health and well-being. Health Behaviour in School-aged Children (HBSC) study: International report from the 2013/2014 survey*. Copenhagen: WHO Regional Office for Europe.
- Jakobsen, R. (1997). Stages of progression in noncoital sexual interactions among young adolescents: An application of the Mokken scale analysis. *International Journal of Behavioral Development*, 21, 537–553.
- Lam, T. H., Shi, H. J., Ho, L. M., Stewart, S. M., & Fan, S. (2002). Timing in pubertal maturation and heterosexual behavior among Hong Kong Chinese adolescents. *Archives of Sexual Behavior*, 31, 359–366.
- Magnusson, C., & Trost, K. (2006). Girls experiencing sexual intercourse early: Could it play a part in reproductive health in middle adulthood? *Journal of Psychosomatic Obstetrics & Gynecology*, 27, 237–244.
- Mosher, W., Chandra, A., & Jones, J. (2005). *Sexual behavior and selected health measures: Men and women 15–44 years of age, United States, 2002. Advance data from vital and health statistics, No. 362*. Hyattsville: National Center for Health Statistics.
- O'Sullivan, L. F., Cheng, M. M., Harris, K. M., & Brooks-Gunn, J. (2007). I wanna hold your hand: The progression of social, romantic and sexual events in adolescent relationships. *Perspectives on Sexual and Reproductive Health*, 39, 100–107.
- Rademakers, J., & Straver, C. (1986). *Van fascinatie naar relatie: Het leren omgaan met relaties en seksualiteit in de jeugdperiode; een ontwikkelingsdynamische studie [From fascination to relationship: Learning how to deal with relationships and sexuality during adolescence; a developmental-dynamic study]*. Zeist: NISSO.
- Rosenthal, D. A., & Smith, A. M. A. (1997). Adolescent sexual timetables. *Journal of Youth and Adolescence*, 26, 619–636.
- Sandfort, T. G. M., Orr, M., Hirsch, J. S., & Santelli, J. (2008). Long-term health correlates of timing of sexual debut: Results from a national US study. *American Journal of Public Health*, 98, 155–161.
- Shtarkshall, R. A., Carmel, S., Jaffe-Hirschfeld, D., & Woloski-Wruble, A. (2009). Sexual milestones and factors associated with coitus initiation among Israeli high school students. *Archives of Sexual Behavior*, 38, 591–604.
- Symons, K., Vermeersch, H., & Van Houtte, M. (2014). The emotional experiences of early first intercourse: A multi-method study. *Journal of Adolescent Research*, 29, 1–28.
- Van Ginneken, B., Ohlrichs, Y., & Van Dam, A. (2004). *Zwijgen is zonde; over seksuele vorming voor multiculturele en religieuze jongeren [Keeping silent is a sin; about sex education for multicultural and religious youth]*. Utrecht: Rutgers Nisso Groep.
- Wellings, K., Collumbien, M., Slaymaker, E., Singh, S., Hodges, Z., Patel, D., et al. (2006). Sexual behaviour in context: A global perspective. *Sexual and Reproductive Health*, 2, 1706–1728.

Sexual Victimization

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Overview

Relative to adults, adolescents experience disproportionately high rates of sexual victimization.

Such experiences have the potential to disrupt healthy sexual, emotional, and social development and have implications for adult sexual health and adjustment. This entry reviews the state of scientific knowledge about adolescent sexual victimization and addresses the factors that contribute to adolescent vulnerability. Directions for future research and prevention are also discussed.

Introduction

Sexual victimization refers to being the recipient of a sexually aggressive act, including unwanted or forced sexual contact (e.g., touching, kissing), verbally coerced intercourse, and attempted or completed rape (Koss et al. 1987). Rape is the most serious form of sexual assault and has been legally defined as involving penetration (oral, vaginal, or anal) due to use of force or threat of force, lack of consent, or inability to consent due to age, intoxication, or mental status. Sexual victimization can occur at any age; however, adolescents between 12 and 17 years of age experience the highest rates of sexual assault (Bureau of Justice Statistics 2000, 2013). Females experience disproportionately more sexual aggression than males during adolescence, comprising 91% of victims in the 12–17 year age range (Bureau of Justice Statistics 2013).

Experiencing sexual aggression, particularly rape, can have serious consequences for victims. Common consequences include trauma symptoms, depression, substance abuse, revictimization, and sexual dysfunction (Else-Quest et al. 2005; Greene and Navarro 1998; Howard and Wang 2005; Kilpatrick et al. 2003; Turner et al. 2011). There is also the risk of pregnancy or contracting sexually transmitted infections. In addition, a history of forced intercourse among adolescents has been associated with experiencing physical dating violence, although the temporal ordering of violence within adolescent relationships has yet to be well understood (Basile et al. 2006). Unfortunately, there is a dearth of longitudinal studies to document the timing, duration, and intensity of these effects and their implications for adult development. Nonetheless, the high rates of adolescent sexual

victimization and the potential for such experiences to disrupt healthy development point to the need for more research on the predictors of adolescent sexual victimization and ultimately to its prevention. A greater understanding of how to promote resilience among sexually assaulted teens is needed as well.

This entry reviews the current scientific knowledge of adolescent sexual victimization, including the factors that place adolescents at risk, as well as the factors that make adolescence a uniquely vulnerable time in human development. Because the majority of victims are female, most of the research on adolescent sexual assault focuses on female victimization, perpetrated by males. Thus, this entry will largely focus on female victims and male perpetrators, with the acknowledgment that sexual victimization can happen to males or occur within same-sex relationships. These experiences are no less significant or traumatic. Future directions for research on male and sexual and gender minority victimization will be discussed at the conclusion of this entry.

Adolescence as a Time of Unique Vulnerability

Despite the prevalence of sexual assault perpetrated against adolescent females, adolescent sexual victimization has rarely been a specific focus of research and the factors that make adolescence a time of unique sexual risk are not well understood. Traditionally, research on sexual assault has focused on either the sexual victimization of children or of young adults. In part, this may be an artifact of two different research traditions and measures. For example, research on childhood sexual abuse (CSA) has examined unwanted experiences occurring sometime between 14 and 18 years of age (depending on the study), and often restricts responses to include only perpetrators who were five or more years older than the victim (see Roodman and Clum 2001 for a review). Victimization from similar aged peers is often excluded.

On the other hand, there is a tradition of research dating from Mary Koss's landmark

study of college women in the 1980s which utilized an innovative instrument called the Sexual Experiences Survey (SES; Koss and Oros 1982; Koss et al. 1987, 2007, 2008). The SES is a behaviorally specific measure of unwanted sexual experiences occurring since age 14 that includes unwanted sexual contact and verbal sexual coercion as well as rape and attempted rape experiences. The use of behaviorally specific items (e.g., “Have you ever had sexual intercourse when you did not want to because a man threatened or used some degree of physical force to make you?”) allows for the assessment of experiences of unwanted sex without using emotionally charged labels, such as rape. This approach differed from prior assessments that required women to specifically label and acknowledge their experiences as rape. The rationale for starting at age 14 was not explicitly stated; however, it is reasonable to assume that this age was selected to capture sexual aggression occurring within early dating and sexual experiences. The unwanted sexual experiences of adolescents tend to be more similar to those of adults than to those of children. That is, incidents of adolescent sexual victimization often do not involve the same power differential between victim and perpetrator that characterizes CSA (e.g., victimization from same age peer vs. authority figure). Furthermore, whereas children are viewed as being sexually innocent, adolescents may be victimized in contexts that have sexual overtones, such as after kissing someone at a party.

Although much of adolescent sexual victimization is more similar to adult sexual victimization than it is to child sexual abuse, it is also different. Most of the research on sexual victimization has focused on college or community samples of young adult women. Some studies have considered adolescent experiences separately (e.g., Gidycz et al. 1995); however, more often, experiences occurring in adolescence are typically considered together with experiences occurring at older ages. Research on young adult samples has provided valuable insights into the factors that contribute to the sexual victimization of young adult women (e.g., Abbey 2002; Testa and Livingston 2009). However, research focusing

specifically on adolescent sexual victimization (e.g., Livingston et al. 2007; Young et al. 2008) suggests that adolescent victimization experiences differ from those of young adults in meaningful ways, largely due to the social, lifestyle, and developmental differences between young adult women and adolescent girls. For example, adolescents tend to be victimized by acquaintances, whereas adult women are most often victimized by a long-term relationship partner (Tjaden and Thoennes 2000). Adolescent victimization incidents involving romantic partners are more likely to occur within shorter-duration relationships than those reported by adults. Adolescents are also more likely than adults to be victimized at a party or social gathering and are less likely than adults to experience verbal sexual coercion, since verbal coercion most often occurs within the context of established relationships (Livingston et al. 2004, 2007). These findings point to qualitative contextual differences in sexual victimization experiences among adolescents compared to adults; whether there are differences in the type or severity of consequences associated with victimization at different developmental periods remains unclear. Furthermore, because adolescents are just beginning to form sexual, relational, and individual identities that will shape their adult lives, victimization at this critical period of development may have the potential to disrupt an individual’s life course impacting their sexual and psychological health (Else-Quest et al. 2005; Livingston et al. 2015). For these reasons, sexual victimization occurring during adolescence should be regarded as distinct from adult sexual victimization.

A Framework for Understanding Adolescent Vulnerability

Adolescent vulnerability has been explained in part by lifestyle/routine activity theories. Lifestyle/routine activity theories suggest that victimization occurs as a result of lifestyle factors (i.e., demographics, family structure) and activities that converge so as to create a risky situation where an individual is in the presence of a motivated

offender, with no available parental or societal protections (e.g., Lauritsen et al. 1992; Mustaine and Tewksbury 2002). During adolescence, teens spend increasing time outside of the home and away from adult supervision. Although it is developmentally appropriate, this newly found independence can also increase exposure to potential aggressors in contexts where there is little or no guardianship. The concept of “target congruence” is central to lifestyle/routine activity theories. That is, the individual who is the target of aggression possesses some characteristic (e.g., beauty, sex appeal) that is attractive to the aggressor and is also perceived as having limited capacity to resist or deter victimization (Finkelhor and Asdigian 1996). Adolescents are high in “target congruence” in that they typically are viewed as being physically and sexually attractive, naïve, and physically and socially powerless (Livingston et al. 2007). There are at least three developmental factors that bear on the lifestyle/routine activities of adolescents: (a) inexperience with sex and dating, (b) social sensitivity, and (c) propensity toward risk behavior.

Inexperience with Sex and Dating

The development of a sexual identity and the exploration of romantic attachments are important developmental tasks of adolescence. Engaging in some sexual activity is often a healthy part of this maturation process (Welsh et al. 2000). Unfortunately, unwanted sex can occur when youth lack the knowledge, experience, and social skills needed to establish and enforce personal boundaries. Inexperienced adolescents may not be able to recognize cues or situations in which a male will become aggressive or may not know how to handle unwanted sexual advances when they occur. Many unwanted sexual encounters start out as consensual and then progress to aggression. Adolescent girls may find it difficult to extract themselves from these situations due to imbalances in physical size and strength or due to social concerns.

Social Sensitivity

During adolescence, teens develop a heightened sensitivity to social information, particularly

perceived peer approval (Steinberg 2008, 2014). This social sensitivity can play a role in sexual decision making. In a recent focus group study of adolescent girls’ perspectives on heterosexual interactions, girls (ages 14–17 years) revealed that concerns about peer acceptance play a significant role in their sexual decision making (Bay-Cheng et al. 2011, 2012). Girls in this study were preoccupied with the impact that being sexually active (or abstinent) would have on their reputation and popularity. They struggled to manage their own sexual agency within a social context that often harshly ranks girls on a continuum from “prude” to “slut.” Furthermore, the focus group participants also discussed their uncertainties about strategies to utilize when thwarting unwanted sexual advances from a male they know without hurting his feelings; jeopardizing their relationship with him, particularly if he is popular; or being ostracized by their peers.

Participation in Risk Behavior

Recent advances in neuroscience indicate that adolescents have a developmental propensity toward risk behavior, largely as a function of increased sensitivity to the perceived rewards associated with engaging in these behaviors (Steinberg 2008, 2014). Because some risk behaviors such as drinking or drug use are illegal or unsanctioned, they typically take place in contexts that are unsupervised and isolated and include delinquent and substance-using peers (Small and Kerns 1993; Warshaw 1988). These contexts, such as parties or social gatherings, are also often imbued with expectations about sexual behavior. The isolated or unsanctioned nature of these situations and the presence of delinquent and antisocial males can result in heightened vulnerability to sexual aggression and other negative outcomes because adolescents refrain from seeking help for fear of discipline or lack of transportation or other means of escape from a risky situation (Gover 2004; Livingston et al. 2007).

Having multiple sexual partners and consuming alcohol are the risk behaviors that reliably emerge as strong predictors of adolescent sexual victimization (e.g., Champion et al. 2004; Maxwell et al. 2003). Having multiple dating or

sexual partners puts adolescents at risk by increasing the likelihood of encountering a sexually aggressive male. Teens are particularly sensitive to social norms, and girls who are perceived as having more partners than others are viewed as being “easy,” regardless of whether they actually have done anything sexual (Bay-Cheng et al. 2011, 2012). Girls who are labeled as sexually permissive, whether or not the label is accurate, may be at greater risk for being perceived as an easy target for sexual gratification.

Alcohol use is common among adolescents, but it often takes place in illicit situations involving little adult supervision. Jackson et al. (2000) found that half of the adolescent females in their sample who reported having an unwanted sexual experience were victimized at parties, with 27% of these girls attributing the incident to their alcohol or drug use. Alcohol consumption can interfere with risk perception, particularly in situations where there also is a potential for positive outcomes, such as establishing a romantic relationship (Murphy et al. 1998; Testa et al. 2000). Adolescents’ inexperience with alcohol use can also contribute to overconsumption, with a substantial proportion of rapes occurring when the victim is passed out or incapacitated (Mohler-Kuo et al. 2004; Testa and Livingston 2009). Even if a girl does not drink to the point of intoxication, she may indirectly increase the likelihood of encountering an unwanted sexual advance if she is perceived as being more sexually available by virtue of having any alcohol or being in a drinking context (George et al. 1988).

Sociocultural Factors

Beyond routine activities in the everyday lives of adolescents, larger social and cultural norms regarding adolescent sexuality further perpetuate their vulnerability to sexual victimization. Although it is normal and developmentally appropriate for adolescents to feel sexual arousal and curiosity, many adolescents are given little guidance on how to cope with these feelings or how to explore their curiosity in a safe, consensual way. Traditional views and stereotypes of sexuality hold that boys are sexually voracious, unable to control their raging hormones, and hence not

responsible for acting on their sexual impulses (Gavey 2005). In contrast, girls are charged with being sexual gatekeepers, whose job is to appease the male’s sexual desire without going too far, sexually. There is no place in this script for girls’ needs or desires; girls play defense, without sexual agency. Girls who express desire or initiate sexual activity are seen as being licentious and out of control. Agreeing to any sexual activity is tantamount to agreeing to all sexual activities (Tolman and Higgins 1996). To make matters worse, adolescent girls receive conflicting messages about their sexuality. While they are charged with the responsibility of remaining the chaste gatekeepers, they are also expected to present in a highly sexualized manner to appeal to males. Sexualized clothing, magazines, music, and images are marketed toward younger and younger girls. Rather than empower girls, these images further objectify them. By dressing and behaving in a sexualized manner, girls may be misperceived as being sexually available and appropriate targets for sexual advances (American Psychological Association, Task Force on the Sexualization of Girls 2007; Zurbriggen and Roberts 2012).

These cultural views and norms serve to disempower adolescent girls from being sexual agents, hindering their ability to negotiate with partners to set mutually agreeable boundaries and protections during sexual interactions. Traditional sexuality education programs do little to dispel traditional views and inequities. Students are given facts about pregnancy and sexually transmitted diseases, but no information on how to establish healthy sexual behaviors, beyond directives to either abstain or use condoms. Sexual aggression is typically not addressed. Boys are not taught how to cope with their sexual feelings or how to negotiate mutually satisfactory sexual encounters; instead, girls are held accountable for failing to thwart boys’ innate sexual urges. Unfortunately, when sexual victimization occurs within the context of any prior consensual sexual involvement (e.g., consensual kissing), adolescent girls are often blamed, or feel that they are to blame, for the incident. Following an unwanted sexual experience perpetrated by an acquaintance,

many girls struggle with self-doubt, wondering what they had done to bring on the assault (Tolman and Higgins 1996). Self-doubt, guilt, and concerns about social ostracism can inhibit girls from seeking assistance subsequent to an assault, potentially putting them at risk for depression and other adverse outcomes.

Summary

Developmental, lifestyle, social, and cultural factors converge to make adolescence a time of increased vulnerability to sexual assault. Increased interest in sex, biologically driven propensity toward risk taking, sensitivity to social rewards and peer approval and increased opportunities for unsupervised social activities place adolescent girls in situations where sexual coercion can occur. Cultural scripts that render adolescent girls culpable for irresponsible and aggressive male sexual advances while simultaneously charging them to appear as sexually pleasing objects of male desire further contribute to the sexual victimization of adolescent girls. Teens would benefit from guidance on how to negotiate safe, desired, consensual sexual interactions to promote positive developmental outcomes and reduce risk of assault.

Where Do We Go from Here?

Increasing knowledge of adolescent vulnerability to sexual assault raises the question of how to reduce these risks among our nation's youth. While the urge to shield teens from engaging in risk behaviors that could render them vulnerable is tempting, this strategy would be virtually impossible to enforce and would ultimately prove to be developmentally debilitating for healthy teenage maturation. Adolescence is a period when healthy development involves separation from parents and social expansion beyond the confines of home and family. In this transitory period between childhood and adulthood, teens need guidance as they learn how to build successful interpersonal relationships, including romantic partnerships that will enable them to successfully transition into adulthood. As their social worlds

become less family centered and more peer centered, teens are increasingly influenced by their peers and their desires to forge romantic relationships. The development of an individual identity, including a sexual identity is a normal developmental task. So how can adults facilitate adolescents' healthy and developmentally necessary transitions into adulthood while minimizing the risk of victimization or other negative consequences? In other words, how can we reduce the risks of sexual assault for teens and ensure the development of healthy sexuality and well-being?

Research consistently indicates that parental monitoring of teens is a powerful protective factor against several different risk behaviors, including substance use and dating victimization (Leadbeater et al. 2008; Windle et al. 2008). The goal of effective monitoring is to open the lines of communication between teenager and parents so that parents can be well informed of their teenager's whereabouts, activities, and peer relationships. One important protective facet of monitoring is the establishment of reasonable limits on teen behavior, such as setting a curfew that limits exposure to risks while still allowing the teen much-needed freedom. Open communication and a healthy rapport between parents and teens about sexual behaviors empower adolescents to make independent and personal decisions about their own sexuality while respecting the needs of their partners. These discussions can be ideal opportunities for parents to help teens contemplate their own sexual limits and prepare themselves for mature discussions with sexual partners prior to engagement in heated sexual interactions with romantic partners. The development of these skills through active parental engagements with teens may ultimately reduce misperception of sexual intent that can contribute to victimization. Helping teens learn to navigate sexual interactions more effectively and confidently also may reduce their need to rely on substances, such as alcohol and drugs, to facilitate social and sexual encounters.

There have been several different types of interventions targeting reductions in rape and sexual dating violence among high school students. Many of these programs attempt to increase

awareness and change attitudes about rape (e.g., Fay and Medway 2006; Lowe et al. 2007); however, there is no evidence that such programs actually serve to reduce incidence of rape. Unfortunately, cognitive changes in understandings of violence or rape typically do not translate into lasting behavioral changes, making it unlikely that interventions targeting attitudes or beliefs about rape will be efficacious in reducing sexual assault risk (e.g., Foshee et al. 2000). Interventions that target communication, conflict resolution, and promotion of healthy lifestyles have yielded promising results (e.g., Wolfe et al. 2003). However, prevention of sexual assault among adolescents is still in the early stages, and to date, there has been no systematic evaluation of rape prevention programs targeting adolescents. More systematic efforts to study prevention of adolescent sexual victimization are sorely needed.

Directions for Future Research

As outlined in much of this entry, recent advances in the study of adolescent sexual victimization have provided insights into the factors that contribute to adolescent vulnerability; however, much remains to be learned about the factors that promote the development of healthy sexuality. To this end, more longitudinal research is needed to understand the interrelated individual and social factors associated with vulnerability differences among teenagers. For example, are individual factors such as self-regulation, attachment, and social goals associated positively or negatively with sexual victimization? What predicts which teens move from an unwanted sexual experience toward more healthy sexuality while others get revictimized?

Because females are statistically more likely to experience sexual assault perpetrated by a male, less is known about the experiences of adolescent male sexual assault survivors. Prevalence rates of male sexual assault are difficult to determine, and many incidents go unreported due to cultural perceptions of sexual assaults as only male-to-female events. In addition, the same items used to assess

female sexual victimization may have different meanings for men, or differ in severity, thereby making prevalence figures hard to interpret or compare. Furthermore, given differences in cultural and gendered norms regarding sexual behavior, different theories may be needed to understand the sexual victimization of adolescent males. Male sexual assault victims are likely to experience many of the same negative consequences as female victims, although these consequences may be more severe as a result of negative social reactions toward male sexual assault victims (for a review, see Davies 2002).

Further research also is needed to better understand the sexual victimization experiences of sexual and gender minorities. This group includes a diverse range of young men and women who may identify as gay, lesbian, bisexual, questioning, as well as gender non-conforming and transgender individuals. Emerging studies suggest that sexual and gender minorities are at greater risk than heterosexual and cisgender individuals for experiencing sexual assault (e.g., for reviews, see Waldner-Haugrud 1999 and Stotzer 2009; Balsam et al. 2005; Heidt et al. 2005; Hequembourg et al. 2008). Adolescent sexual and gender minority youth may be particularly vulnerable to dating and relationship violence and experience more adverse outcomes associated with these experiences than heterosexual and cisgender youth (Dank et al. 2014; Edwards 2015; Martin-Storey 2015; Reuter et al. 2015). Less is known specifically about sexual aggression in these relationships, but studies also suggest elevated rates of dating violence perpetration among adolescent sexual and gender minorities (Dank et al. 2014; Halpern et al. 2004).

Given the infancy of this area of research, many of the reasons for gender and sexual identity differences in the risks and consequences of sexual assault among sexual minorities are not well understood. Future research in this area is necessary to aid in the refinement of intervention and prevention efforts targeting both sex and gender minorities who are at heightened vulnerability for experiencing sexual assault across the life span, particularly in the developmentally unique phase of adolescence.

Cross-References

- ▶ [Date Rape](#)
- ▶ [Rape](#)

References

- Abbey, A. (2002). Alcohol-related sexual assault: A common problem among college students. *Journal of Studies on Alcohol, 14*, 118–128.
- American Psychological Association, Task Force on the Sexualization of Girls. (2007). *Report of the APA task force on the sexualization of girls*. Washington, DC: American Psychological Association.
- Balsam, K., Rothblum, E., & Beauchaine, T. (2005). Victimization over the lifespan: A comparison of lesbian, gay, bisexual, and heterosexual siblings. *Journal of Consulting and Clinical Psychology, 73*(1), 477–487.
- Basile, K. C., Black, M. C., Simon, T. R., Arias, I., Brener, N. D., & Saltzman, L. E. (2006). The association between self-reported lifetime history of forced sexual intercourse and recent health-risk behaviors: Findings from the 2003 National Youth Risk Behavior Survey. *The Journal of Adolescent Health, 39*, 752.e1–752.e7.
- Bay-Cheng, L. Y., Livingston, J. A., & Fava, N. M. (2011). Adolescent girls' assessment and management of sexual risks: Insights from focus group research. *Youth & Society, 43*, 1167–1193. PMID: PMC1401228.
- Bay-Cheng, L. Y., Livingston, J. A., & Fava, N. M. (2012). Not always a clear path: Making space for peers, adults, and complexity in adolescent girls' sexual development. In E. L. Zurbriggen & T. Roberts (Eds.), *The sexualization of girls and girlhood* (pp. 257–277). New York: Oxford University Press.
- Bureau of Justice Statistics. (2000). *Sexual assault of young children as reported to law enforcement: Victim, incident, and offender characteristics. (Rep. No. NCJ – 182990)*. Rockville: U.S. Department of Justice.
- Bureau of Justice Statistics. (2013). *Female victims of sexual violence, 1994–2010. (Rep. No. NCJ – 240655)*. Rockville: U.S. Department of Justice.
- Champion, H. L. O., Foley, K. L., Durant, R. H., Hensberry, R., Altman, D., & Wolfson, M. (2004). Adolescent sexual victimization, use of alcohol and other substances, and other health risk behaviors. *The Journal of Adolescent Health, 35*, 321–328.
- Dank, M., Lachman, P., Zweig, J., & Yahner, J. (2014). Dating violence experiences of lesbian, gay, bisexual, and transgender youth. *Journal of Youth and Adolescence, 43*(5), 846–857.
- Davies, M. (2002). Male sexual assault victims: A selective review of the literature and implications for support services. *Aggression and Violent Behavior, 7*(3), 203–214. [https://doi.org/10.1016/s1359-1789\(00\)00043-4](https://doi.org/10.1016/s1359-1789(00)00043-4).
- Edwards, K. M. (2015). Incidence and outcomes of dating violence victimization among high school youth: The role of gender and sexual orientation. *Journal of Interpersonal Violence, 30*(1), 117–131. <https://doi.org/10.1177/0886260515618943>. Advance online publication.
- Else-Quest, N. M., Hyde, J. S., & DeLamater, J. D. (2005). Context counts: Long-term sequelae of premarital intercourse or abstinence. *Journal of Sex Research, 42*, 102–112.
- Fay, K. E., & Medway, F. J. (2006). An acquaintance rape education program for students transitioning to high school. *Sex Education, 6*, 223–236.
- Finkelhor, D., & Asdigian, N. L. (1996). Risk factors for youth victimization: Beyond a lifestyles/routine activities theory approach. *Violence and Victims, 11*, 3–19.
- Foshee, V. A., Bauman, K. E., Greene, W. F., Koch, G. G., Linder, G. F., & MacDougall, J. E. (2000). The safe dates program: 1-year follow-up results. *American Journal of Public Health, 90*, 1619–1622.
- Gavey, N. (2005). *Just sex? The cultural scaffolding of rape*. New York: Routledge.
- George, W. H., Gourmic, S. J., & McAfee, M. P. (1988). Perceptions of postdrinking female sexuality: Effects of gender, beverage choice, and drink payment. *Journal of Applied Social Psychology, 18*, 1295–1317.
- Gidycz, C. A., Hanson, K., & Layman, M. L. (1995). A prospective analysis of the relationships among sexual assault experiences. *Psychology of Women Quarterly, 19*, 5–29.
- Gover, A. R. (2004). Risky lifestyles and dating violence: A theoretical test of violent victimization. *Journal of Criminal Justice, 32*, 171–180.
- Greene, D. M., & Navarro, R. L. (1998). Situation-specific assertiveness in the epidemiology of sexual victimization among university women. *Psychology of Women Quarterly, 22*, 589–604.
- Halpern, C., Young, M., Waller, M., Martin, S., & Kupper, L. (2004). Prevalence of partner violence in same-sex romantic and sexual relationships in a national sample of adolescents. *The Journal of Adolescent Health, 35*, 124–131.
- Heidt, J., Marx, B., & Gold, S. (2005). Sexual revictimization among sexual minorities: A preliminary study. *Journal of Traumatic Stress, 18*(6), 533–540.
- Hequembourg, A., Parks, K., & Vetter, C. (2008). Sexual identity and gender differences in substance use and violence: An exploratory study. *Journal of LGBT Issues in Counseling, 2*(3), 174–198.
- Howard, D. E., & Wang, M. Q. (2005). Psychosocial correlates of U.S. adolescents who report a history of forced sexual intercourse. *The Journal of Adolescent Health, 36*, 372–379.
- Jackson, S. M., Cram, F., & Seymour, F. W. (2000). Violence and sexual coercion in high school dating relationships. *Journal of Family Violence, 15*, 23–36.
- Kilpatrick, D. G., Ruggiero, K. J., Acierno, R., Saunders, B. E., Resnick, H. S., & Best, C. L. (2003). Violence and risk of PTSD, major depression, substance abuse/dependence, and comorbidity: Results from the national survey of adolescents. *Journal of Consulting and Clinical Psychology, 71*, 692–700. PubMed.

- Koss, M., & Oros, C. J. (1982). Sexual experiences survey: A research instrument investigating sexual aggression and victimization. *Journal of Consulting and Clinical Psychology, 50*, 455–457. PubMed.
- Koss, M., Gidycz, C. A., & Wisniewski, N. (1987). The scope of rape: Incidence and prevalence of sexual aggression and victimization in a national sample of higher education students. *Journal of Consulting and Clinical Psychology, 55*, 162–170. PubMed.
- Koss, M. P., Abbey, A., Campbell, R., Cook, S., Norris, J., Testa, M., Ullman, S., West, C., & White, J. (2007). Revising the SES: A collaborative process to improve assessment of sexual aggression and victimization. *Psychology of Women Quarterly, 31*, 357–370.
- Koss, M. P., Abbey, A., Campbell, R., Cook, S., Norris, J., Testa, M., Ullman, S., West, C., & White, J. (2008). Revising the SES: A collaborative process to improve assessment of sexual aggression and victimization: Erratum. *Psychology of Women Quarterly, 32*, 493.
- Lauritsen, J. L., Laub, J. H., & Sampson, R. J. (1992). Conventional and delinquent activities: Implications for the prevention of violent victimization among adolescents. *Violence and Victims, 7*, 91–108. PubMed.
- Leadbeater, B. J., Banister, E. M., Ellis, W. E., & Yeung, R. (2008). Victimization and relational aggression in adolescent romantic relationships: The influence of parental and peer behaviors, and individual adjustment. *Journal of Youth and Adolescence, 37*, 359–372.
- Livingston, J. A., Buddie, A., Testa, M., & VanZile-Tamsen, C. (2004). The role of sexual precedence in verbal sexual coercion. *Psychology of Women Quarterly, 28*, 287–297.
- Livingston, J. A., Hequembourg, A., Testa, M., & VanZile-Tamsen, C. (2007). Unique aspects of adolescent sexual victimization experiences. *Psychology of Women Quarterly, 31*, 331–343. PubMedCentral PubMed.
- Livingston, J. A., Testa, M., Windle, M., & Bay-Cheng, L. Y. (2015). Sexual risk at first coitus: Does alcohol make a difference? *Journal of Adolescence, 43*, 148–158. PubMed Central PMCID: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3053530/>. PMC4516660.
- Lowe, L. A., Jones, C. D., & Banks, L. (2007). Preventing dating violence in public schools: An evaluation of an interagency collaborative program for youth. *Journal of School Violence, 6*, 69–87.
- Martin-Storey, A. (2015). Prevalence of dating violence among sexual minority youth: Variation across gender, sexual minority identity and gender of sexual partners. *Journal of Youth and Adolescence, 44*(1), 211–224.
- Maxwell, C. D., Robinson, A. L., & Post, L. A. (2003). The nature and predictors of sexual victimization and offending among adolescents. *Journal of Youth and Adolescence, 32*, 465–477.
- Mohler-Kuo, M., Dowdall, G. W., Koss, M. P., & Wechsler, H. (2004). Correlates of rape while intoxicated in a national sample of college women. *Journal of Studies on Alcohol, 65*, 37–45. PubMed.
- Murphy, S. T., Monahan, J. L., & Miller, L. C. (1998). Inference under the influence: The impact of alcohol and inhibition conflict on women's sexual decision making. *Personality and Social Psychology Bulletin, 24*, 517–528.
- Mustaine, E. E., & Tewksbury, R. (2002). Sexual assault of college women: A feminist interpretation of a routine activities analysis. *Journal of Criminal Justice Review, 27*, 89–123.
- Reuter, T., et al. (2015). An exploratory study of teen dating violence in sexual minority youth. *Partner Abuse, 6*(1), 8–28.
- Roodman, A. A., & Clum, G. A. (2001). Revictimization rates and method variance: A meta-analysis. *Clinical Psychology Review, 21*, 183–204. PubMed.
- Small, S. A., & Kerns, D. (1993). Unwanted sexual activity among peers during early and middle adolescence: Incidence and risk factors. *Journal of Marriage and the Family, 55*, 941–952.
- Steinberg, L. (2008). A social neuroscience perspective on adolescent risk-taking. *Developmental Review, 28*, 78–106. PubMedCentral PubMed.
- Steinberg, L. (2014). *Age of opportunity: Lessons from the new science of adolescence*. Boston: Houghton Mifflin Harcourt.
- Stotzer, R. L. (2009). Violence against transgender people: A review of United States data. *Aggression and Violent Behavior, 14*(3), 170–179.
- Testa, M., & Livingston, J. A. (2009). Alcohol consumption and women's vulnerability to sexual victimization: Can reducing women's drinking prevent rape? *Substance Use & Misuse, 44*, 1349–1376.
- Testa, M., Livingston, J. A., & Collins, R. L. (2000). The role of women's alcohol consumption in evaluation of vulnerability to sexual aggression. *Experimental and Clinical Psychopharmacology, 8*, 185–191. PubMed.
- Tjaden, P., & Thoennes, N. (2000). *Full report of the prevalence, incidence, and consequences of violence against women: Findings from the national violence against women survey (Rep. No. NCJ-183781)*. Washington, DC: National Institute of Justice and Centers for Disease Control and Prevention.
- Tolman, D. L., & Higgins, T. E. (1996). How being a good girl can be bad for girls. In N. B. Maglin & D. Perry (Eds.), *Women, sex, and power in the nineties*. New Brunswick: Rutgers University Press.
- Turner, H. A., Finkelhor, D., Hamby, S. L., Shattuck, A., & Ormrod, R. K. (2011). Specifying type and location of peer victimization in a national sample of children and youth. *Journal of Youth and Adolescence, 40*, 1052–1067.
- Waldner-Haugrud, L. (1999). Sexual coercion in lesbian and gay relationships: A review and critique. *Aggression and Violent Behavior, 4*(2), 139–149.
- Warshaw, R. (1988). *I never called it rape*. New York: Harper Perennial.
- Welsh, D. P., Rostosky, S. S., & Kawaguchi, M. C. (2000). A normative perspective of adolescent girls' developing sexuality. In C. B. Travis & J. W. White (Eds.), *Sexuality, society, and feminism* (pp. 111–140). Washington, DC: American Psychological Association.

- Windle, M., Spear, L. P., Fuligni, A. J., Brown, J. D., Pine, D., Smith, G. T., et al. (2008). Transitions into underage and problem drinking: Developmental processes and mechanisms between 10 and 15 years of age. *Pediatrics*, *121*, S273–S289. PubMedCentral PubMed.
- Wolfe, D. A., Wekerle, C., Scott, K., Straatman, A.-L., Grasley, C., & Reitzel-Jaffe, D. (2003). Dating violence prevention with at-risk youth: A controlled outcome evaluation. *Journal of Consulting and Clinical Psychology*, *71*, 279–291.
- Young, A., Grey, M., Abbey, A., Boyd, C. J., & McCabe, S. E. (2008). Alcohol-related sexual assault victimization among adolescents: Prevalence, characteristics, and correlates. *Journal of Studies on Alcohol and Drugs*, *69*, 39–48. PubMedCentral PubMed.
- Zurbriggen, E. L., & Roberts, T. (Eds.). (2012). *The sexualization of girls and girlhood*. New York: Oxford University Press.

Sexuality Education

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Overview

High rates of teen pregnancy, childbearing and sexually transmitted infections (STI) are important problems in the United States. Sex and STI/HIV education programs, especially programs in schools, have been proffered as a partial solution. In addition, many adolescents want additional information about sexuality more generally and about relationships. In the United States and especially internationally, there is a growing movement supporting adolescents' right to accurate and balanced information about sexuality that is relevant to their lives and can help them make better decisions about relationships and sexual behavior. This essay examines issues relating to the need for these programs, the controversies surrounding them, and the effects of programs. It demonstrates that comprehensive sex and STI/HIV education programs that emphasize abstaining from sex as the safest choice and encourage the use of condoms or other forms of contraception for those who do have sex do not increase sexual behavior as some people fear, but

instead sometimes delay sex, reduce the frequency of sex, or reduce number of sexual partners. In addition, many of them also increase condom use, increase contraceptive use and decrease unprotected sex. Thus, they can have a modest impact on reducing unintended pregnancies and STIs. Programs that effectively reduce sexual risk behavior often incorporate a common set of characteristics. Nearly all programs with these characteristics are effective at changing behavior.

Pregnancy and STI Rates

Although the pregnancy and birth rates declined by about a third in the USA between 1991 and 2005 (Guttmacher Institute 2010), the USA still has one of the highest teen pregnancy rates of any Western industrialized nation. In 2006, among all females aged 15–19, about 72 per 1,000 became pregnant (Guttmacher Institute 2010). The rate is higher for African-Americans (126 per 1,000) and Hispanics (127 per 1,000) than for whites (61 per 1,000). All told, about 30% of girls in the USA become pregnant before they reach the age of 20 (National Campaign to Prevent Teen Pregnancy 2006). Most of these pregnancies (82%) are unintended (Finer and Henshaw 2006). Consistent with the very high US teen pregnancy rate is its very high teen birth rate (42 births per 1,000 15–19-year-old females in 2006) (Martin et al. 2009).

These teen pregnancies and births generally have negative consequences for those involved, especially when the girls in question are under 18 years of age (Hoffman 2006). Girls in this group are less likely to complete high school or attend college and are more likely to have large families and to be single parents. They work as much as women who delay childbearing for several years, but their earnings must provide for a larger number of children (Hoffman 2006; Maynard 1997). Compared with children born to mothers over age 18, their children have less supportive and stimulating home environments, lower cognitive development, worse educational outcomes, higher rates of behavior problems, higher rates of incarceration (if male), and higher

rates of adolescent childbearing themselves (Hoffman 2006; Maynard 1997).

Teen sexual activity also leads to high rates of STI. STI rates in the USA are among the highest in the western industrialized world (Institute of Medicine 1997). For example, among sexually experienced young women ages 14 to 19, 38% had an STI (Forhan et al. 2009). This means that nearly 4 million cases of STI occur annually among teens (Kaiser Family Foundation and American Social Health Association 1998). The rates of STI are typically much higher for African-American teens and slightly higher for Hispanic teens than they are for white teens.

These high rates of teen pregnancy and STI are caused by teens having unprotected sex. On average, almost 13 years elapse between the age at which adolescents become fertile (about 12.6 years for girls and 14.0 years for boys) (Alan Guttmacher Institute 2002) and the age at which they marry (about 25.3 years for girls and 27.1 years for boys) (U.S. Census Bureau 2004). This creates a long period during which young people need to avoid unintended premarital pregnancy and STI, either through abstinence from sex or the use of condoms or other forms of contraception.

The proportion of teens who have ever had sexual intercourse increases steadily with age. For example, across the USA in 2005, 33% of ninth graders and 65% of twelfth graders reported ever having had sexual intercourse (Centers for Disease Control and Prevention 2008). Although most sexually experienced teenagers report that they use contraception, especially condoms and oral contraceptives, at least some of the time (Suellentrop 2006), many teenagers, like adults, do not use contraceptives correctly and consistently and thereby expose themselves to risks of pregnancy or STI (Chandra et al. 2005).

Accordingly, many schools, youth-serving organizations, and adolescent reproductive health professionals have developed and implemented a wide variety of education programs to reduce unintended pregnancy and STI among young people. Some of these programs are based on a written curriculum and are implemented with groups of young people. These programs are particularly

well designed to be implemented both in schools, where they can potentially reach large numbers of youth, and in clinic and community settings, where they can reach other youth, including potentially higher-risk youth who have dropped out of school. Typically, these programs strive to delay the initiation of sex, increase the return to abstinence, reduce the number of sexual partners, or increase condom or other contraceptive use.

Controversy

In the USA, there is very strong support for sex education in schools. For example, in 2003, a poll of a representative sample of US adults found that 90% thought sex education should be part of the school curriculum, and only 7% thought sex education should not be offered in schools (National Public Radio, Kaiser Family Foundation, and Kennedy School of Government 2004). However, there is also an intense and sometimes passionate debate about what should be covered in sex education programs, especially school-based programs. Proponents of abstinence programs argue that only abstinence allows youth to avoid the risks of unwanted pregnancy and STI and that discussing condoms or other forms of contraception will provide a confusing message to young people and will hasten and increase sexual behavior. Many proponents of abstinence programs believe that only the failure rates of condoms and other methods of contraception should be discussed. In contrast, proponents of comprehensive sex education programs argue that, because comprehensive programs emphasize abstinence and also encourage the use of condoms and contraception for those youth who do initiate sex, comprehensive programs can both delay adolescents' initiation of sex and increase their condom or other contraceptive use. According to a poll conducted in 2005, 82% of adults support comprehensive sex education that teaches students about both abstinence and other methods of preventing pregnancy and STIs (Bleakley et al. 2006).

Increasingly in the USA and especially elsewhere in the world, both young people and adults

claim that adolescents have the right to comprehensive, accurate information about sexuality. For example, the American Public Health Association has adopted a policy supporting comprehensive sex and HIV education. Similarly, a general comment on the Convention on the Right of the Child provides support for comprehensive sex education internationally (Committee on the Rights of the Child 2003). It states:

- "...children should have the right to access adequate information related to HIV/AIDS prevention and care, through formal channels (e.g., through educational opportunities). . ."
- States must "refrain from censoring, withholding or intentionally misrepresenting health-related information, including sexual education and information."
- "States must ensure that children have the ability to acquire the knowledge and skills to protect themselves and others as they begin to express their sexuality."

Still, controversy marks efforts to implement these programs.

Impact of Sex and STI/HIV Education Programs

Given both the goals of many sex and STI/HIV education programs and the controversy surrounding these programs, it is particularly important to examine their impact on sexual behavior. In Table 1 are the results of all studies meeting several criteria relating to the effectiveness of sex or STI/HIV education programs. The program had to be a curriculum-based comprehensive sex or STI/HIV education program that focused primarily on sexual behavior and that targeted adolescents of middle-school or high-school age in the USA or young adults up to age 24 elsewhere in the world. In addition, the research had to have a sample size of at least 100 and include a reasonably strong experimental or quasi-experimental design with well-matched intervention and comparison groups and both pretest and posttest data collection. The research also had to measure

program impact on one or more sexual behaviors (i.e., initiation of sex, frequency of sex, number of sexual partners, use of condoms or contraception), composite measures of sexual risk (such as frequency of unprotected sex), pregnancy rates, birth rates, or STI rates. Finally, the study had to have been completed or published in 1990 or thereafter. To be as inclusive as possible, studies were not limited to those published in peer-reviewed journals, but most were.

Studies meeting these criteria were coded according to whether or not they had a significant impact on each sexual behavior specified above for either the entire sample or an important subsample (e.g., males or females or sexually experienced or inexperienced youth). The methods for identifying and coding these studies are described more fully elsewhere (UNESCO 2009).

Eighty-seven studies of comprehensive curriculum-based programs were found that met these criteria (UNESCO 2009). Forty-seven of them were completed in the USA. Seventy percent were implemented in schools and the remainder were implemented in community or clinic settings. Because of concerns both in the USA and worldwide about HIV transmission, the programs emphasized STI/HIV prevention more frequently than pregnancy prevention, but many covered both. Many of the programs were very modest, lasting less than 30 h or even 15 h.

Impact on behaviors. Some comprehensive sex education programs were effective in all regions of the world. In general, such programs were more effective in the USA and in developing countries than in other developed countries, such as Western Europe.

These studies demonstrate very clearly that a substantial percentage of comprehensive sex and STI/HIV education programs significantly decreased one or more types of sexual behavior and that such programs did not increase sexual behavior, as some people have feared (Table 1). More specifically, of those studies that measured impact on one or more sexual behaviors, 37% delayed the initiation of sex, 31% decreased the frequency of sex (which includes returning to abstinence), and 44% reduced the number of sexual partners. In contrast, none of them hastened

Sexuality Education, Table 1 Comprehensive sex and STI/HIV education programs: Number of studies reporting effects on different sexual behaviors and outcomes

| | United States (<i>N</i> = 47) | Other developed countries (<i>N</i> = 11) | Developing countries (<i>N</i> = 29) | All countries (<i>N</i> = 87) | |
|----------------------------------|-----------------------------------|---|--|--------------------------------------|-----|
| Initiation of sex | | | | | |
| Delayed initiation | 15 | 2 | 6 | 23 | 37% |
| Had no significant impact | 17 | 7 | 16 | 40 | 63% |
| Hastened initiation | 0 | 0 | 0 | 0 | 0% |
| Frequency of sex | | | | | |
| Decreased frequency | 6 | 0 | 4 | 10 | 31% |
| Had no significant impact | 15 | 1 | 5 | 21 | 66% |
| Increased frequency | 0 | 1 | 0 | 1 | 3% |
| Number of sexual partners | | | | | |
| Decreased number | 11 | 0 | 5 | 16 | 44% |
| Had no significant impact | 12 | 0 | 8 | 20 | 56% |
| Increased number | 0 | 0 | 0 | 0 | 0% |
| Use of condoms | | | | | |
| Increased use | 14 | 2 | 7 | 22 | 40% |
| Had no significant impact | 17 | 4 | 14 | 35 | 60% |
| Decreased use | 0 | 0 | 0 | 0 | 0% |
| Use of contraception | | | | | |
| Increased use | 4 | 1 | 1 | 5 | 40% |
| Had no significant impact | 4 | 1 | 3 | 9 | 53% |
| Decreased use | 1 | 0 | 0 | 1 | 7% |
| Sexual risk-taking | | | | | |
| Reduced risk | 15 | 0 | 1 | 16 | 53% |
| Had no significant impact | 9 | 1 | 3 | 13 | 43% |
| Increase risk | 0 | 0 | 1 | 1 | 3% |

the initiation of sex, only one increased the frequency of sex, and none increased the number of sexual partners. Given the large number of coefficients observed for impact on sexual behavior, the increase found with the one program is slightly less than would have been expected by chance.

Of the studies that measured the use of condoms and other forms of contraception, 40% reported an increase in condom use, and 40%, an increase in contraceptive use. Recognizing that STI/HIV transmission and pregnancy can be reduced either by reducing sexual activity or by increasing condom or contraceptive use, some

studies developed composite measures of sexual activity and condom use, such as “frequency of unprotected sex” or “number of unprotected sexual partners.” These measures are strongly related to STI/HIV transmission and pregnancy. Programs were effective at reducing these measuring of unprotected sex – with 53% having a positive impact.

Overall, these studies strongly indicate that the programs were far more likely to have a positive impact on behavior than a negative impact. Across all 87 studies, two-thirds had a significant positive impact on one or more of the relevant

sexual behaviors or outcomes and more than one-quarter had a positive impact on two or more behaviors. For example, *Becoming a Responsible Teen* increased abstinence, reduced the number of sexual partners, increased condom use, and reduced unprotected sex (St. Lawrence et al. 1995). Similarly, the *Safer Choices* intervention delayed the initiation of sex among Hispanic youth and increased both condom and contraceptive use among both boys and girls of all races/ethnicities (Coyle et al. 2001; Kirby et al. 2004). More generally, these studies indicate that it is possible both to reduce sexual behavior and to increase condom or contraceptive use.

In contrast, only 4% had a significant negative impact on one or more of these behaviors or outcomes and none had a negative impact on two or more behaviors. As noted above, given the large number of coefficients observed (about eight per study), this is less than the percent expected by chance.

A formal meta-analysis of comprehensive sex education programs in the USA found that they reduced pregnancy rate by 11% and STI rate by 31% (The Community Guide 2010). These estimates are based on rather small samples of studies ($N = 11$ and $N = 8$, respectively) and thus should be treated with caution. Nevertheless, in combination with the other evidence presented above, they suggest that very modest comprehensive sex education programs can reduce adolescent sexual risk behavior and actually reduce teen pregnancy and STI rates.

Robustness of findings. The findings on the programs examined were remarkably robust. The different programs were effective in different communities and cultures throughout the USA. They were effective, for example, with youth in low- and middle-income communities in both rural and urban areas, and they were effective in school, clinic, and community settings. The programs were also effective with both younger and older youth and with both males and females. (It is encouraging that programs increased reported condom use, even among females who had less direct control over condom use.) Not every program was effective with every group, but one or more programs was effective with each of these groups.

Robustness was also demonstrated in replication studies. A critically important question is whether or not a program that has been found to be effective when designed, implemented, and evaluated by a well-funded and highly skilled research team will subsequently be effective when implemented by others in different communities. Four curricula have been evaluated two or more times, and those studies demonstrated that the curricula continued to be effective when implemented with fidelity by others in different communities (Kirby 2007). Programs were less likely to remain effective if they (1) were shortened considerably, (2) omitted activities that focus on increasing condom use, or (3) were designed for and evaluated in community settings but were subsequently implemented in classroom settings.

Impact of programs on risk and protective factors that affect sexual risk behaviors. Although the summary above provides strong evidence that a majority of the programs had an impact on sexual risk behaviors, it does not specify *how* or *why* they did. Those questions can be informed by examining what impact the programs had on the risk and protective factors they attempted to modify in order to change behavior. Of the studies that measured impact on the following risk and protective factors, about half or more found a statistically significant impact:

- Knowledge about HIV and STI
- Methods of preventing STI/HIV and pregnancy
- Perceived risk of HIV or STI
- Values and attitudes regarding sexual topics (e.g., abstinence and condoms)
- Self-efficacy to refuse sex, to obtain and use condoms, and to avoid risk
- Motivation to avoid sex or restrict the number of sex partners
- Intention to use a condom
- Intention to avoid risk
- Communication with partner
- Communication with parents
- Avoiding places that could lead to sex

The evidence is strong that many programs had positive effects on relevant knowledge, awareness

of risk, values and attitudes, self-efficacy, and intentions – the very factors specified by many psychosocial theories as being the determinants of behavior. Furthermore, all these factors have been demonstrated empirically to be related to their respective sexual behaviors (Kirby and Lepore 2007). Thus, it appears highly likely that changes in these factors contributed to the changes in sexual risk-taking behaviors.

Common characteristics of effective curriculum-based programs. An in-depth coding of the effective curricula and a smaller number of ineffective curricula led to the identification of 17 common characteristics of effective programs. The methods used to identify these characteristics are discussed in Kirby et al. (2006). The 17 characteristics of effective curricula describe their development, content, and implementation. The large majority of the effective programs reviewed here incorporated most of these 17 characteristics and programs that incorporated these characteristics were much more likely to change behavior positively than were programs that did not incorporate these characteristics.

The 17 characteristics are presented in Table 2. A tool to assess whether or not curricula incorporate these characteristics has also been developed and is available in both English and Spanish (Kirby et al. 2007, 2009).

The teams of people who developed the effective curricula appeared to create logic models when they designed their curricula. That is, they specified (1) the health goals they wished to achieve (e.g., reductions in teen pregnancy or STI), (2) the behaviors they wanted to change in order to achieve these health goals, (3) the risk and protective factors that have a causal impact on these behaviors, and (4) activities that would improve those risk and protective factors.

As noted above, the health goals most commonly targeted the reduction of STI/HIV transmission, and less commonly included pregnancy prevention. Those that targeted STI/HIV commonly focused on not having sex or using condoms. Less frequently, they focused on having fewer partners, even though number of sexual partners and concurrent sexual partners can greatly affect STI transmission. Programs that targeted

pregnancy prevention appropriately focused on not having sex and using contraception.

Programs that were effective consistently gave a clear message about these behaviors, most commonly, some version of the following: “You should always avoid unprotected sex. Not having sex is the safest and best choice. If you have sex, always use condoms to protect against pregnancy and STI.” Some new sex education programs encourage the dual use of both condoms and female methods of contraception.

The curriculum developers often used health and sociopsychological theories (e.g., social cognitive theory, the theory of reasoned action, the theory of planned behavior, the health belief model, and other theories) to identify the important mediating factors (e.g., knowledge, attitudes, perception of peer norms, self-efficacy, and intentions), which in turn affect behavior. Sometimes they also used instructional theory to determine what types of activities produce positive change in these mediating factors.

Effective curricula incorporated multiple activities designed to improve each of the important mediating factors. These activities, geared to the students’ gender, age, and level of sexual experience, got youth actively involved and helped them personalize the information. They included, for example, games to increase students’ knowledge, role-playing exercises to improve their skills to say no to sex or to insist on using condoms or contraception, anonymous voting activities about what sexual behaviors are right for them (e.g., abstinence or having sex with protection) to change perception of peer norms, and condom demonstrations to increase skills to use condoms correctly. Some activities also had youth describe the characteristics of the situations that might lead to unintended, unwanted, or unprotected sex and then had them describe strategies for avoiding these situations or getting out of them. If programs were implemented in schools, then they were typically quite long (e.g., eleven or more sessions) in order to include enough activities to change the mediating factors and behavior. In order to implement these activities, effective programs, especially school-based programs, provided training to the educators, and implemented virtually all the activities.

Sexuality Education, Table 2 The 17 characteristics of effective sex and STI/HIV education programs

| The process of developing the curriculum | The contents of the curriculum itself | The process of implementing the curriculum |
|---|---|---|
| <ol style="list-style-type: none"> 1. Involved multiple people with different backgrounds in theory, research, and sex and STI/HIV education to develop the curriculum 2. Assessed relevant needs and assets of target group 3. Used a logic model approach to develop the curriculum that specified the health goals, the behaviors affecting those health goals, the risk and protective factors affecting those behaviors, and the activities addressing those risk and protective factors 4. Designed activities consistent with community values and available resources (e.g., staff time, staff skills, facility space, and supplies) 5. Pilot-tested the program | <p><i>Curriculum Goals and Objectives</i></p> <ol style="list-style-type: none"> 6. Focused on clear health goals – the prevention of STI/HIV and/or pregnancy 7. Focused narrowly on specific behaviors leading to these health goals (e.g., abstaining from sex or using condoms or other contraceptives), gave clear messages about these behaviors, and addressed situations that might lead to them and how to avoid them 8. Addressed multiple sexual psychosocial risk and protective factors affecting sexual behavior (e.g., knowledge, perceived risks, values, attitudes, perceived norms, and self-efficacy) <p><i>Activities and Teaching Methodologies</i></p> <ol style="list-style-type: none"> 9. Created a safe social environment for youth to participate 10. Included multiple activities to change each of the targeted risk and protective factors 11. Employed instructionally sound teaching methods that actively involved the participants, that helped participants personalize the information, and that were designed to change each group of risk and protective factors 12. Employed activities, instructional methods, and behavioral messages that were appropriate to the youths' culture, developmental age, and sexual experience 13. Covered topics in a logical sequence | <ol style="list-style-type: none"> 14. Secured at least minimal support from appropriate authorities such as departments of health or education, school districts, or community organizations 15. Selected educators with desired characteristics (whenever possible), trained them, and provided monitoring, supervision, and support 16. If needed, implemented activities to recruit and retain youth and overcome barriers to their involvement (e.g., publicized the program, offered food, or obtained consent) 17. Implemented virtually all activities with reasonable fidelity |

Discussion

The evidence for the positive impact on behavior of comprehensive sex and STI/HIV education programs for adolescents is quite strong and encouraging. Two-thirds of the programs that emphasized both abstinence and condoms/contraception had a significant positive impact on behavior. Many either delayed or reduced sexual activity or increased condom or contraceptive use or both. The evidence is also strong that

these programs did not have negative effects. In particular, they did not hasten or increase sexual behavior, as some people have feared they might. These studies clearly demonstrate that it is possible both to delay sex and to increase use of condoms or other forms of contraception with the same programs. In other words, a dual emphasis on abstinence and on use of protection for those who do have sex is not confusing to young people; rather it is realistic and effective.

Despite this evidence for the success of many programs, there are important limitations to both the 87 studies and this review of them. For example, few studies described their respective programs adequately, none examined programs for youth engaging in same-sex behavior, and many had methodological limitations.

Given the strong evidence that comprehensive programs emphasizing both abstinence and use of condoms and contraception can change behavior in positive ways, perhaps the single most promising strategy for policy-makers and educators is to implement such programs with strong evidence that they have been shown to be effective with adolescent populations similar to those being targeted. That is currently being done with the large federal teen pregnancy prevention initiative funded by the new Office for Adolescent Health. It is providing hundreds of millions of dollars to implement comprehensive sex education programs that have been demonstrated to be effective.

The second most promising strategy is to select and implement widely programs that incorporate the 17 key characteristics of programs that have been effective with populations similar to those being targeted. Programs with these characteristics are also more likely to change behavior. If implemented broadly with fidelity, these and other programs with evidence of success can contribute to further reductions in teen pregnancy and STI in this country. They can also address young people's rights to accurate information about sexuality.

Cross-References

- ▶ [Abstinence Education](#)
- ▶ [Condom Use](#)
- ▶ [Emergency Contraception](#)
- ▶ [Sexuality Education Sources](#)

References

Alan Guttmacher Institute. (2002). *In their own right: Addressing the sexual and reproductive health needs*

- of American men*. New York: Alan Guttmacher Institute.
- Bleakley, A., Hennessy, M., & Fishbein, M. (2006). Public opinion on sex education in US schools. *Archives of Pediatrics & Adolescent Medicine*, *160*(11), 1151–1156.
- Centers for Disease Control and Prevention. (2008). Youth risk behavior surveillance: United States 2007. *Surveillance Summaries, MMWR*, *57*(SS-4), 1–131.
- Chandra, A., Martinez, G. M., Mosher, W. D., Abma, J. C., & Jones, J. (2005). Fertility, family planning, and reproductive health of U.S. women: Data from the 2002 National Survey of Family Growth. *National Center for Health Statistics Vital Health Statistics*, *23*(25), 96.
- Committee on the Rights of the Child. (2003). General Comment No. 3 (2003a) HIV/AIDS and the rights of the child, 32nd Sess. Retrieved from.
- Coyle, K. K., Basen-Enquist, K. M., Kirby, D. B., Parcel, G. S., Banspach, S. W., Collins, J. L., et al. (2001). Safer choices: Reducing teen pregnancy, HIV and STDs. *Public Health Reports*, *1*(16), 82–93.
- Finer, L., & Henshaw, S. K. (2006). Disparities in rates of unintended pregnancy in the United States, 1994 and 2001. *Perspectives on Sexual and Reproductive Health*, *38*(2), 90–96.
- Forhan, S. E., Gottlieb, S. L., Sternberg, M. R., Xu, F., Datta, S. D., McQuillan, G. M., Berman, S. M., & Markowitz, L. E. (2009). Prevalence of sexually transmitted infections among female adolescents aged 14 to 19 in the United States. *Pediatrics*, *124*, 1505–1512.
- Foundation, K. F., & Association, American Social Health. (1998). *Sexually transmitted diseases in America: How many and at what cost?* Menlo Park: Kaiser Family Foundation.
- Guttmacher Institute. (2010). *U.S. teenage pregnancies, births and abortions: Statistics national and state trends and trends by race and ethnicity*. New York: Guttmacher Institute.
- Hoffman, S. D. (2006). *By the numbers: The public costs of adolescent childbearing*. Washington, DC: National Campaign to Prevent Teen Pregnancy.
- Institute of Medicine. (1997). *The hidden epidemic: Confronting sexually transmitted diseases*. Washington, DC: Institute of Medicine.
- Kirby, D. B. (2007). *Emerging answers 2007: Research findings on programs to reduce teen pregnancy and sexually transmitted diseases*. Washington, DC: National Campaign to Prevent Teen and Unwanted Pregnancy.
- Kirby, D., & Lepore, G. (2007). *Sexual risk and protective factors: Factors affecting teen sexual behavior, pregnancy, childbearing and sexually transmitted disease: Which are important? Which can you change?* Washington, DC: National Campaign to Prevent Teen Pregnancy.
- Kirby, D., Baumler, E., Coyle, K., Basen-Enquist, K., Parcel, G., Harrist, R., et al. (2004). The “Safer Choices” intervention: Its impact on the sexual behaviors of different subgroups of high school students. *Journal of Adolescent Health*, *35*(6), 442–452.

- Kirby, D., Laris, B. A., & Roller, L. (2006). *Sex and HIV education programs for youth: Their impact and important characteristics*. Scotts Valley: ETR Associates.
- Kirby, D., Rollieri, L., & Wilson, M. M. (2007). *Tool to assess the characteristics of effective sex and STD/HIV education programs*. Washington, DC: Healthy Teen Network.
- Kirby, D., Rollieri, L., & Wilson, M. M. (2009). *Herramienta de Valoracion de Programas de Educacion Sexual para la Prevencion del vih y las its*. Washington, DC: Healthy Teen Network.
- Martin, J. A., Hamilton, B. E., Sutton, P. D., Ventura, S. J., Menacker, F., Kirmeyer, S., et al. (2009). Births: Final data for 2006. Retrieved from.
- Maynard, R. A. (1997). *Kids having kids: Economic costs and social consequences of teen pregnancy*. Washington, DC: National Campaign to Prevent Teen Pregnancy.
- National Campaign to Prevent Teen Pregnancy. (2006). *How is the 3 in 10 statistic calculated?* Washington, DC: National Campaign to Prevent Teen Pregnancy.
- National Public Radio, Kaiser Family Foundation, & Kennedy School of Government. (2004). *Sex education in America: General public/parents survey*. Menlo Park: The Foundation.
- St Lawrence, J. S., Jefferson, K. W., Alleyne, E., Brasfield, T. L., O'Bannon, R. E., III, & Shirley, A. (1995). Cognitive-behavioral intervention to reduce African American adolescents' risk for HIV infection. *Journal of Consulting and Clinical Psychology*, 63(2), 221–237.
- Suellentrop, K. (2006). *Teen contraceptive use*. Washington, DC: The National Campaign to Prevent Teen Pregnancy.
- The Community Guide. (2010). Prevention of HIV/AIDS, other STIs and pregnancy: Comprehensive risk reduction interventions. Retrieved 20 June 2010.
- U.S. Census Bureau. (2004). Annual social and economic supplement: 2003 current population survey: Table MS-2. *Current Population Reports*, P20–553.
- UNESCO. (2009). *International technical guidance on sexuality education: An evidence-informed approach for schools, teachers and health educators* (The rationale for sexuality education, Vol. 1). Paris: UNESCO.

Sexuality Education Sources

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The common place of sexual activity during adolescence indicates the inherent importance of adolescent sexuality education. Despite its

importance, sexuality education, especially its content, tends to attract considerable controversy. That controversy stems from the assumption that education about sexuality comes from formal sources, either schools or parents, and the need to determine who should control what adolescents learn about sexuality. Yet, the reality is that sexuality education comes from numerous social sources, and the realistic control of those sources varies considerably depending on the source. Adolescents draw information about sexuality from much more than schools and parents; they also notably obtain considerable knowledge about sexuality from the media, health professionals, and their peers (including their sexual partners). Although adolescents receive information from a variety of sources, research that asks adolescents about their preferred sources of sexuality education reports that parents actually are the preferred source, followed by schools and peers (Somers and Surmann 2004). Research has yet to study the wide variety of sources as closely as one would expect (e.g., there is essentially no systematic research on what youth learn from health professionals). Still, existing research does reveal the importance of considering the sources of sexuality education and their effect on adolescents' sexual attitudes and behaviors.

School-based sexuality education remains controversial, not only because of issues involving its content but also because of issues regarding its effectiveness and whether it should be taught in schools at all. Despite efforts to remove sexuality education from schools, research does reveal pressure to address sexuality in the school curriculum; and it also reveals pressures to teach it in certain ways. In one study, for example, 46% of teachers noted pressure from the community, parents, or school administrators as a problem in the teaching of sexuality information (Landry et al. 2000). This is not to say that these groups do not wish to have sexuality education taught in schools. The major issue that arises involves what should be taught. Mounting evidence reveals, for example, that parents support programs in public schools, and that the majority would support comprehensive programs (as opposed to those that are purely abstinence-based) (see Eisenberg et al. 2008).

Other large surveys report support for comprehensive sexuality education across several subgroup characteristics: race or ethnicity, age, education, household income, religious affiliation, religious service attendance, and ideological leaning (Constantine et al. 2007). Researchers in this area tend to conclude that the vast majority of parents support comprehensive sexuality education, and that resistance tends to come from small but highly vocal groups.

Research has long shown that school-based programs can result in well-documented positive effects on sexual knowledge (Melchert and Burnett 1990). Regrettably, research on adolescents' attitude and behavior change due to school-based education programs is generally less clear and some studies find no influence at all. It is clear that sexuality education can be effective in changing attitudes and actions, but much depends on the nature of the programs and their implementation. Our best evidence indicates that comprehensive sexuality education effectively promotes sexual health (Eisenberg et al. 2008).

Whether formal sexuality education programs are implemented at all often rests on the belief that programs will encourage sexual activity, as well as some beliefs that they will not protect youth from sexual risks. Research has found no relationship between school-based sexuality education and the onset of sexual activity (Wellings et al. 1995). One prominent study has reported, however, that learning later from any source and less learning from schools about sexual topics predicts more frequent sexual activity (Somers and Surmann 2005). The effect of school-based sexuality education on adolescent contraceptive use is also unclear, with some research showing positive effects and others finding no influence at all. These findings reveal the complexity of understanding the influence of formal sexuality education, a complexity highlighted by research indicating demographic differences in the effectiveness of school-based education (Somers and Surmann 2005).

Arguably, a major reason for the conflicting findings is that what constitutes sexuality education varies considerably (Levesque 2000a).

Content matters. For example, a large, nationally representative survey of 15–19-year-olds compared the sexual health risks of adolescents who received abstinence-only and comprehensive sexuality education to those of adolescents who received no formal sexuality education (Kohler et al. 2008). They found that adolescents who received comprehensive sexuality education were significantly less likely to report teen pregnancy than those who received no formal sexuality education, whereas there was no significant effect of abstinence-only education. Abstinence-only education did not reduce the likelihood of engaging in vaginal intercourse, but comprehensive sexuality education was marginally associated with a lower likelihood of reporting having engaged in vaginal intercourse. Neither abstinence-only nor comprehensive sexuality education significantly reduced the likelihood of reported STD diagnoses. Another group of researchers using the same data base reported that receiving any sexuality education was associated with not having had sexual intercourse among males and postponing sexual intercourse until age 15 among both males and females (Mueller et al. 2008). The study further reported that sexuality education was found to be particularly important for subgroups that are traditionally at high risk for early initiation of sex and for contracting sexually transmitted diseases. This last group of researchers essentially reports that any sexuality education is better than none; but the findings are complicated in that it would be important not to lump all programs together in efforts to determine relative effectiveness. The findings in this area certainly are complex, but existing research does tend to support the view that formal sexuality education programs do not encourage sexual activity and do protect youth against some of the risks attendant to sexual activity.

Given the frequently touted belief that parents should be the primary sources of sexuality education for their children, it is remarkable that research has not examined the nature (content and timing) and effectiveness of this form of education. Research has not really examined effectiveness with the general exception that it is assumed that parents provide sexuality education.

The bulk of research in this area has focused mainly on sexual communication; the content of that communication tends to have been ignored. Still, relative to school-based education, parental sexual communication has long been shown to have a more direct impact on adolescent behavior (Fisher 1986; Warren and Neer 1986; Somers and Gleason 2001). The research on adolescents' attitudes and behavior does show a positive relationship with parent-child communication (Fisher 1986; Miller and Fox 1987; Leland and Barth 1993; Whitaker and Miller 2000). However, at least in early adolescence, parental communication about sexuality is more likely with mothers and more limited with fathers (DiIorio et al. 1999), despite fathers' being more influential on sexual behavior (Dittus et al. 1997). Adolescents who discuss sex with their mothers before peers or teachers are more likely to use contraception (Miller et al. 1998), but females are more strongly influenced by discussion with their mothers than are males (Ballard and Morris 1998). The relative influence of parents, however, remains somewhat limited by timing. Parents often initiate sexuality communication *after* their child has engaged in sexual activity, including sexual intercourse (Lindberg et al. 2000; Somers and Paulson 2000). The research on sexual communication with parents would benefit from distinguishing the nature of the parent-child relationship and overall communication patterns, since there likely are biasing effects between communications relating to sexual activity and other supportive communications. Still, parents may have a strong impact of adolescents' sexuality education, but the influence may not be as effective as hoped due to, again, implementation (when parents communicate with their children and what they do talk about), and the impact may be due to other characteristics of the overall parent-child relationships.

Research has well established that peers highly influence adolescents' sexual behavior (Levesque 2000b). Given that influence, it is clear that peers play a large role in the sexuality education of adolescents. Although the role may be direct, research has focused more on indirect effects. For example, adolescents report higher levels of

sexual activity when they perceive sexual activity among their friends (Brooks-Gunn and Furstenberg 1989) and older siblings (Rodgers and Rowe 1988; East et al. 1993), though same-aged peers appear more influential than older peers (Ballard and Morris 1998). As expected, the influence of peers is affected by the dispositions of adolescents themselves. Adolescents with clearer notions of their values and intentions have been found to make better decisions (Miller et al. 1998); but adolescents consistently report clearer personal sexual values when more sexuality education occurs from adults rather than peers and media (Somers and Surmann 2005). The best evidence that we have does tend to show that leaving sexuality education to peers may lead to more sexual activity. For example, Somers and Gleason (2001) found that more education from non-sibling family members and less education in schools linked to more frequent sexual behavior in adolescents. The sources of learning make a difference.

The media's impact on adolescent sexuality also remains a powerful source of sexuality education for adolescents, albeit a largely informal source. The media's effects tend to be framed negatively and much research does reveal that the media often do not present responsible models as it exposes adolescents to sexual scripts and values contrary to those of their parents and broader society. There is no doubt that adolescents live with a sexualized media, and much of it can be negative in the sense that it portrays less than responsible sexual activity and values for youth. Despite the focus on negative aspects, the media can play a positive role in educating youth about sexuality, as revealed by effective public announcements regarding sexual health and relationships (Levesque 2007). That positive role, however, currently appears outweighed by the majority of images that shape adolescents' views of sexuality. It is true that media literacy programs, including those that are peer-led, have promise as part of a sexuality education programs in that they may provide adolescents with a cognitive framework necessary to understand and resist the influence of media on their decision making concerning sexual activity (Pinkleton

et al. 2008). The media, then, can play both positive and negative roles in shaping adolescents' sexual attitudes and behaviors; and it serves as a good example of the need for sexuality education programs (be they in schools or in homes) to include a focus on broad social influences that influence adolescent sexuality.

As noted earlier, the timing of education may well be as significant as its source. That point deserves emphasis. Adolescent sexual knowledge is contributed to by a number of sources at various times. This variation gains significance to the extent that early sexual activity is associated with more risky sexual behavior (Seidman et al. 1994) and literature suggests that adolescents are often educated too late (Somers and Paulson 2000). These findings are often used to support changes in how and when schools offer sexuality education. Although efforts to educate about sexuality are often resisted, early (prepubertal) and developmentally appropriate sexuality education in schools could be significant given that some studies have found early school-based education about key behavioral topics (intercourse, oral sex) relates to less sexual behavior in adolescence and generally relates to typically desired outcomes (Somers and Surmann 2005). Other research also has reported that earlier education appears not related to earlier or more frequent sexual behavior (Somers and Eaves 2002). Regardless of these findings, timing is likely to remain an important issue given the difficulties of implementing programs for older adolescents, let alone younger ones. This is further complicated by research, as noted above, that parents, when they do address sexuality with their children, tend not to begin until their children already have engaged in sexual activity.

The impact of sexuality education on sexual attitudes and behavior points to a need for more research on the appropriate timing and on how to develop the best sources of sexuality education. Research does suggest that adults in adolescents' lives, and not peers and media, may be more successful in helping adolescents develop clear values and intentions. That conclusion is of significance because even though adolescents receive sexual information from a variety of

sources, those sources are not necessarily effective in shaping their development in ways that would lead to positive outcomes. Given the sexual risks adolescents continue to take, as well as the social and individual costs of those risks, it is clear that current sources of sexuality education continue to fail youths and society (see also Levesque 2000a, b). Research on the sources of sexuality education reveals a pressing need for reform in the manner in which adolescents receive, learn, and use information relating to their sexual development and their intimate relationships.

Cross-References

► Sexuality Education

References

- Ballard, S. M., & Morris, M. L. (1998). Sources of sexuality information for university students. *Journal of Sex Education and Therapy, 23*(4), 278–287.
- Brooks-Gunn, J., & Furstenberg, F., Jr. (1989). Adolescent sexual behavior. *American Psychologist, 44*, 249–257.
- Constantine, N., Jerman, P., & Huang, A. (2007). California parents' preferences and beliefs regarding school-based sex education policy. *Perspectives on Sexual and Reproductive Health, 39*, 167–175.
- Dilorio, C., Kelley, M., & Hockenberry-Eaton, M. (1999). Communication about sexual issues: Mothers, fathers, and friends. *Journal of Adolescent Health, 24*(3), 181–189.
- Dittus, P. J., Jaccard, J., & Gordon, V. V. (1997). The impact of African American fathers on adolescent sexual behavior. *Journal of Youth and Adolescence, 26*(4), 445–465.
- East, P., Felice, M., & Morgan, M. (1993). Sisters' and girlfriends' sexual and childbearing behavior: Effects on early adolescent girls' sexual outcomes. *Journal of Marriage and the Family, 55*, 953–963.
- Eisenberg, M., Bernat, D., Bearinger, L. H., & Resnick, M. (2008). Support for comprehensive sexuality education: Perspectives from parents of school-age youth. *Journal of Adolescent Health, 42*, 352–359.
- Fisher, T. D. (1986). Parent-child communication about sex and young adolescents' sexual knowledge and attitudes. *Adolescence, 21*, 517–527.
- Kohler, P. K., Manhart, L. E., & Lafferty, W. E. (2008). Abstinence-only and comprehensive sex education and the initiation of sexual activity and teen pregnancy. *Journal of Adolescent Health, 42*, 344–351.
- Landry, D. J., Singh, S., & Darroch, J. E. (2000). Sexuality education in the fifth and sixth grades in US public

- schools, 1999. *Family Planning Perspectives*, 32(5), 212–219.
- Leland, N. L., & Barth, R. P. (1993). Characteristics of adolescents who have attempted to avoid HIV and who have communicated with parents about sex. *Journal of Adolescent Research*, 8(1), 58–76.
- Levesque, R. J. R. (2000a). Sexuality education: What adolescents' educational rights require. *Psychology, Public Policy, and Law*, 6, 953–988.
- Levesque, R. J. R. (2000b). *Adolescents, sex and the law: Preparing adolescents for responsible citizenship*. Washington, DC: American Psychological Association.
- Levesque, R. J. R. (2007). *Adolescents, media, and the law: What developmental science reveals and free speech requires*. New York: Oxford University Press.
- Lindberg, L. D., Ku, L., & Sonenstein, F. (2000). Adolescents' reports of reproductive health education, 1988 and 1995. *Family Planning Perspectives*, 32(5), 220–226.
- Melchert, T., & Burnett, K. F. (1990). Attitudes, knowledge, and sexual behavior of high-risk adolescents: Implications for counseling and sexuality education. *Journal of Counseling and Development*, 68(3), 293–298.
- Miller, B. C., & Fox, G. L. (1987). Theories of adolescent heterosexual behavior. *Journal of Adolescent Research*, 14, 179–194.
- Miller, K. S., Levin, M. L., Whitaker, D. J., & Xu, X. (1998). Patterns of condom use among adolescents: The impact of mother–adolescent communication. *American Journal of Public Health*, 88(10), 1542–1544.
- Mueller, T., Gavin, L., & Kulkarni, A. (2008). The association between sex education and youth's engagement in sexual intercourse, age at first intercourse, and birth control use at first sex. *Journal of Adolescent Health*, 42, 89–96.
- Pinkleton, B. E., Austin, E. W., Cohen, M. C., Chen, Y.-C., & Fitzgerald, E. (2008). Effects of a peer-led media literacy curriculum on adolescents' knowledge and attitudes toward sexual behavior and media portrayals of sex. *Health Communication*, 23, 462–472.
- Rodgers, J., & Rowe, D. (1988). Influence of siblings on adolescent sexual behavior. *Developmental Psychology*, 24, 722–728.
- Seidman, S. N., Mosher, W. O., & Aral, S. D. (1994). Predictor of high-risk behavior in unmarried American women: Adolescent environment as a risk factor. *Journal of Adolescent Health*, 15, 126–132.
- Somers, C. L., & Eaves, M. W. (2002). Is earlier sex education harmful?: An analysis of the timing of school-based sex education and adolescent sexual behaviours. *Research in Education*, 67, 23–32.
- Somers, C. L., & Gleason, J. H. (2001). Does source of sex education predict adolescents' sexual knowledge, attitudes, and behaviors? *Education*, 121(4), 674–681.
- Somers, C. L., & Paulson, S. E. (2000). Students' perceptions of parent–adolescent closeness and communication about sexuality: Relations with sexual knowledge, attitudes, and behaviors. *Journal of Adolescence*, 23, 629–644.
- Somers, C., & Surmann, A. (2004). Adolescents' preferences for source of sex education. *Child Study Journal*, 34(1), 47–60.
- Somers, C., & Surmann, A. (2005). Sources and timing of sex education: Relations with American adolescent sexual attitudes and behavior. *Educational Review*, 57(1), 37–54.
- Warren, C., & Neer, M. (1986). Family sex communication orientation. *Journal of Applied Communication Research*, 14, 86–107.
- Wellings, K., Wadsworth, J., Johnson, A. M., Field, J., Whitaker, L., & Field, B. (1995). Provision of sex education and early sexual experiences: The relation examined. *British Medical Journal*, 311(7002), 417–420.
- Whitaker, D. J., & Miller, K. S. (2000). Parent–adolescent discussions about sex and condoms: Impact on peer influences of sexual risk behavior. *Journal of Adolescent Research*, 15(2), 251–273.

Sexually Violent Predators

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Legally, sexually violent predators are individuals who have been convicted of or charged with the crime of sexual violence and who suffer from a mental abnormality or personality disorder that makes them likely to engage in predatory acts of sexual violence (Levesque 2006). Typically, the label of sexually violent predator brings with it more severe legal sanctions, either through the criminal or civil justice systems. Much controversy now surrounds the use of sex offender labels and the general response to adolescents deemed sex offenders (see Dicaldo 2009). Despite continued controversies, researchers routinely identify a small subset of sexually abusive youth who are more dangerous, more coercive (e.g., use threats of bodily injury or weapons), or are predatory and sexually violent toward strangers or casual acquaintances (Miccio-Fonseca and Rasmussen 2009). The challenge remains in

properly identifying, distinguishing, and responding to this subgroup of offenders.

References

- Dicataldo, F. C. (2009). *The perversion of youth: Controversies in the assessment and treatment of juvenile sex offenders*. New York: New York University Press.
- Levesque, R. J. R. (2006). *The psychology and law of criminal justice processes*. Hauppauge: Nova Science.
- Miccio-Fonseca, L. C., & Rasmussen, L. A. (2009). New nomenclature for sexually abusive youth: Naming and assessing sexually violent and predatory offenders. *Journal of Aggression, Maltreatment & Trauma, 18*, 106–128.

Shame

► Humiliation

Shame and Guilt

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Adolescence traditionally is seen as a time of great emotional change and development. Experiencing and adjusting to a variety of complex emotions is one of the hallmarks of adolescent development. Two such complex emotions are guilt and shame. Guilt and shame, along with pride, are often categorized under the umbrella term “self-conscious emotions” as they relate to one’s sense of self and understanding of reactions to one’s behavior. Researchers regularly use the terms guilt and shame interchangeably in a variety of contexts. However, a growing body of literature recognizes the distinctive character of these emotions (Tangney and Dearing 2002; Walter and Burnaford 2006). In addition, research continues to explore how these factors contribute to adolescent adjustment as well as adult outcomes. That

research leads us to conclude that shame and guilt play important roles in adolescent development, that we have much to learn, but that we already have made important progress.

Guilt and shame are different emotions. Guilt is a negative feeling of responsibility or remorse for having done something that may have emotionally or physically troubled another person (Hoffman 1998). Guilt is thought to be related to a focus on an action and a desire to repair (Walter and Burnaford 2006). Guilt seems to be more focused on feeling remorseful about the act one performed, rather than feeling remorseful about one’s self. Shame, on the other hand, is more self-focused than guilt, and there is an accompanying desire to hide. It is considered to be a painful feeling of having done or experienced something disgraceful or inappropriate. Shamed people often feel exposed, powerless, and worthless (Hoffman 1998; Tangney and Dearing 2002) signifying a focus on self that is not included in feelings of guilt. Given these differences, it is not surprising that research seeks to understand the roots of these emotions as well as what types of outcomes that they might produce.

While the specific factors influencing adolescents’ experience of emotions remain contested, a developing body of research seeks to understand the role of key factors in fostering and shaping adolescents’ experiences of guilt and shame. Research suggest that parents’ emotional style (Tangney and Dearing 2002), parenting practices and discipline styles (Hoffman 1998), and overall family climate may influence the development of shame or guilt in adolescents (Walter and Burnaford 2006). In addition, of course, individual experiences also may influence the development of shame and guilt, with guilt having been linked to experiences of interpersonal violence, such that, for example, guilt over acts of commission or omission (behaviors the adolescent performed or failed to perform during the event or to prevent it) associates highly with PTSD severity (Kletter et al. 2009). Despite this progress in examining the roots and nature of these complex emotions, however, much remains to be investigated.

Research also suggests that age and gender are associated with experiences of shame and guilt. Gender differences in guilt tend to be inconsistent during childhood, decrease at the onset of adolescence, and then increase in late adolescence (Bybee 1998). In adolescence and adulthood, however, females generally have stronger feelings of guilt and shame than do males (Bybee 1998; Walter and Burnaford 2006). As Bybee (1998) explains, girls' experiences of guilt may be intensified by the adolescent girl's proclivity for rumination as well as by a society that often holds girls to higher standards of behavior and looks. The transition into adolescence also places girls as particularly vulnerable to experiences of shame. This is particularly the case given that adolescence is a pivotal time for both physical and cognitive changes. Physically, girls experience dramatic bodily changes, and they experience those changes as their cognitive development enables heightened capacities for self-evaluation and social comparison. These changes render girls especially prone to engage in negative self-evaluations and help account for what researchers view as normative increase in experiences of shame among girls as they enter adolescence (De Rubeis and Hollenstein 2009). Although some of these changes have yet to be deemed as similarly affecting boys, it does seem that both sexes experience these complex emotions and that they may influence them differently.

Research reveals that these emotions may lead to different outcomes. Shame, for example, may have adverse effects on relationships and mental health. It may lead to an excessive focus on the self and decreased feelings of empathy. In fact, adolescents who feel shame may believe that others are judging them as "bad" or unpraiseworthy, and, as a result, may seek to escape others' painful judgments by aggressing against them. This outcome has been supported by research indicating that adolescents who experience shame seek to defend themselves against shameful feelings by acting in a hostile and aggressive manner toward others (Heaven et al. 2009). Other recent research reveals that shame relates to depressive symptoms, as well as to various other forms of psychopathology such as

anxiety and eating disorders (De Rubeis and Hollenstein 2009). Again, however, important sex differences do seem to be at work, with girls tending to experience more depressive symptoms and eating disorders and boys engaging more in some forms of aggression. The extent to which these gender differences are pronounced during adolescence underscores the significance of the need to understand the complex emotions that may underlie them.

The transition into and out of adolescence constitutes a pivotal time period for the onset of shame and guilt. As we have seen, this developmental period in the life course appears to influence the cognitions and relationships that enable experiences of shame and guilt. Experiences of shame and guilt do play a normative role during adolescence. They also, however, may be the foundation of psychopathology in later life. Given the above findings, it is clear that this relatively new area of research gains increasing significance as we can see the role of complex emotions in shaping adolescents' experiences and development.

References

- Bybee, J. (1998). The emergence of gender differences in guilt during adolescence. In J. Bybee (Ed.), *Guilt and children* (pp. 113–125). Boston: Academic.
- De Rubeis, S., & Hollenstein, T. (2009). Title individual differences in shame and depressive symptoms during early adolescence. *Personality and Individual Differences, 46*, 477–482.
- Heaven, P. C. L., Ciarrochi, J., & Leeson, P. (2009). The longitudinal links between shame and increasing hostility during adolescence. *Personality and Individual Differences, 47*, 841–844.
- Hoffman, M. L. (1998). Varieties of empathy-based guilt. In J. Bybee (Ed.), *Guilt and children* (pp. 91–112). Boston: Academic.
- Kletter, H., Weems, C. F., & Carrion, V. G. (2009). Guilt and posttraumatic stress symptoms in child victims of interpersonal violence. *Clinical Child Psychology and Psychiatry, 14*, 71–83.
- Tangney, J. P., & Dearing, R. L. (2002). *Shame and guilt*. New York: Guilford.
- Walter, J. L., & Burnaford, S. M. (2006). Developmental changes in adolescent's guilt and shame: The role of family climate and gender. *North American Journal of Psychology, 8*(1), 321–338.

Sibling Influences

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Overview

Research on children's and early adolescents' time use indicates that siblings are fixtures in each other's lives. Given their ubiquity, it is surprising that the ways in which brothers and sisters influence each other's development has been relatively neglected. In comparison, over the past 25 years there has been over 45 times more work on parenting processes and nearly seven times more on peer influences (McHale et al. 2012) than on siblings. An emerging body of work, however, documents that siblings are indeed important and can influence one another in a variety of ways. The goals of this essay are to review the main pathways through which siblings influence each other's development. Specifically, we highlight two broad avenues through which siblings influence each other: (a) directly – through observation and daily interactions with one another, as well as modeling and differentiation processes; and (b) indirectly – by virtue of their impact on the larger family system, including differential parenting and social comparison.

Direct Sibling Influences

Sibling interactions and social-cognitive development. Because of the amount of time they spend together and the emotional intensity of the

relationship, scholars have pointed to the sibling relationship as an important context for youths' social-cognitive development. Much of the work on sibling relationships has focused on how interactions with brothers and sisters provide youth with opportunities to learn new skills and behaviors. For example, a number of studies have highlighted that conflict situations between siblings provide unique opportunities for social and emotional development, as siblings are sensitive to each other's reactions, behaviors, and emotions (for a review see Brody 1998). Consistent with this notion, constructive conflict between siblings is related to a variety of positive skills, including self-regulation, perspective taking, turn taking, negotiation, persuasion, and compromise. Importantly, these experiences have implications that extend beyond the sibling relationship and are related to later social competence and emotional understanding as well as peer relationship qualities (e.g., Stormshak et al. 1996). Not all sibling conflicts, however, are related to positive outcomes. Destructive sibling conflicts (i.e., aggressive conflicts that persist for longer periods of time) in childhood and adolescence are related to detrimental outcomes including concurrent and later deviancy and internalizing problems (e.g., Bank et al. 2004; Buist et al. 2013). Other aspects of sibling relationships are also related to youth's adjustment. For example, in adolescence, warm and intimate sibling relationships have been connected to increased social competence and close friendships (Brody and Murry 2001) and may also buffer against stressful family wide events (Waite et al. 2011). Taken together, these findings indicate that interactions provide siblings with important and unique opportunities for socialization.

Given their age and social standing, the literature on sibling interactions has focused on the ways in which older brothers and sisters influence their younger siblings' behaviors and competencies. As we will see in following pages, this tradition has been maintained in much of the work on sibling similarities and differences. As such, investigating the ways in which younger siblings influence their older brothers and sisters represents an important area for future exploration.

Social learning and sibling similarities. Social learning processes, including modeling and reinforcement, are frequently posited mechanisms for explaining why brothers and sisters are often similar in their attitudes, skills, and behaviors. In general, social learning theories suggest that youth acquire new behaviors, attitudes, and beliefs through observation and social reinforcement (e.g., Bandura 1977). Within the family context, siblings are thought to be salient models because they possess three characteristics of effective models: (a) they are perceived as powerful or high in status; (b) they are warm and nurturing; and (c) they are similar to the observer. Given their age, more advanced skills and abilities, as well as their roles as leaders, caretakers, and sources of advice and support, older siblings are thought to be especially powerful models and, therefore, are more likely to be imitated by younger siblings than vice versa.

With social learning theories as their basis, a number of studies have documented sibling similarities in risky and deviant domains, such as aggressive behavior as well as alcohol and substance use. With respect to aggressive and deviant behaviors, research has documented that siblings influence each other's behavior through modeling and reinforcement processes. For example, observational research by Patterson (1986) found support for a "sibling-trainer hypothesis" in which older siblings act as models for and train younger siblings to be increasingly antisocial, which ultimately leads to behavioral similarity. More recent work supports this notion, even after controlling for previous risky behavior, as youth who model their siblings more strongly resemble their older brothers and sisters' risky behaviors than those who do not (Whiteman et al. 2014b). With respect to substance use, a body of work suggests that older siblings' substance use consistently predicts younger sibling use, above and beyond the shared contributions of shared genetics and shared parenting (e.g., McGue et al. 1996). In this context, sibling influence may be transmitted directly with older siblings facilitating their younger siblings' access to substances and the settings where they are consumed (Samek et al. 2015) as well as

indirectly, by shaping younger siblings' expectancies about alcohol and drug use (Whiteman et al. 2016). And, in many cases, these expectancies are positive, such that alcohol and substance use is associated with outcomes such as peer acceptance and popularity.

A number of studies suggest that modeling processes are moderated by the personal qualities of the siblings. The tenet of model similarity means that observational learning may vary as a function of the sibling dyad constellation, with older and same gender siblings more likely to serve as models than younger and opposite-gender siblings. Siblings close in age may be imitated due to their similarity, but a larger age gap between siblings also may invest an older sibling with power and high status and thereby promote modeling. The popularity of an older sibling may also matter, as siblings with more friends may be more influential (Wallace 2015). Sibling relationship qualities also may make a difference, such that siblings with close relationships are more likely to treat one another as models. Many findings are consistent with these observational learning principles, with the strongest evidence of modeling found in younger siblings modeling their older (higher status) siblings and in sibling pairs who are the same gender, closer in age, and with whom they have warmer relationships (e.g., McHale et al. 2009).

Sibling deidentification and sibling differences. Despite evidence that siblings often share many similarities, research and theory also highlights that siblings are often quite different in their personal qualities, interests, and activities. Although sibling differences may arise because of nonshared genes and nonshared parenting, they may also be the result of sibling deidentification processes. Rooted in psychoanalytic traditions which emphasize rivalry and competition between siblings as key aspects of development, sibling deidentification refers to the tendency for siblings to consciously or unconsciously choose different niches, develop different personal qualities, and define themselves as different from one another in order to reduce competition, protect themselves from social

comparisons, and garner a share of parental love and affection. Toward the end of reducing competition and rivalry, differentiation is thought to promote more harmonious relationships between siblings, marked by less rivalry and conflict as well as greater warmth. And, in direct contrast to social learning postulations, sibling deidentification processes are posited to operate more strongly when siblings are more objectively similar, such as when they are close in age and share the same gender. In general, research on the operation of sibling deidentification is limited because it is thought to operate, at least in part, unconsciously. Evidence for deidentification, however, has been found in areas such as personality, interests and activities, adjustment, and risky behavior. For example, consistent with the notion that deidentification processes operate more strongly when siblings are more objectively similar, initial work by Schachter and colleagues (1976) revealed that consecutively born siblings (i.e., firstborn and secondborn; secondborn and thirdborn) were more different in terms of their personality and temperamental qualities than were jump pairs (i.e., firstborns and thirdborns), and differentiation between siblings was most evident in same gender sibling dyads.

Unfortunately, much of the early work on sibling influence processes, including research on deidentification and social learning (with some exceptions), has failed to actually measure the influence dynamics. That is, inferences about the operation of deidentification or modeling processes have been based on patterns of associations between siblings' personal qualities and behaviors (i.e., positive associations equate to modeling, negative or no associations equate to deidentification). To address this problem, more recently, researchers have tried to measure sibling influence processes in creative ways. For example, Whiteman et al. (2007) asked adolescent siblings to rate how often they tried to be alike and different from one another across four domains: athletics, arts, academics, and conduct. Adopting a person-centered approach, Whiteman and colleagues discovered that 43% of secondborn siblings reported influence dynamics consistent with

modeling/social learning (trying to be like and not trying to be different across all four domains), whereas 27% of secondborns' reports were characterized by differentiation dynamics (trying to be different and not trying to be like their sibling across all four domains); the remaining 30% dyads reported low levels of both influence processes. Notably, youths' ratings of sibling influence were related to similarities and differences in siblings' activities and behaviors in predicted ways: Reports of modeling were linked to greater similarities between siblings' activities, grades, and risky behaviors, whereas reports of differentiation were related to patterns of dissimilarity between siblings' activities and behaviors.

Current findings on the links between differentiation and other sibling relationship qualities are also mixed. Although some work reveals that differentiation dynamics are more prevalent in same-gender sibling dyads, other work fails to consistently reveal this link. And although sibling differentiation is thought to reduce rivalry and competition, thereby increasing harmony, few studies have actually studied this relationship. One study found that siblings who became more different in their relationships with their parents over time also became more positive in their relationships with one another (Feinberg et al. 2003). Other work, however, suggests that siblings' reports of differentiation are linked to greater conflict and less warmth between siblings (Whiteman et al. 2014a). It could be that youths' conscious reports of differentiation are linked to relationship qualities differently than more unconscious processes; however, more work is needed to understand the correlates of sibling differentiation processes.

Indirect Sibling Influences

Although brothers and sisters can influence one another directly, they can also influence each other indirectly by virtue of their impact on the family system. As we outline below, siblings can influence each other's relationships, behaviors, and adjustment by: (a) influencing parents' expectations about child development and parenting behaviors;

(b) taxing parent and family resources; and (c) providing a referent parents' differential treatment and a target for social comparison.

Parental expectations and parenting behaviors. Conventional wisdom about parenthood suggests that parents learn through practice and experience, and as such their experiences with older children should have implications for their expectations and parenting strategies with younger children. Consistent with this notion, several studies have shown that parents' experiences with earlier-born children are related to their expectations for and behaviors toward later-born offspring. For example, Whiteman and Buchanan (2002) found that experienced mothers (i.e., those who had parented an adolescent previously) generally had more positive expectations and fewer negative expectations regarding their later-born adolescents' behaviors than did inexperienced parents (i.e., parents who had not yet parented an adolescent). Furthermore, the nature of mothers' experiences with earlier-born children predicted similar expectations for later-born offspring behavior during adolescence. That is, more positive experiences with earlier-borns were related to more positive expectations about later-borns' behaviors, whereas more negative experiences with older offspring predicted more negative expectations about later-borns. In fact, this latter pattern highlights that not all of what parents learn from prior experience is positive. East (1998), for example, discovered that a teenage daughter's pregnancy and subsequent childbearing led parents to question their parental efficacy and lower their expectations regarding later-born children's behaviors.

In addition to influencing parents' expectations about behavior, research highlights that older siblings can also indirectly influence parents' rearing strategies and relationships with their younger siblings. For example, using longitudinal data, Whiteman et al. (2003) found that when comparing parents' experiences with first- and secondborn offspring at the same age (e.g., when both children were 13 or 15), parents exhibited more effective parenting strategies (as indexed by greater knowledge regarding secondborns'

everyday activities) and achieved more harmonious relationships (as indexed by lower rates of conflict) with secondborn offspring. In short, findings like these highlight how families work as systems, as one sibling's experiences reverberate throughout the entire family. However, we still know very little about what parents learn from experience, and research on siblings provides a useful framework for future work in this area.

Taxing family resources. Siblings may also influence the experiences and adjustment of their brothers and sisters by taxing parents' emotional and financial resources more generally. Grounded in the assumption that siblings have to compete for their parents' resources, a body of work on family size and birth order suggests that sibship size is negatively related to outcomes such as intellectual functioning, academic achievement, and occupational attainment. For example, youth with more siblings tend to show poorer intellectual functioning and academic achievement as compared to youth with fewer siblings (e.g., Downey 1995). In general, findings like these are attributed to the idea that youth in larger families spend more time in intellectually diluted environments (e.g., less one-on-one time with parents, financial resources spread throughout the family as opposed to invested in only one or two children) and therefore perform more poorly on indices of intellectual development and academic achievement. Indeed, when an older sibling moves away from home thereby lessening the competition for resources, younger siblings report receiving more parental resources and, as a result, may perform better in school (Jensen et al. 2016).

Given that earlier-born children spend more time with parents when resources are less diluted (e.g., fewer children present, especially for first-borns) and the fact that they may be called to support their younger brothers' and sisters' school efforts, earlier-borns tend to fare better across various domains of academic performance as compared to later-borns. It is important to note, however, that most studies examine family size and birth-order differences between families (i.e., comparing firstborns from one family with secondborns from another family) rather than

within families (i.e., comparing first- and secondborns from the same family). By studying mean differences between rather than within families, “real” birth-order differences that occur within families may be misestimated. Thus, most research that has examined sibship size and birth order, as they are related to sibling differences, is limited.

Parents’ differential treatment and social comparisons. Despite social norms in Western culture that call for parents to treat their children equally, differential treatment of siblings is common. Parents recognize differences between their children in behavior, personality, and needs and often cite children’s personal characteristics as motivation for treating their offspring differently. And youth are keenly aware of the ways in which their parents treat them as compared to their brothers and sisters. In fact, some have suggested that youth use how they are treated in comparison to their siblings as barometer, which indicates the extent to which they are loved and accepted by parents.

Two general theoretical perspectives are used to understand links between parental differential treatment (PDT) and youths’ outcomes. The first is based on Adler’s theory of individual psychology and a justice perspective, which suggests any inequity in treatment between siblings will be recognized by youth and related to poorer individual and relational outcomes. Consistent with this orientation, when parents show greater discrepancies in treatment between siblings, both favored and less favored siblings fare poorly in terms of family relationships and personal adjustment (e.g., Kowal and Kramer 1997). The second perspective is rooted in social comparison theory (SCT). In short, this theory holds that individuals are motivated to compare themselves to others in order to learn about and evaluate aspects of the self. Through social comparisons, youth begin to develop a sense of self, and associated feelings of self-worth and self-esteem is thought to be enhanced by downward comparisons (i.e., comparisons made with those with less favorable experiences or performance) and negatively impacted by upward comparisons (i.e., comparisons made with those with more positive experiences or

performance). In fact, social comparisons are especially important during adolescence, as developmental changes in cognition and perspective taking are associated with youth’s increased utilization of comparisons for self-evaluation. Consistent with this theory, research indicates that offspring who are favored tend to report better relationships, fewer behavioral problems, and better mental health. Their less favored siblings, however, tend to report poorer relationships, more behavioral problems, and worse mental health (e.g., Jensen and Whiteman 2014; Shanahan et al. 2008).

Youth also differ in the degree to which they engage in social comparison. For example, some work shows that youth with lower self-worth tend to compare themselves to their brothers/sisters more frequently than those with higher self-worth (Feinberg et al. 2000). More recent work suggests that more spent time in comparison to a sibling may have negative impact on mental health because of the associated emotional strain. Specifically, being more concerned about how one compares to a brother or sister may foster similarity, but also a sense of resentment and more conflict (Jensen et al. 2015).

Other work on PDT shows that the context in which differential treatment occurs makes a difference for its adjustment implications. For example, PDT is only associated with maladjustment when the quality of that child’s relationship with his or her parents is negative (Feinberg and Hetherington 2001). Differential treatment may also have different implications depending upon the domain in which it occurs. Specifically, perceptions of more negative treatment and less warmth from parents is linked to poorer relational and adjustment outcomes. Youths’ perceptions of fairness and equity also help explain the links between PDT and outcomes. That is, siblings who view differential treatment as fair tend to have more positive sibling relationships and fewer adjustment problems (Kowal and Kramer 1997). Like parents, youth may view differences in age, personality, and special needs as legitimate reasons for differential treatment. It is important, however, that parents help youth understand why

they may be treated differently to help protect them from potential negative aspects of social comparison.

Conclusion

Research documents that siblings influence each other as well as the entire family system in a variety of ways. More work is needed, however, to gain a more comprehensive understanding of how these multiple and sometimes competing processes influence brothers' and sisters' personal qualities, behaviors, and relationships. For example, much of the research on sibling influence has invoked modeling and deidentification processes as post hoc explanations for observed patterns of similarity and differences between siblings. More attention needs to be paid specifically to the nature and correlates of these influence processes, with an eye to how they may even operate in concert with another. Furthermore, greater focus needs to be placed on how processes of sibling influence are shaped by the larger family environment. Sibling relationships operate within a larger family system, and it is important to understand how parents' beliefs, expectations, and values are related to sibling socialization and adjustment. Yet, it is equally important to understand that parents' emotional, behavioral, and material resources are influenced by their children's characteristics and experiences and therefore examine how parenting strategies and relationships vary across children in the same family.

References

- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs: Prentice Hall.
- Bank, L., Burraston, B., & Snyder, J. (2004). Sibling conflict and ineffective parenting as predictors of adolescent boys' antisocial behavior and peer difficulties: Additive and interactional effects. *Journal of Research on Adolescence, 14*, 99–125.
- Brody, G. H. (1998). Sibling relationship quality: Its causes and consequences. *Annual Review of Psychology, 49*, 1–24.
- Brody, G. H., & Murry, V. M. (2001). Sibling socialization of competence in rural, single-parent African American families. *Journal of Marriage and Family, 63*(4), 996–1008.
- Buist, K. L., Dekovic, M., & Prinzie, P. (2013). Sibling relationship quality and psychopathology of children and adolescents: A meta-analysis. *Clinical Psychology Review, 33*, 97–106.
- Downey, D. B. (1995). When bigger is not better: Number of siblings, parental resources, and educational performance. *American Sociological Review, 60*, 746–761.
- East, P. L. (1998). Impact of adolescent childbearing on families and younger siblings: Effects that increase younger siblings' risk for early pregnancy. *Applied Developmental Science, 2*, 62–74.
- Feinberg, M., & Hetherington, E. M. (2001). Differential parenting as a within-family variable. *Journal of Family Psychology, 15*, 22–37.
- Feinberg, M. E., Neiderhiser, J. M., Simmens, S., Reiss, D., & Hetherington, E. M. (2000). Sibling comparison of differential parental treatment in adolescence: Gender, self-esteem, and emotionality as mediators of the parenting-adjustment association. *Child Development, 71*, 1611–1628.
- Feinberg, M., McHale, S. M., Cumsille, P., & Crouter, A. C. (2003). Sibling differentiation: Sibling and parent relationship trajectories in adolescence. *Child Development, 74*(5), 1261–1274.
- Jensen, A. C., Pond, A. M., & Padilla-Walker, L. M. (2015). Why can't I be more like my brother? The role and correlates of sibling social comparison. *Journal of Youth and Adolescence, 44*, 2067–2078. <https://doi.org/10.1007/s10964-015-0327-8>.
- Jensen, A. C., & Whiteman, S. D. (2014). Parents' differential treatment and adolescents' delinquent behaviors: Direct and indirect effects of difference score- and perception-based measures. *Journal of Family Psychology, 28*, 549–559. <https://doi.org/10.1037/a0036888>.
- Jensen, A. C., Whiteman, S. D., Bernard, J. M., & McHale, S. M. (2016). Resource reallocation? Implications of parents' resource distribution following firstborns' leaving home. *Family Process, 55*(1). <https://doi.org/10.1111/famp.12203>.
- Kowal, A., & Kramer, L. (1997). Children's understanding of parental differential treatment. *Child Development, 68*, 113–126.
- McGue, M., Sharma, A., & Benson, P. (1996). Parent and sibling influences on adolescent alcohol use and misuse: Evidence from a U.S. adoption cohort. *Journal of Studies on Alcohol, 57*, 8–18.
- McHale, S. M., Bissell, J., & Kim, J. (2009). Sibling relationship, family, and genetic factors in sibling similarity in sexual risk. *Journal of Family Psychology, 23*, 562–572.
- McHale, S. M., Updegraff, K. A., & Whiteman, S. D. (2012). Sibling relationships and influences in childhood and adolescence. *Journal of Marriage and Family, 74*, 913–930.

- Patterson, G. R. (1986). The contribution of siblings to training for fighting: A microsocioanalysis. In D. Olweus, J. Block, & M. Radke-Yarrow (Eds.), *Development of antisocial and prosocial behaviors* (pp. 235–261). New York: Academic.
- Samek, D. R., McGue, M., Keyes, M., & Iacono, W. G. (2015). Sibling facilitation mediates the association between older and younger sibling alcohol use in late adolescence. *Journal of Research on Adolescence, 25*, 638–651.
- Schachter, F. F., Shore, E., Feldman-Rotman, S., Marquis, R. E., & Campbell, S. (1976). Sibling deidentification. *Developmental Psychology, 12*, 418–427.
- Shanahan, L., McHale, S. M., Crouter, A. C., & Osgood, D. W. (2008). Linkages between parents' differential treatment, youth depressive symptoms, and sibling relationships. *Journal of Marriage and Family, 70*, 480–494.
- Stormshak, E., Bellanti, C., Bierman, K., & Conduct Problems Prevention Research Group. (1996). The quality of sibling relationships and the development of social competence and behavioral control in aggressive children. *Developmental Psychology, 32*, 79–89.
- Waite, E. B., Shanahan, L., Calkins, S. D., Keane, S. P., & O'Brien, M. (2011). Life events, sibling warmth, and youths' adjustment. *Journal of Marriage and Family, 73*, 902–912.
- Wallace, L. N. (2015). Sibling popularity: A moderator of sibling influence for adolescent substance use. *Addiction Research and Theory, 23*, 481–489.
- Whiteman, S. D., & Buchanan, C. M. (2002). Mothers' and children's expectations for adolescence: The impact of perceptions of an older sibling's experience. *Journal of Family Psychology, 16*, 157–171.
- Whiteman, S. D., McHale, S. M., & Crouter, A. C. (2003). What parents learn from experience: The first child as a first draft? *Journal of Marriage and Family, 65*, 608–621.
- Whiteman, S. D., McHale, S. M., & Crouter, A. C. (2007). Competing processes of sibling influence: Observational learning and sibling deidentification. *Social Development, 16*, 642–661.
- Whiteman, S. D., Jensen, A. C., & Maggs, J. L. (2014a). Similarities and differences in adolescent siblings' alcohol-related attitudes, use, and delinquency: Evidence for convergent and divergent influence processes. *Journal of Youth and Adolescence, 43*, 687–697.
- Whiteman, S. D., Zeiders, K. H., Killoren, S. E., Rodriguez, S. A., & Updegraff, K. A. (2014b). Sibling influence on Mexican-origin adolescents' deviant and sexual risk behaviors: The role of sibling modeling. *Journal of Adolescent Health, 54*, 587–592.
- Whiteman, S. D., Jensen, A. C., Mustillo, S. A., & Maggs, J. L. (2016). Understanding sibling influence on adolescents' alcohol use: Social and cognitive pathways. *Addictive Behaviors, 53*, 1–6.

Sibling Maltreatment

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Overview

Sibling maltreatment is the most common form of family violence. It is widely experienced in sibling dyads with adolescents filling roles as both perpetrators and victims, yet it is underreported by families and poorly understood by psychologists and family scientists interested in adolescent development. Advancements in the field are hindered by the fact that many assume sibling rivalry, conflict, and aggression are normal. Researchers who study sibling maltreatment struggle with complicated methodological issues associated with working with families, a plethora of definitions and terms, and informants who may be understandably uncooperative. Nevertheless, investigators have found several individual, familial, and demographic risk factors that are closely linked to sibling violence and have documented harmful consequences for both the perpetrator and victims of these interactions. More research needs to be conducted to understand physical, psychological, and sexual abuse in sibling relations and to lay a ground work for effective prevention programming.

Rate of Sibling Maltreatment

Sibling relationships are among the longest lasting relationships, serving as a significant socialization context. Some siblings possess fond memories of warm and supportive interactions; however, most siblings report experiencing ridicule, cruelty, or bullying in their sibling interactions. Sibling relationships, therefore, may have the dubious distinctions of not only being the

longest but also the most debilitating and destructive relationship.

Some researchers have shown that sibling maltreatment is pervasive. For example, a nationwide study of family violence found that the occurrence of sibling violence is higher than either parent abuse of a child or intimate partner violence in that approximately 40–85% of children committed acts of violence against siblings (Straus et al. 1980). In confirming the contention that sibling violence is the most common form of intrafamily violence, 88% of male junior high school students and 94% of the females reported being a victim of sibling violence, and 85% of the males and 96% of the females reported perpetration of sibling violence during the previous year (Roscoe et al. 1987). Similarly, as many as 60% of high school students reported being either a victim or perpetrator of physical violence during the preceding 12 months (Goodwin and Roscoe 1990). In a retrospective study, 48% of undergraduates reported being physically victimized by siblings and 41% reported being physically aggressive toward siblings during childhood (Hardy 2001). A recent survey among high school students documented that 16% had physical fights with siblings in the last 30 days (Johnson et al. 2015). Similar to all of the above results obtained with an American sample, young adolescents in the UK reported that 20% used physical aggression toward siblings and 28% experienced physical victimization by siblings (Tippett and Wolke 2015). In another sample of early adolescents in the UK, 47% responded that they experienced sibling bullying at least once or more in the past 6 months (Bowes et al. 2014). In an Australian sample, 37% of adolescents reported that they bullied their siblings (Tanrikulu and Campbell 2015). A similar study conducted in Portugal revealed that 73% and 92% of university students indicated being physically or psychologically aggressive against siblings, respectively, and 71% and 91% reported being physically or psychologically victimized by siblings, respectively, in the past year (Relva et al. 2013). The study also showed that 7% admitted being perpetrators of sexual coercion and 8% being victims of coercive sexual experiences in the last year. While very

little research has been done on sibling sexual abuse, 13% of undergraduates in the US reported some sexual experience with siblings (Finkelhor 1980).

Despite its high incidence and recurrent patterns, sibling maltreatment remains largely underreported by the public and overlooked and underestimated by social scientists and public policy agencies. There are several reasons for the neglect of this issue. First, many parents tend to view negative sibling interactions as part of the inevitable or even normal process of growing up. Parents often assume children will outgrow rivalry, and these experiences are considered as a relevant training ground for learning how to manage conflict and resolve disputes with others outside of the family (DesKeseredy and Ellis 1997; Gelles and Cornell 1985; Kurst-Swanger and Petcosky 2003; McDonald and Martinez 2016; Straus et al. 1980; Wiehe 1997). Children perceive parental attempts to discipline abusers and to protect victims to be ineffective in most cases, and this partially contributes to continued sibling abuse until one of the siblings leave home (McDonald and Martinez 2016). Second, parents are not aware of every act of violence between their children (Hines and Malley-Morrison 2005; Straus et al. 1980). Finally, there are many kinds of sibling relationships, including full biological siblings, half-siblings, step- and adoptive siblings, which complicates sampling strategies and this, coupled with the need to sample multiple family members, increases the difficulty of doing sound research on sibling violence.

Definitions and Characteristics of Sibling Maltreatment

Another limitation associated with this line of research is that there has been much confusion regarding the terminology of sibling maltreatment. Sibling conflict, rivalry, aggression, violence, assault, and abuse are a few of the descriptors commonly employed. The lack of a clear legal definition pertaining to the protection of victimized siblings from abusing siblings contributes to the confusion (Stock 1993).

Furthermore, the enactment and intentions associated with maltreatment change as children develop. This suggests a need for a conceptualization that is sensitive to maturational differences. Finally, there is no clear consensus among researchers about the severity, frequency, or duration of associated behaviors that would qualify as maltreatment or abuse. However, a few researchers call attention to distinctions among hostile aspects of sibling relationships. For example, Caffaro and Conn-Caffaro (1998) make a distinction between sibling rivalry and sibling assault. Although sibling rivalry arises from conflicts over tangible or intangible resources, it may help siblings explore different niches and learn how to manage interpersonal conflict effectively. Sibling assault, however, involves repeated and escalating patterns of aggressive behavior among siblings where offenders are clearly distinguishable from victims and parents do not actively mediate. These authors further argue that severity can be gauged in terms of potential harm to the victim. Although there are inconsistent operationalizations, like other forms of intrafamilial abuse, there is agreement that sibling maltreatment can be classified into three categories: physical, psychological, and sexual.

Physical Abuse

Physical abuse between siblings ranges from deliberately causing physical harm to another sibling to causing death. The physical injury may be inflicted by shoving, hitting, slapping, pinching, scratching, kicking, biting, and hair pulling (Caffaro and Conn-Caffaro 1998; Kurst-Swanger and Petcosky 2003; Wiehe 2000). The perpetrating sibling may also jump out onto the victimized sibling, hurl him/her out onto the floor, and take him/her down (Kurst-Swanger and Petcosky 2003). Physical abuse can become more dangerous with the improper use of objects (e.g., broom handles, rubber hoses, brushes, coat hangers, belts, sticks, baseball bats) or weapons (e.g., knives, razor blades, scissors, BB guns) for intimidation and inflicting harm and pain (Kurst-Swanger and Petcosky 2003; Wiehe 2000). The most prevalent types of physical abuse by siblings are shoving, pushing or pulling, or hitting with a

fist or an object (Button and Gealt 2010; Goodwin and Roscoe 1990). Some victims reported tickling as the most torturous form of physical abuse, and others reported that their siblings attempted to smother them with a pillow, increasing the risk of suffocation (Wiehe 2000). Male aggressors are more likely to use both guns and personal weapons, while female aggressors are more likely to use knives (Krienert and Walsh 2011b). Male aggressors are also more likely than females to be alcohol or drug involved during violent incidents (Krienert and Walsh 2011b).

Physical abuse tends to decline steadily with age, suggesting that adolescents become cognitively and verbally competent and grow out of such behaviors (Goodwin and Roscoe 1990; Johnson et al. 2015; Tanrikulu and Campbell 2015; Tippett and Wolke 2015). Along with the dissipation over time, the events instigating physical abuse change. For example, early to mid-adolescents clash over more tangible issues such as physical boundaries, whereas mid- to late adolescents fight over more issues such as social responsibilities and obligations (Kiselica and Morrill-Richards 2007).

Psychological Abuse

Psychological abuse includes the following behaviors: continuously teasing, ridiculing, belittling, insulting, intimidating, scorning, or threatening the other member of the sibling dyad. Also included are behaviors that force the sibling to perform unwanted tasks or that deliberately spoil or threaten to spoil sibling's relationship with others (Crick and Grotpeter 1995; Wiehe 1997). It also includes destroying possessions and mistreating pets (Wiehe 1997). Although there has been some confusion in the use of the terms, psychological abuse, emotional abuse, and relational aggression all tap similar core features of the same phenomenon.

In contrast to physical abuse which leaves physical evidence in many cases, psychological abuse among siblings, which leaves no visible damage, is extremely difficult to identify. Partly because of this reason, psychological abuse among siblings has been understudied; yet, it is even more common than other forms of sibling

abuse (Crick et al. 2001; Kurst-Swanger and Petcosky 2003; Wiehe 1997). Although psychological abuse has mainly been studied in the peer context instead of the sibling context under the name of relational or indirect aggression, adolescent sibling interaction is found to be a pertinent social context for breeding psychological abuse (Updegraff et al. 2005; Yu and Gamble 2008a). Although females are more likely than males to engage in psychological abuse in the context of peers in general (e.g., Crick et al. 1999), it has been speculated that psychological abuse among siblings is more pervasive than among peers (Stauffacher and DeHart 2006). This may be partly because male adolescents are less likely to behave in gender-stereotyped ways in the sibling context than in the peer context (Stauffacher and DeHart 2006).

Sexual Abuse

Sibling incest includes any sexual behavior between siblings that is developmentally inappropriate (Caffaro and Conn-Caffaro 1998). Sibling incest may encompass attempts to initiate sexual intercourse, oral-genital contact, or any other forms of coerced sexual activity, with or without physical force, threats of force, or coercion (Caffaro and Conn-Caffaro 1998). Noncontact sibling incest may encompass behavior that aims to arouse a sibling sexually, including sexual references into a conversation, indecent exposure, taking pornographic pictures of the sibling, or forcing a sibling to view pornographic material (Wiehe 1996).

Older brothers are offenders and younger sisters are victims in the vast majority of cases of sibling incest (Caffaro and Conn-Caffaro 1998; Falcão et al. 2014; Krienert and Walsh 2011a). Sibling incest offenders, whose mean age is 15 years, are generally older and stronger than sibling incest victims, whose mean age of onset of the abuse is 9 years (DeJong 1989; O'Brien 1991). Some report that penetrative abuse involving vaginal, anal, and/or oral intercourse is the most common practice of sibling sexual abuse for both genders (Falcão et al. 2014), while others report that forcible fondling is the most common category (Krienert and Walsh 2011a). While rape

is more commonly perpetrated against female than male victims, sodomy is more commonly perpetrated against male than female victims (Krienert and Walsh 2011a). Minor or no injuries are reported in most cases of sibling incest (Falcão et al. 2014; Finkelhor 1980; Krienert and Walsh 2011a).

Some researchers suggest that sibling incest is likely to occur five times more frequently than parent-child incest (Canavan et al. 1992; Cole 1982; Smith and Israel 1987). Indeed, an investigation with an Australian sample revealed that approximately 40% of children's sexual experiences with relatives were sibling cases (Goldman and Goldman 1988). Along a similar line, only 12% of the victims of sibling sexual abuse ever divulged their experience to someone else (Finkelhor 1980). It is reasoned that even if parents discover sibling incest, they are unlikely to deliver their children to the appropriate authorities or clinics due to the shame and guilt they experience (Caffaro and Conn-Caffaro 1998; Kurst-Swanger and Petcosky 2003; Wiehe 1997). Also, adolescents who seek to sexually exploit their siblings are likely to succeed, no matter how vigilant and wary the parents are (Caffaro and Conn-Caffaro 1998).

Causes/Correlates of Sibling Maltreatment

Like other forms of intrafamilial abuse, sibling maltreatment is multiply determined by individual, familial, and demographic characteristics. Thus, each of these factors is explored in the following sections to understand why maltreatment occurs between siblings.

Individual Psychological Factors

An offender's abusive behavior may be motivated by an internal need, such as the desire to have power and control over their victims who are younger and weaker siblings (Caffaro and Conn-Caffaro 1998). Sibling offenders often tend to have deficits characterized by impulsivity, trait anger, aggressiveness, and lack of empathy and socioemotional maturity (Caffaro and Conn-

Caffaro 1998; Tanrikulu and Campbell 2015). From a blockage theory perspective, poor social skills and social adjustment prevent people from fulfilling their social and emotional needs through positive, prosocial interactions with peers, thereby leaving their needs unsatisfied resulting in the display of severely impaired social interactions with a vulnerable sibling (Finkelhor 1984). Indeed, the theory was empirically supported in finding that sibling incest offenders are more likely than nonchild offenders to have poor peer relationships and few friends (O'Brien 1991). Similarly, peer aggression/victimization experiences positively correspond to sibling aggression/victimization (Bowes et al. 2014; Johnson et al. 2015; Tippet and Wolke 2015; Yu and Gamble 2009).

From a personality perspective, extraversion, openness to experience, agreeableness, and conscientiousness are inversely associated with physical aggression among adolescent siblings (Yu et al. *in press*). This study further reveals that each sibling's personality traits are associated not only with his/her own physical aggression against siblings but with the other's physical aggression against siblings.

Victims of sibling maltreatment may share some common individual risk factors, although they have no responsibility for being abused. They may lack supportive relationships with family and friends and thus tend to overly depend upon their abusive sibling (Caffaro and Conn-Caffaro 1998; Kurst-Swanger and Petcosky 2003). Difficult temperament or intellectual or physical disability are identified as a possible risk factor among victimized siblings (Kurst-Swanger and Petcosky 2003). Indeed, a non-negligible group of sibling incest victims (i.e., 18%) are mentally challenged, thereby rendering them more vulnerable to this abuse (Falcão et al. 2014).

Familial Factors

Consistent with the tenets of social learning theory, it has been argued that many sibling offenders who witness negative exchanges in the family learn vicariously that violence is an appropriate way of resolving interpersonal conflict and thus

are likely to recreate abusive acts toward their vulnerable siblings (Caffaro and Conn-Caffaro 1998; Kurst-Swanger and Petcosky 2003; Straus et al. 1980). Social learning theory is also a widely accepted explanation for the intergenerational transmission of violence through direct reinforcement and parental modeling as a mode of solving conflict (Gelles and Cornell 1985; Straus et al. 1980). Indeed, aversive and violent interactions between parents were found to increase aggressive and hostile sibling conflict (Hoffman et al. 2005; Stocker and Youngblade 1999; Tippet and Wolke 2015; Yu and Gamble 2008b). Parent-child discord is also linked to increases in sibling conflict (Hoffman et al. 2005; Yu and Gamble 2009).

Each individual family member is embedded in a family system and they operate in an interrelated and interdependent way; therefore, quality of relationships and interaction patterns of a family subsystem (e.g., spouse) are likely to have a substantial impact on other family subsystems (e.g., sibling), the other members of the family, or the entire family unit (Minuchin 1988). From this perspective, the overall family environment is strongly influential in shaping sibling maltreatment (Hardy 2001; Kurst-Swanger and Petcosky 2003; Steinmetz 1981). A cohesive and protective family environment helps adolescents to handle stressful situations and to resolve conflict with others in a more socially acceptable way (Davies and Cummings 1994). Empirically, it was found that a cohesive family environment and maternal positive expressiveness toward their adolescent children were significantly and negatively associated with both younger and older sibling's physical and psychological abuse within the family (Yu and Gamble 2008a). In a similar vein, a chaotic and argumentative home environment and heightened marital conflict were significantly higher among adolescent sibling incest offenders than among nonsibling offenders (Worling 1995).

Parental psychological unavailability or the lack of appropriate parental supervision or intervention allows abusive behavior between siblings to occur and even to be reinforced (Caffaro and Conn-Caffaro 1998; Kiselica and Morrill-Richards 2007; Kurst-Swanger and Petcosky

2003; Rudd and Herzberger 1999; Whipple and Finton 1995). When parents do not closely monitor sibling interactions or do not intervene in violent sibling acts, power becomes more unequally distributed across siblings and abusive behavior escalates (Caffaro and Conn-Caffaro 1998; Kurst-Swanger and Petcosky 2003; McDonald and Martinez 2016). Quite possibly, sibling maltreatment may be a reflection of parents who are overburdened with their own problems such as financial, mental, and physical stresses and marital conflict, and thus have little or no energy to monitor, discipline, or intervene in their children's abusive interactions with siblings (Kiselica and Morrill-Richards 2007; Hardy 2001; Wiehe 1997; Yu and Gamble 2008b).

Parental differential treatment of siblings is thought to be a source of sibling conflict and abuse because of children's feelings of superiority/inferiority, self-esteem, or parental support/lack of parental support (Caffaro and Conn-Caffaro 1998; Updegraff et al. 2005). Parental differential treatment may contribute more strongly to sibling maltreatment if adolescents perceive it as unfair or unreasonable (Kowal and Kramer 1997; McHale et al. 2000). Although differential treatment was linked to younger sibling's experiences of psychological abuse (Updegraff et al. 2005), it was not significantly associated with older sibling's psychological abuse (Updegraff et al. 2005) or with either older and younger sibling's physical and psychological abuse (Yu and Gamble 2008a). Because little research has explored the association between differential treatment and sibling maltreatment during adolescence, firm conclusions should be reserved until researchers employ diverse assessments of differential treatment in domains such as paternal and maternal discipline, favoritism, and involvement.

It has been argued that some facets of parental psychological control of their children, such as threatening withdrawal of love, possessiveness of relationships, and instilling feelings of guilt, resemble those of psychological abuse (Nelson and Crick 2002). Parental psychological control is therefore likely to contribute to children's learning how to abuse others psychologically in the

family context. Although very little is known about the association between psychologically controlling parenting and psychological abuse among siblings, it has been found that adolescent children's perceptions of maternal psychological control are positively associated with their physical and psychological abuse of siblings (Yu and Gamble 2008a).

Demographic Factors

Previous research has identified demographic factors, such as age, age spacing, gender, gender composition, and family size, which are likely to be consequential to abusive sibling interactions. However, the results of studies regarding associations between each of these demographic variables and sibling maltreatment have in general been mixed and inconclusive. As pointed out earlier, there is general agreement across studies that age is inversely related to incidence rates of physical abuse among siblings (Eriksen and Jensen 2009; Johnson et al. 2015; Goodwin and Roscoe 1990; Tippett and Wolke 2015), although some studies show that age is positively associated with frequency and severity of physical abuse (e.g., Hardy 2001). There is still a paucity of information on the impact of age on psychological and sexual abuse. Similarly, little research has examined how age gaps between siblings are linked to psychological and sexual abuse between siblings, although it was reported that psychological abuse is more commonly found among narrowly spaced adolescent siblings (Noland et al. 2004). The majority of research on school-age children indicates that closely spaced sibling dyads exhibit higher rates of physical violence because of similar developmental stages, capabilities, and interests (Dunn and McGuire 1992). In contrast, widely spaced sibling dyads may engage in less physical conflict because of a clearly established power structure or the hierarchical distance between siblings (Newman 1996). This seems to hold true for adolescent sibling pairs (Noland et al. 2004), although it remains for future research to inquire directly about the link between age differences and physical abuse, as well as psychological and sexual abuse.

Studies suggest that gender or gender composition of sibling dyads are central for understanding sibling maltreatment. It has been found that brothers perpetrate a higher rate of physical violence toward their siblings, and older brother–younger sister dyads are at greatest risk of physical violence (Graham-Bermann et al. 1994; Krienert and Walsh 2011b; Simonelli et al. 2002). However, other researchers report few or no significant gender differences in physical abuse between siblings (Goodwin and Roscoe 1990; Kettrey and Emery 2006) or across four different gender composition of sibling dyads (i.e., male–male, male–female, female–male, and female–female) (Yu and Gamble 2008a). Gender effects may be most evident when percentages of male children increase in families as opposed to the mere presence of a male (Eriksen and Jensen 2009). While less research has been conducted on the association between gender and psychological abuse among siblings, there is a general consensus that gender or gender composition alone does not explain the amount and nature of psychological abuse among adolescent siblings (Stauffacher and DeHart 2006; Updegraff et al. 2005; Yu and Gamble 2008a). As discussed earlier, adolescents feel less pressure to conform to gender stereotypes in the sibling context than in the peer context; thus, it appears that psychological abuse among siblings does not vary by gender (Stauffacher and DeHart 2006; Yu and Gamble 2008a). The overall picture of sexual abuse between siblings seems to be clearer than other forms of sibling maltreatment. That is, in these cases, it is older brothers who molest younger sisters (Caffaro and Conn-Caffaro 1998; Falcão et al. 2014; Krienert and Walsh 2011a; Worling 1995).

While some research shows no direct link between sibship size (i.e., the number of children in the household) and sibling maltreatment (Hardy 2001; Noland et al. 2004), other research shows a positive link between them (e.g., Tippett and Wolke 2015); however, very little evidence has been forthcoming. Also, there is a paucity of research regarding the ways in which birth order; adjacent or jump pairs; or full, step/half, adoptive, or foster sibling status may augment or diminish sibling maltreatment. Evidently, much more

research is required to ascertain how much of each of these demographic variables is operating in different forms of sibling maltreatment.

Consequences of Sibling Maltreatment

Research on sibling violence has demonstrated that both victims and perpetrators of sibling maltreatment are at greater risk for developing behavioral, emotional, and social problems. For example, sibling victimization during early adolescence increases the likelihood of depression, self-harm, and anxiety during late adolescence (Bowes et al. 2014). Similarly, victimization of sibling physical abuse is significantly related to a greater risk of substance abuse, delinquency, and aggression (Button and Gealt 2010). In the same fashion, physical abuse between siblings during middle childhood is predictive of delinquency and antisocial behavior during adolescence (Bank et al. 1996; Stocker et al. 2002). Perpetrating physical and psychological violence against siblings during adolescence is positively linked to perpetrating violence against dating partners during adulthood (Noland et al. 2004). Physical, psychological, and sexual abuse by siblings is also positively associated with the same kind of perpetration and victimization of dating violence among college students (Simonelli et al. 2002).

In addition to the influences on externalizing problems and interpersonal relationship with others, younger siblings' perpetration and victimization of physical abuse are significantly linked to their own internalizing symptoms, whereas older siblings' perpetration and victimization of psychological abuse are significantly linked to their own internalizing symptoms (Yu and Gamble 2008a). Similarly, sibling conflict during middle childhood is predictive of anxiety and depressed mood during early adolescence (Stocker et al. 2002), while victimization by a sibling's psychological abuse during childhood and adolescence predicts feelings of anxiety during young adulthood (Graham-Bermann et al. 1994; Mackey et al. 2010).

Although a dearth of research exists on the deleterious effects of sibling sexual abuse on

victims, the research revealed that almost half (47%) of the female victims of sibling incest had never married and those who married were more likely to experience physical abuse from their partner (Russell 1986). Similarly, many female survivors of sibling incest were raped or battered during adulthood (Briere and Runtz 1988; Russell 1986). Victims of sibling sexual abuse are also likely to run away from home and stay in abusive relationships throughout their life-spans (Widom and Ames 1994) or report higher levels of sexual activity in young adulthood (Finkelhor 1980). Furthermore, survivors report higher levels of anxiety, depression, and hostility and lower levels of self-esteem than their counterparts (Carlson 2011).

Measures and Measurement Issues

Issues related to measurement are essential to any study attempting to pinpoint characteristics of sibling maltreatment in a valid and reliable way. Albeit relatively few in number, there are some commonly used instruments for measuring sibling maltreatment within families: the Conflict Tactics Scales (CTS; Straus 1979), the Revised Conflict Tactics Scales-sibling version (CTS2-SP; Straus et al. 1995), the Scale of Negative Family Interactions (Simonelli et al. 2002), and the Sexual Experiences Survey (Koss and Gidycz 1985). In particular, the Sibling Abuse Interview (Caffaro and Conn-Caffaro 1998) is a comprehensive tool for assessing sibling maltreatment, including incest. It is comprised of a series of questions for each member of the family and sibling/parental subsystems. In addition to these instruments, thorough observations or qualitative methods would augment the validity and reliability of sibling maltreatment during adolescence.

There are some issues to be carefully considered in the assessment of sibling maltreatment. Both sibling victims and perpetrators are often reluctant to divulge, they can be uncooperative, and they are likely to minimize their traumatic experiences due to feelings of guilt, embarrassment, and fear of reprisal and punishment; therefore, it is essential for researchers to keep these

issues in the back of their mind. As is widely known, single informants are less useful, yet this methodological strategy is still dominant in sibling maltreatment research. Thus, researchers studying sibling maltreatment should strive in every possible way to gather information from multiple reporters to yield richer and more informative data. However, this poses another challenge to researchers because of potential discrepancies between informants' reports. That is, older siblings and younger siblings do not necessarily agree with each other about the nature of maltreatment but rather are likely to perceive the same events quite differently. Parents are also unlikely to witness or be aware of all incidents among children and may provide incomplete information. The lack of concordance between siblings, between parents and children, or between fathers and mothers concerning reports of sibling maltreatment should be carefully evaluated using a more sophisticated approach such as structural equation modeling, multilevel modeling, and latent growth curve modeling.

Future Directions

As indicated in the previous section, sibling researchers would benefit from employing recent advancements in statistical analysis (e.g., multilevel modeling, latent growth curve modeling, and applications of dyadic data analysis or social relations model) relying on data from a multiple informants to more accurately and precisely understand sibling maltreatment during adolescence. These methodological innovations have opened up promising new avenues of sibling maltreatment research. For example, given the fact that each sibling is nested within a dyad and a family, these methodologies can effectively capture each sibling's repeated measures of perpetration and victimization of abuse nested within a dyad within a family over time using a different trajectory (i.e., straight or curved line).

Sibling researchers have largely ignored differences across ethnic groups, and as a result, a dearth of information exists in regards to ethnic differences in patterns of sibling maltreatment. In

a related vein, no attention has been accorded to a cultural framework for understanding sibling maltreatment across different ethnic groups. Researchers have begun to carefully investigate the impact of cultural values on parenting and marital relationships (Yu et al. 2008), on adolescents' strategies for resolving conflicts with siblings (Killoren et al. 2008), or the role of cultural values as a moderator between sibling relationships and social and emotional adjustment among young children (Gamble and Modry-Mandell 2008). The evidence from these studies clearly indicates that cultural values indeed play such a central role in sibling and family relationships, children's adjustment, and each family member's way of understanding of family events and interactional patterns. However, these unique cultural values have never been explored empirically in the literature on adolescent sibling maltreatment. Therefore, one clear avenue for future research is to evaluate carefully sibling maltreatment during adolescence across different ethnic groups and how cultural values uniquely contribute to the patterns of and each of the family member's perceptions of and willingness to disclose sibling maltreatment by conducting cross-cultural research.

Finally, family systems and social learning theory perspectives have helped to guide research fruitfully to focus on characteristics of families associated with learning to commit violence and its escalation in sibling dyads. There is a growing need to continue these inquiries and take a closer look at those parenting patterns that may be related to heightened levels of abuse, thereby potentially producing information on means to reduce these coercive behaviors and enhance the positive aspects of sibling relations. To date, investigators have described this phenomenon and its consequences for both siblings, yet there is little in the empirical findings that would suggest how one might proceed to design empirically based prevention efforts. It is our belief that, given its prevalence and harmful developmental effects, sibling violence deserves closer scrutiny with the goal of assisting parents in eliminating this aspect of sibling relationships.

Practical Implications

There is an essential need for parents and practitioners, who might ignore or normalize hostile and antagonistic sibling interactions, to be fully aware of adverse consequences of various forms of sibling abuse and to treat such behaviors seriously. Furthermore, it is critical to develop appropriate preventive and mediation strategies for parents and practitioners to properly identify, prevent, and intervene sibling maltreatment. For example, parents should not exercise psychological control by exploiting children's feelings, utilizing conditional approval or acceptance, or attempting to induce guilt (Yu and Gamble 2008a). Supportive and nurturing parenting and an affectionate and cohesive family atmosphere serve as an important deterrent to sibling maltreatment, whereas hostile and aggressive interactions between parents can be vicariously transferred to sibling interactions (Caffaro and Conn-Caffaro 1998; Gelles and Cornell 1985; Hoffman et al. 2005; Minuchin 1988; Kurst-Swanger and Petcosky 2003; Stocker and Youngblade 1999; Straus et al. 1980; Tippett and Wolke 2015; Worling 1995; Yu and Gamble 2008a, b, 2009). Children's extreme levels of personality traits should be identified at an early age and needs appropriate intervention (Yu et al. *in press*). Parents should vigilantly monitor sibling interactions, check their children's daily moods, and actively intervene in their children's conflict whenever it occurs. When problems become chronic, serious, or overwhelming, parents should seek professional help or advice.

References

- Bank, L., Patterson, G. R., & Reid, J. B. (1996). Negative sibling interaction patterns as predictors of later adjustment problems in adolescent and young adult males. In G. H. Brody (Ed.), *Sibling relationships: Their causes and consequences* (pp. 197–229). Norwood: Ablex.
- Bowes, L., Wolke, D., Joinson, C., Lereya, S. T., & Lewis, G. (2014). Sibling bullying and risk of depression, anxiety, and self-harm: A prospective cohort study. *Pediatrics*, *134*, e1032–e1039.
- Briere, J., & Runtz, M. (1988). Post sexual abuse trauma. In G. E. Wyatt & G. J. Powell (Eds.), *Lasting effects of child sexual abuse* (pp. 85–99). Newbury Park: Sage.

- Button, D. M., & Gealt, R. (2010). High risk behaviors among victims of sibling violence. *Journal of Family Violence, 25*(2), 131–140.
- Caffaro, J., & Conn-Caffaro, A. (1998). *Sibling abuse trauma: Assessment and intervention strategies for children, families, and adults*. New York: Haworth Maltreatment & Trauma.
- Canavan, M. C., Meyer, W. J., & Higgs, D. C. (1992). The female experience of sibling incest. *Journal of Marriage and Family Therapy, 18*, 129–142.
- Carlson, B. E. (2011). Sibling incest: Adjustment in adult women survivors. *Families in Society, 92*, 77–83.
- Cole, E. (1982). Sibling incest: The myth of benign sibling incest. *Women and Therapy, 1*, 79–89.
- Crick, N. R., Nelson, D. A., Morales, J. R., Cullerton-Sen, C., Casas, J. F., & Hickman, S. E. (2001). Relational victimization in childhood and adolescence. In J. Javonen & S. Graham (Eds.), *Peer harassment in school: The plight of the vulnerable and victimized* (pp. 196–214). New York: Guilford.
- Crick, N. R., & Grotpeter, J. K. (1995). Relational aggression, gender, and social-psychological adjustment. *Child Development, 66*, 710–722.
- Crick, N. R., Werner, N. E., Casas, J. F., O'Brien, K., Nelson, D. A., & Grotpeter, J. K. (1999). Childhood aggression and gender: A new look at an old problem. In D. Bernstein (Ed.), *Nebraska symposium on motivation* (pp. 75–141). Lincoln: University of Nebraska Press.
- Davies, P. T., & Cummings, E. M. (1994). Marital conflict and child adjustment: An emotional security hypothesis. *Psychological Bulletin, 116*, 387–411.
- DesKeseredy, W., & Ellis, D. (1997). Sibling violence: A review of Canadian social research and suggestions for further empirical work. *Humanity and Society, 21*, 397–411.
- DeJong, A. (1989). Sexual interactions among siblings: Experimentation of exploitation. *Child Abuse & Neglect, 13*, 271–279.
- Dunn, J., & McGuire, S. (1992). Sibling and peer relationships in childhood. *Journal of Child Psychology and Psychiatry, 33*, 67–105.
- Eriksen, S., & Jensen, V. (2009). A push or a punch: Distinguishing the severity of sibling violence. *Journal of Interpersonal Violence, 24*, 183–208.
- Falcão, V., Jardim, P., Dinis-Oliveira, R. J., & Magalhães, T. (2014). Assessment and disclosure of childhood sexual abuse: Forensic evaluation in alleged sibling incest against children. *Journal of Child Sexual Abuse, 23*, 755–767.
- Finkelhor, D. (1980). Sex among siblings: A survey on prevalence, variety, and effects. *Archives of Sexual Behavior, 9*, 171–194.
- Finkelhor, D. (1984). *Child sexual abuse: New theory and research*. New York: Free.
- Gamble, W. C., & Modry-Mandell, K. L. (2008). Family relations and the adjustment of young children of Mexican descent: Do family cultural values moderate these associations? *Social Development, 17*, 358–379.
- Gelles, R. J., & Cornell, C. P. (1985). *Intimate violence in families*. Beverly Hills: Sage.
- Goodwin, M. P., & Roscoe, B. (1990). Sibling violence and agonistic interactions among middle adolescents. *Adolescence, 25*, 451–467.
- Goldman, R. J., & Goldman, J. D. G. (1988). The prevalence and nature of child sexual abuse in Australia. *Australian Journal of Sex, Marriage and Family, 9*, 94–106.
- Graham-Bermann, S. A., Cutler, S., Litzenberger, B., & Schwartz, W. E. (1994). Perceived conflict and violence in childhood sibling relationships and later emotional adjustment. *Journal of Family Psychology, 8*, 85–97.
- Hardy, M. S. (2001). Physical aggression and sexual behavior among siblings: A retrospective study. *Journal of Family Violence, 16*, 255–268.
- Hines, D. A., & Malley-Morrison, K. (2005). *Family violence in the United States: Defining, understanding, and combating abuse*. Thousand Oaks: Sage.
- Hoffman, K. L., Kiecolt, J., & Edwards, J. N. (2005). Physical violence between siblings: A theoretical and empirical analysis. *Journal of Family Issues, 26*, 1103–1130.
- Johnson, R. M., Duncan, D. T., Rothman, E. F., Gilreath, T. D., Hemenway, D., Molnar, B. E., et al. (2015). Fighting with siblings and with peers among urban high school students. *Journal of Interpersonal Violence, 30*, 2221–2237.
- Kettrey, H. H., & Emery, B. C. (2006). The discourse of sibling violence. *Journal of Family Violence, 21*, 407–416.
- Killoren, S. E., Thayer, S. M., & Updegraff, K. A. (2008). Conflict resolution between Mexican origin adolescent siblings. *Journal of Marriage and Family, 70*, 1200–1212.
- Kiselica, M. S., & Morrill-Richards, M. (2007). Sibling maltreatment: The forgotten abuse. *Journal of Counseling and Development, 85*, 148–160.
- Koss, M., & Gidycz, C. (1985). Sexual experiences survey: Reliability and validity. *Journal of Consulting and Clinical Psychology, 53*, 422–423.
- Kowal, A., & Kramer, L. (1997). Children's understanding of parental differential treatment. *Child Development, 68*, 113–126.
- Krienert, J. L., & Walsh, J. A. (2011a). Characteristics and perceptions of child sexual abuse: Sibling sexual abuse: An empirical analysis of offender, victim, and event characteristics in national incident-based reporting system (NIBRS) data, 2000–2007. *Journal of Child Sexual Abuse, 20*, 353–372.
- Krienert, J. L., & Walsh, J. A. (2011b). My brother's keeper: A contemporary examination of reported sibling violence using national level data, 2000–2005. *Journal of Family Violence, 26*, 331–342.
- Kurst-Swanger, K., & Petcosky, J. L. (2003). *Violence in the home: Multidisciplinary perspective*. New York: Oxford University Press.
- Mackey, A. M., Fromuth, M. E., & Kelly, D. B. (2010). The association of sibling relationship and abuse with

- later psychological adjustment. *Journal of Interpersonal Violence*, 25, 955–968.
- McDonald, C., & Martinez, K. (2016). Parental and others' responses to physical sibling violence: A descriptive analysis of victims' retrospective accounts. *Journal of Family Violence*, 31, 401–410.
- McHale, S. M., Updegraff, K. A., Jackson-Newsom, J., Tucker, C. J., & Crouter, A. C. (2000). When does parents' differential treatment have negative implications for siblings? *Social Development*, 9, 149–172.
- Minuchin, P. (1988). Relationships within the family: A systems perspective on development. In R. A. Hinde & J. Stevenson-Hinde (Eds.), *Relationships within families: Multiple influences* (pp. 7–26). New York: Oxford University Press.
- Nelson, D. A., & Crick, N. R. (2002). Parental psychological control: Implications for childhood physical and relational aggression. In B. Barber (Ed.), *Intrusive parenting: How psychological control affects children and adolescents* (pp. 161–189). Washington, DC: American Psychological Association.
- Newman, J. (1996). The more the merrier? Effects of family size and sibling spacing on sibling relationships. *Child: Care, Health and Development*, 22, 285–302.
- Noland, V. J., Liller, K. D., McDermott, R. J., Coulter, M. L., & Seraphine, A. E. (2004). Is adolescent sibling violence a precursor to college dating violence? *American Journal of Health Behavior*, 28, S13–S23.
- O'Brien, M. J. (1991). Taking sibling incest seriously. In M. Q. Patton (Ed.), *Understanding family sexual abuse: Frontline research and evaluation* (pp. 75–92). Newbury Park: Sage.
- Relva, I. C., Fernandes, O. M., & Costa, R. (2013). Psychometric properties of revised Conflict Tactics Scales: Portuguese sibling version (CTS2-SP). *Journal of Family Violence*, 27, 577–585.
- Roscoe, B., Goodwin, M. P., & Kennedy, D. (1987). Sibling violence and agonistic interactions experienced by early adolescents. *Journal of Family Violence*, 2, 121–137.
- Rudd, J. M., & Herzberger, S. D. (1999). Brother-sister incest/father-daughter incest: A comparison of characteristics and consequences. *Child Abuse & Neglect*, 23, 915–928.
- Russell, D. (1986). *The secret trauma: Incest in the lives of girls and women*. New York: Basic Books.
- Simonelli, C. J., Mullis, T., Elliot, A. N., & Pierce, T. W. (2002). Abuse by siblings and subsequent experiences of violence within the dating relationship. *Journal of Interpersonal Violence*, 17, 103–121.
- Smith, H., & Israel, E. (1987). Sibling incest: A study of the dynamics of 25 cases. *Child Abuse & Neglect*, 11, 101–108.
- Stauffer, K., & DeHart, G. B. (2006). Crossing social contexts: Relational aggression between siblings and friends during early and middle childhood. *Applied Developmental Psychology*, 27, 228–240.
- Steinmetz, S. (1981). A cross-cultural comparison of sibling violence. *International Journal of Family Psychiatry*, 2, 337–351.
- Stock, L. (1993). Sibling abuse: It's much more serious than child's play. *Children's Legal Rights Journal*, 14, 19–21.
- Stocker, C. M., Burwell, R. A., & Briggs, M. L. (2002). Sibling conflict in middle childhood predicts children's adjustment in early adolescence. *Journal of Family Psychology*, 16, 50–57.
- Stocker, C. M., & Youngblade, L. (1999). Marital conflict and parental hostility: Links with children's sibling and peer relationships. *Journal of Family Psychology*, 13, 598–609.
- Straus, M. A. (1979). Measuring intrafamily conflict and violence: The Conflict Tactics (CT) scales. *Journal of Marriage and the Family*, 41, 75–88.
- Straus, M. A., Gelles, R. J., & Steinmetz, S. K. (1980). *Behind closed doors: Violence in the American family*. Garden City: Anchor.
- Straus, M. A., Hamby, S. L., Finkelhor, D., Boney-McCoy, S., & Sugarman, D. B. (1995). Conflict tactics scales form CTS2-SP. In M. Straus (Ed.), *Handbook for the Conflict Tactics Scales (CTS): Including revised versions CTS2 and CTSPC* (pp. 61–64). Durham: Family Research Laboratory, University of New Hampshire.
- Tanrikulu, I., & Campbell, M. A. (2015). Sibling bullying perpetration: Associations with gender, grade, peer perpetration, trait anger, and moral disengagement. *Journal of Interpersonal Violence*, 30, 1010–1024.
- Tippett, N., & Wolke, D. (2015). Aggression between siblings: Associations with home environment and peer bullying. *Aggressive Behavior*, 41, 14–24.
- Updegraff, K. A., Thayer, S. M., Whiteman, S. D., Denning, D. J., & McHale, S. M. (2005). Relational aggression in adolescents' sibling relationships: Links to sibling and parent-adolescent relationship quality. *Family Relations*, 54, 373–385.
- Whipple, E., & Finton, S. (1995). Psychological maltreatment by siblings: An unrecognized form of abuse. *Child and Adolescent Social Work Journal*, 12, 135–146.
- Widom, C., & Ames, A. (1994). Criminal consequences of childhood sexual victimization. *Child Abuse & Neglect*, 18, 303–318.
- Wiehe, V. R. (1996). *The brother/sister hurt*. Brandon: Safer Society.
- Wiehe, V. R. (1997). *Sibling abuse: Hidden physical, emotional, and sexual trauma* (2nd ed.). Thousand Oaks: Sage.
- Wiehe, V. R. (2000). Sibling abuse. In H. Henderson (Ed.), *Domestic violence and child abuse resource sourcebook* (pp. 409–492). Detroit: Omnigraphics.
- Worling, J. R. (1995). Adolescent sibling-incest offenders: Differences in family and individual functioning when compared to adolescent nonsibling offenders. *Child Abuse and Neglect*, 19, 633–643.
- Yu, J. J., & Gamble, W. C. (2008a). Familial correlates of overt and relational aggression between young adolescent siblings. *Journal of Youth and Adolescence*, 37, 655–673.
- Yu, J. J., & Gamble, W. C. (2008b). Pathways of influence: Marital relationships and their association with

parenting styles and sibling relationship quality. *Journal of Child and Family Studies*, 17, 757–778.

- Yu, J. J., & Gamble, W. C. (2009). Adolescent relations with their mothers, siblings, and peers: An exploration of the roles of maternal and adolescent self-criticism. *Journal of Clinical Child and Adolescent Psychology*, 38, 672–683.
- Yu, J. J., Lim, G. O., & Gamble, W. C. (in press). Big Five personality traits and physical aggression between siblings in South Korea: An actor-partner interdependence analysis. *Journal of Family Violence*.
- Yu, J. J., Lucero-Liu, A. A., Gamble, W. C., Taylor, A. R., Christensen, D. H., & Modry-Mandell, K. L. (2008). Partner effects of Mexican cultural values: The couple and parenting relationship. *The Journal of Psychology*, 142, 169–192.

- Yu, J. J., & Gamble, W. C. (2008). Familial correlates of overt and relational aggression between young adolescent siblings. *Journal of Youth and Adolescence*, 37, 655–673.

Sibling Rivalry

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Sibling rivalry involves intense and highly emotional competition between siblings, and often is deemed as stemming from competition for love, attention, and approval of parents. Researchers note that children live in a comparative environment that easily leads to competition for resources within families and that it is normal for children to compete for limited resources within families (Kiselica and Morrill-Richards 2007). The way in which parents address rivalry and conflict in competitive environments has important effects, including whether there may be aggression and violence between siblings as well as with other family members (see Yu and Gamble 2008).

Cross-References

- [Sibling Influences](#)

References

- Kiselica, M. S., & Morrill-Richards, M. (2007). Sibling maltreatment: The forgotten abuse. *Journal of Counseling & Development*, 85, 148–161.

Sleep Deprivation

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Sleep deprivation is the lack of an appropriate amount of sleep. Although the term is often used loosely to mean a general lack of sleep, it also can constitute a sleep disorder (see Johnson et al. 2006). Lack of sleep associates with a variety of negative outcomes, such as reports of fatigue, reduced energy, and headaches as well as with potentially more serious symptoms such as depression, anger, conduct problems, substance use, and suicidal thoughts and behaviors (see Roberts et al. 2009). Generally, the average basal level of amount of sleep needed for healthy adolescent development is 9 h (Carskadon et al. 2004). There is consensus that adolescents routinely fail to obtain adequate nocturnal sleep; studies reveal that one quarter to one fifth of adolescents suffer from insufficient sleep, which is defined as 6 h or less (Roberts et al. 2009). There also is consensus that the transition from childhood to adolescence results in increased rates of sleep deprivation. Those increased rates are due to a mixture of contextual events but also due to substantial biological (hormonal and neurological) and psychosocial changes in sleep and circadian regulation due to pubertal development that can lead to dramatic alterations in sleep patterns (Dahl and Lewin 2002). Thus, the impact of sleep deprivation is broad, its incidence is high, and much of it relates to developmental changes. Yet, the negative effects of sleep deprivation and adolescents' experience of sleep deprivation have not resulted in much effort to address it systematically. Calls for reforming, for example, the times that daily routines begin, such as school, have gone unheeded. Efforts to address adolescents'

lack of sleep continue to focus on parent education, bedtime routines, and sleep schedules rather on changing social demands that could better address known developmental changes occurring during adolescence (see Buckhalt et al. 2009).

Cross-References

► Sleep Disturbances

References

- Buckhalt, J. A., Wolfson, A. R., & El-Sheikh, M. (2009). Children's sleep and school psychology practice. *School Psychology Quarterly*, *24*, 60–69.
- Carskadon, M. A., Acebo, C., & Jenni, O. G. (2004). Regulation of adolescent sleep: Implications for behavior. *Annals of the New York Academy of Sciences*, *1021*, 276–291.
- Dahl, R. E., & Lewin, D. S. (2002). Pathways to adolescent health: Sleep regulation and behavior. *Journal of Adolescent Health*, *31*, 175–184.
- Johnson, E. O., Roth, T., Schultz, L., & Breslau, N. (2006). Epidemiology of DSM-IV insomnia in adolescence: Lifetime prevalence, chronicity, and an emergent gender difference. *Pediatrics*, *117*, 2.
- Roberts, R. E., Roberts, C. R., & Duong, H. T. (2009). Sleepless in adolescence: Prospective data on sleep deprivation, health and functioning. *Journal of Adolescence*, *32*, 1045–1057.

Sleep Disturbances

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Overview

During the transition between childhood and adulthood, adolescents experience a number of important developmental changes across

physiological, social, and psychological domains. At the same time, many adolescents also experience sleep disturbances, such as difficulty waking in the morning and excessive daytime sleepiness. There is a growing consensus that adolescents in the United States and worldwide are chronically sleep deprived (Gradisar et al. 2011). Approximately 45.7% of adolescents in the United States report daytime sleepiness at least once per week (Pagel et al. 2007). Although the primary cause of excessive daytime sleepiness in adolescents can be accounted for by insufficient sleep, a confluence of extrinsic and intrinsic factors also contributes to daytime sleepiness and sleep disturbances in adolescents (Carskadon 2011). This entry reviews the amount of sleep adolescents need, common causes of insufficient sleep, and consequences of disturbed sleep. Finally, the evaluation of sleep disorders in this population is described.

Sleep Needs for Adolescents

Several studies of sleep needs have demonstrated that adolescents require more than 9 h of sleep per night and some require additional sleep during the day (Carskadon et al. 1980; Carskadon and Acebo 2002). Within the context of a residential summer camp, adolescents were placed on a fixed 10-h sleep schedule and permitted to sleep as much as they wanted. Results showed that well-rested adolescents need an average of 9.25 h of sleep per night; sleep needs at night did not change from ages 10–17; and during mid-puberty, adolescents have an increased tendency to sleep during the day even when they obtained sufficient sleep at night. Despite the amount of sleep adolescents need, the average adolescent obtains much less. For example, the National Sleep Foundation conducted a national survey of adolescents in high school and found that this population reported spending an average of 7.5 h in bed and getting an average of 7.2 h of sleep per night (National Sleep Foundation 2006). In addition, the majority of adolescents in other countries and regions similarly report insufficient sleep (less than 8 h of sleep on average) on school nights (Gradisar et al. 2011).

Causes of Daytime Sleepiness

Insufficient Sleep

The most common cause of daytime sleepiness in adolescents is insufficient sleep, with 68.9% of adolescent reporting less than 8 h of sleep on school nights (McKnight-Eily et al. 2011). As previously described, adolescents need an average of 9.25 h of sleep per night and typically obtain an average of only 7.2 h. At the conclusion of five typical school nights, an average adolescent will be lacking more than 10 h of required sleep. Clinically, an adolescent with insufficient sleep will report a late bedtime on school nights, early wake time on school days, and significant oversleep on weekend mornings (i.e., sleeping greater than 2 h on weekend mornings compared to weekday mornings). Insufficient sleep can result from the interaction of external factors (e.g., academic and social obligations, poor sleep hygiene) and internal factors (e.g., puberty, primary sleep disorders).

Extrinsic Factors

Academics, extracurricular activities, and employment. Academic obligations, participation in extracurricular activities, and time devoted to employment can influence sleep patterns of adolescents and may result in later bedtimes. Approximately 13% of high school students report that their school-night bedtime is dictated by the time they finish their homework, and those students in more academically challenging programs were more likely to sleep less (Carskadon 1990). In the same study, nearly 20% of participants reported spending at least 20 h/week in extracurricular activities and those students reported significantly less total sleep time and significantly later bedtimes. A final major influence on sleep patterns is the amount of hours adolescents work for pay. Those students who work 20 h or more per week report later bedtimes, less total sleep time, and are at increased risk for falling asleep at school or oversleeping (Carskadon 1990).

School start times. As students move from elementary to middle to high school, the start times typically get earlier. As a result, adolescents

are required to wake earlier to get to school on time, which can contribute to irregular sleep schedules, insufficient sleep, and daytime sleepiness (Wolfson et al. 2007). Given that school start times are a malleable factor influencing adolescent sleep, the American Academy of Pediatrics (2014) recently issued a policy statement recommending that middle and high schools start no earlier than 8:30 a.m. Several studies have found that delaying middle and high school start times by 30–60 min is associated with a number of benefits, such as longer sleep duration (typically due to later morning wake times), lower self-reported daytime sleepiness, reduced tardiness and increased attendance, and improved academic functioning (Boergers et al. 2014; Owens et al. 2010; Wahlstrom 2002; Wahlstrom et al. 2014). Studies have also shown that delayed school start times can positively impact adolescent behaviors. A longitudinal study found reductions in students' disciplinary violations following the shift to later school start times (Thacher and Onyer 2016). Rates of adolescent car crashes have been shown to be significantly lower in school districts with later school start times (Danner and Phillips 2008; Vorona et al. 2014). A 3-year study of 9000 students in eight public high schools across three different states has also shown that after school start times shifted from 7:35 a.m. to 8:55 a.m., car crashes among drivers ages 16–18 were significantly reduced by 70% (Wahlstrom et al. 2014).

Socializing. As peers become more central in the day-to-day lives of adolescents, socializing with peers, in particular in the evening, can result in later bedtimes and decreased total sleep time. Adolescents tend to have more freedom and a desire to stay up late at night to engage in social activities, with 10.9% reporting "socializing" influences school-night bedtimes and 40% reporting "socializing" as the primary factor that accounts for weekend bedtimes (Carskadon 1990). In addition to going out with friends or attending school functions, the increase in online social networking and texting also likely contributes to late night peer interactions and decreased total sleep time. For example, 56% of adolescents report sending or receiving text messages every

night or almost every night in the hour before bed (National Sleep Foundation 2011).

Sleep hygiene. Poor sleep habits (also called inadequate sleep hygiene), including sleep routines, sleep environment, and caffeine use, often delay sleep onset and can contribute to insufficient sleep. It is important for adolescents to maintain a consistent sleep schedule, limit the consumption of caffeinated beverages in the afternoon and evening, and refrain from the use of technology for 30–60 min prior to bedtime.

Adolescents typically have different sleep schedules on weekdays than on weekends. Self-report data indicate that 88% of adolescents go to bed later on non-school nights compared to school nights (National Sleep Foundation 2006). Further, adolescents may attempt to “catch up” on sleep by sleeping later on non-school days. Specifically, the average wake time in one national survey was 6:30 a.m. on school days; however, the average wake time ranged from 9 a.m. to 10 a.m. on non-school days, with 37% of adolescents reporting significant oversleep (National Sleep Foundation 2006). Another study of adolescents found that with their advancing grade in school, adolescents showed that bedtimes and wake times got progressively later, with weekend oversleep also increasing with advancing grade (Meltzer et al. 2016). Adolescents in non-US contexts similarly show a delay in wake time of approximately 2 h on non-school days (Gradisar et al. 2011). These inconsistent sleep schedules can further perpetuate difficulties falling asleep on school nights and, in turn, insufficient sleep.

Caffeine, considered the most commonly used psychoactive substance (Nehlig and Boyett 2000), is consumed daily to combat sleepiness by approximately 60% of 13- to 18-year-olds, with an average of about three beverages per day (National Sleep Foundation 2011). The half-life of caffeine varies by individuals but averages around 5 h in healthy adults. As a result, adolescents should avoid consuming products that contain caffeine in the late afternoon and evening, including sodas, energy drinks, coffee, and ice tea.

Adolescents have an increasingly heavy reliance on technology (e.g., television, computer, tablets, video games, electronic music device,

and smart phones) to connect with the rest of the world. On average, adolescents in sixth grade have more than two technology items in their bedroom, while adolescents in 12th grade have approximately four (Zimmerman 2008). The use of technology at night has been associated with decreased sleep duration (Carskadon et al. 1998) as well as later bedtimes, longer sleep onset latencies, and worse daytime sleepiness (Pieters et al. 2014). Adolescents report using an average of four technology items after 9 p.m. (Calamaro et al. 2009) and using their cell phone (72%), electronic music device (64%), computer or laptop (60%), television (54%), or video game console (23%) in the hour before bed (National Sleep Foundation 2011). About 28% of adolescents also report that they do not turn their cell phones off at bedtime (National Sleep Foundation 2011), which likely contributes to continued sleep disruption during the night. More research on the impact of technology on adolescent sleep and related behaviors is needed. However, because technology advances so rapidly, with a number of new or updated mobile and other electronic devices developed and released each year, it is challenging to conduct “current” research in this area.

Socioeconomic context. Living in a disadvantaged neighborhood (Bagley et al. 2015) or having a lower self-reported socioeconomic position (Jarrin et al. 2014) has been associated with shorter sleep duration, daytime sleepiness, and greater self-reported sleep disturbances among adolescents. One study found that presleep worries (e.g., about friends, family) and disruptive environmental factors that are characteristic of lower-income neighborhoods (e.g., increased noise, overcrowding, uncomfortable sleeping conditions) together accounted for the association between lower socioeconomic status and sleep (Bagley et al. 2015).

Intrinsic Factors

As children enter puberty and move into the adolescent developmental period, several normal biological changes occur that also affect an adolescents’ internal clock and quality of sleep, including the timing of melatonin secretion. Melatonin is a hormone that precipitates sleep and is

secreted by the pineal gland when exposed to darkness. During puberty, melatonin is released 2–3 h later than school-aged children, resulting in a shifted circadian rhythm. This phase shift makes it difficult for adolescents to fall asleep early (e.g., prior to 11 pm). Combined with early school start times, this phase shift also makes it very difficult for adolescents to wake in the morning, since in essence their circadian rhythm suggests that they are still asleep (Carskadon et al. 1997).

Also with normative development, slow-wave sleep decreases with age (Mindell et al. 1999). Specifically by the end of this developmental stage, adolescents typically achieve 40% less slow-wave sleep compared to school-aged children (Carskadon et al. 1980). This reduction in restorative sleep also contributes to increased daytime sleepiness.

Primary Sleep Disorders

The most common cause of daytime sleepiness in adolescents is insufficient sleep, which is often due to inadequate sleep hygiene. However, several primary sleep disorders may also contribute to daytime sleepiness in this population. These are important to consider when assessing daytime sleepiness.

Circadian rhythm sleep-wake disorder, delayed sleep phase type. Circadian rhythm sleep-wake disorder, delayed sleep-wake phase type (or delayed sleep-wake phase syndrome, DSWPS), is a circadian rhythm sleep disorder reported in approximately 7–16% of adolescents and young adults (American Academy of Sleep Medicine 2014). DSWPS is characterized by a persistent delay in bedtime and wake time, by at least 2 h, which interferes with activities of daily living. A typical patient complains of difficulty falling asleep at a desired time and difficulty waking at an appropriate time to meet extrinsic demands (e.g., attending school); however, once asleep, overall sleep quality is normal (American Academy of Sleep Medicine 2014). If allowed to go to bed at the time that coincides with their circadian rhythm (e.g., 3 a.m.), adolescents with DSWPS can easily fall asleep. In contrast, attempts to fall asleep at an earlier time are often frustrating and can result in prolonged sleep

latency that may progress into a secondary conditioned insomnia. An estimated 10% of patients presenting to sleep clinics with recurrent insomnia complaints are experiencing DSWPS (American Academy of Sleep Medicine 2014).

Several treatment options with varying levels of empirical support are available for DSWPS (Wyatt 2011). When the discrepancy between the desired bedtime and actual bedtime is less than 3 h, treatment involves the patient attempting to fall asleep at their current bedtime and gradually moving both the bedtime and wake time earlier in 20–30 min increments every few days (Harvey *in press*; Wyatt 2011). Phototherapy, which involves timed artificial light exposure using a light box to offset morning sleepiness, has been found to be effective among adults (Wyatt 2011). Simply increasing natural light exposure in the morning, reducing bright light exposure in the evening, and limiting daytime naps may be more feasible for adolescents and are commonly recommended options (Harvey *in press*; Wyatt 2011). When the discrepancy between desired and actual bedtime is greater than 3 h, chronotherapy (also called phase delay) has some empirical support (Czeisler et al. 1981) and involves moving the bedtime and wake time forward in 2–3 h intervals until the adolescent achieves the desired sleep schedule (e.g., day 1: 4 a.m. to 12 p.m., day 2: 7 a.m. to 3 p.m., day 3: 10 a.m. to 6 p.m., etc.). However, this may be disruptive to the typical work or school schedules of both adolescents and their families (Harvey *in press*). Regardless of treatment, the patient must commit to maintaining a strict and consistent bedtime and wake time on both weekdays and weekends, as even one night of a delayed bedtime may cause DSWPS to return.

Insomnia. Insomnia is a subjective complaint involving difficulty falling asleep, staying asleep through the night, and/or early morning sleep termination (e.g., 4 a.m.). Worldwide, a substantial proportion of adolescents report symptoms of insomnia, with 7–36% reporting difficulty initiating sleep and 20–26% reporting a sleep onset latency of greater than 30 min (Gradisar et al. 2011). A large, population-based study of adolescents aged 16–18 y in Norway found that

insomnia prevalence rates ranged from 13.6% to 23.8% depending on the criteria used for diagnosis (Hysing et al. 2013). Insomnia is likely the result of a combination of risk factors (genetic vulnerability, psychiatric condition), precipitating factors (acute stress, current illness), and perpetuating factors (poor sleep habits, maladaptive beliefs and attitudes about sleep, and caffeine use). Assessment for insomnia includes a medical history to evaluate other possible causes of sleep difficulties, such as obstructive sleep apnea, restless legs syndrome, psychiatric disorders, and alcohol and/or drug use. A sleep diary can be used to reveal potential maladaptive bedtime activities and behaviors.

There is promising evidence that cognitive-behavioral therapy for insomnia (CBT-I), an effective treatment for adult insomnia (Morgenthaler et al. 2006), can be successfully applied in adolescent samples (de Bruin et al. 2014; Schlarb et al. 2010). CBT-I typically includes a combination of nonpharmacological treatments, including sleep restriction, stimulus control, cognitive restructuring, and relaxation strategies (Edinger and Means 2005). Studies of different adaptations for CBT-I among adolescents have demonstrated positive effects when the program is implemented individually via the Internet, in a group format (de Bruin et al. 2014), or with parent involvement (Schlarb et al. 2010). An innovative approach to treating adolescent insomnia as well as other sleep disturbances, including DSWPS, is the Transdiagnostic Sleep and Circadian Intervention, which is a modular program that involves flexibly applying basic sleep/circadian and cognitive-behavioral principles to a range of sleep difficulties (Harvey *in press*). This intervention approach is currently being evaluated in a large-scale randomized trial (Harvey *in press*).

There are no Food and Drug Administration (FDA)-approved medications approved for the treatment of insomnia or other sleep problems in adolescents, and more research is needed in this regard (Owens and Moturi 2009; Troester and Pelayo 2015). Although one study examined the use of zolpidem to treat insomnia in youth with attention-deficit/hyperactivity disorder (ADHD),

results indicated the medication was not effective (Blumer et al. 2009). Behavioral interventions remain the preferred treatment approach for adolescent insomnia.

Sleep-disordered breathing. Sleep-disordered breathing is a continuum that ranges from primary snoring to obstructive sleep apnea (OSA). Although primary snoring is common and occurs in approximately 3–16% of adolescents, it is not associated with oxygen desaturation or arousals and is generally considered benign (Kotagal and Pianosi 2006). Studies have found an OSA prevalence of 2–4% among adolescents (Sánchez-Armengol et al. 2001; Spilsbury et al. 2015). OSA is characterized by partial upper airway obstruction during thoracic and abdominal respiratory effort that causes airflow to decrease or stop, thus leading to repeated hypoxia and frequent arousals during sleep. Adolescents with OSA typically snore loudly and report mouth breathing, restless sleep, secondary nocturnal enuresis, and daytime sleepiness; however, an overnight polysomnography (PSG) is needed for diagnosis.

The increase in youth with obesity has also resulted in an increased risk for OSA in adolescents (Redline et al. 1999). Untreated OSA impacts many aspects of adolescent health and psychosocial development and is associated with diminished health-related quality of life, poor neurocognitive and behavioral functioning, and increased cardiometabolic risk (Bhushan et al. 2014; Beebe 2006; Garetz et al. 2015; Horne et al. 2011). Adenotonsillectomy is the most common treatment for OSA in children. Although weight loss and continuous positive airway pressure (CPAP) are likely needed for obese adolescents and are associated with improved daytime functioning, adherence to CPAP among adolescents is low (Beebe and Byars 2011).

Restless legs syndrome. Restless legs syndrome (RLS) is a clinical diagnosis based on a cluster of self-reported symptoms. Affecting approximately 2% of adolescents (Picchietti et al. 2007), RLS is commonly underdiagnosed in pediatric populations due to difficulty with accurate assessment (Picchietti et al. 2013). The

criteria for a clinical diagnosis of RLS in adolescents (age 13 and older) are the same as for adults and include: (1) an urge to move the legs that is accompanied or caused by uncomfortable and unpleasant sensations in the legs; (2) the urge to move or unpleasant sensations begin or worsen during periods of rest or inactivity; (3) the urge to move or unpleasant sensations are partially or totally relieved by movement, including walking or stretching, at least as long as the activity continues; and (4) the urge to move or unpleasant sensations are worse in the evening or night than during the day (American Academy of Sleep Medicine 2014). Compared to younger children, adolescents are more likely to have moderate to severe RLS symptoms (American Academy of Sleep Medicine 2014), which can make it difficult to get comfortable enough to fall asleep. Adolescents with RLS may have low levels of serum ferritin and can benefit from supplemental iron therapy (Mohri et al. 2012; Picchietti et al. 2013). Several pharmacologic treatments have been used for cases of moderate to severe pediatric RLS (Durmer and Quraishi 2011) but are not approved by the FDA for use with children.

Periodic limb movement disorder. Periodic limb movement disorder (PLMD) is characterized by periodic episodes of repetitive limb movements during sleep that are often associated with a partial arousal or an awakening. Unlike RLS, an overnight PSG is required to diagnose PLMD. Diagnostic criteria for adolescents are the same as adults and include: (1) PSG shows a period leg movement index of 5 or more per hour of sleep (15 or more for adults), (2) a clinical sleep disturbance, and (3) the leg movements cannot be accounted for by sleep-disordered breathing or medication effect (American Academy of Sleep Medicine 2014). Although explicit symptoms of daytime sleepiness are relatively uncommon, adolescents with PLMD typically complain of restlessness during sleep, nighttime arousals, periodic limb movements, and daytime behavior problems. A recent study found a prevalence rate of 7.7% for PLMD among clinic-referred youth ages 5–17 years who underwent PSG (Marcus et al. 2014). Of note, PLMD and RLS tend to co-occur, with 80–100% of individuals with RLS showing

PLMD on PSG (Durmer and Quraishi 2011). Additionally, studies have shown that both PLMD and RLS are more prevalent among youth with ADHD (Durmer and Quraishi 2011; Sadeh et al. 2006). Treatment for PLMD is similar to treatment for RLS in that iron supplements are often utilized if serum ferritin levels are low (Durmer and Quraishi 2011).

Narcolepsy. Narcolepsy is a neurological disorder that is primarily characterized by excessive daytime sleepiness. Narcolepsy Type 1 refers to narcolepsy with cataplexy, or a loss of muscle tone following intense emotional experiences, while Type 2 refers to narcolepsy without cataplexy (American Academy of Sleep Medicine 2014). Additional symptoms found in both subtypes typically include irresistible sleepiness or spontaneous “naps” during the day, hypnagogic hallucinations, and/or temporary paralysis during sleep onset or during the transition from sleep to wake (American Academy of Sleep Medicine 2014). Narcolepsy with cataplexy impacts 0.02–0.18% of the population, while the prevalence of narcolepsy without cataplexy is unknown (American Academy of Sleep Medicine 2014). One-third of patients describe symptoms present prior to the age of 15 (Ohayon et al. 2005). Assessment for narcolepsy includes a PSG with a multiple sleep latency test (MSLT). Treatment for narcolepsy typically involves medications, such as stimulant medications or modafinil for daytime sleepiness and anticholinergic medications for cataplexy (Aran et al. 2010; Viorritto et al. 2012). Nonpharmacological strategies are also commonly utilized and may include recommendations for improving sleep hygiene and implementing scheduled daytime naps.

Consequences of Disturbed Sleep

Academic Performance

With 28% of American high school students report falling asleep in school at least once per week and 14% report chronic tardiness to school as a result of oversleeping (National Sleep Foundation 2006), disturbed sleep can have a significant impact on academic performance. Across

studies, daytime sleepiness, shorter sleep duration, and poor sleep quality are associated with worse academic performance (Dewald et al. 2010). Experimental research has additionally demonstrated that adolescents who experience five consecutive nights of sleep deprivation (6.5 h in bed per night) versus five night of healthy sleep (10 h in bed per night) have lower quiz scores, increased inattention, and diminished arousal in a classroom simulation (Beebe et al. 2010). Conversely, better school performance is associated with longer sleep duration, fewer nighttime arousals, less napping, and less oversleep on nonschool days (National Sleep Foundation 2006; Wolfson et al. 2007). Sleep disturbances can also interfere with the consolidation of memory that occurs during sleep and can negatively affect the ability to store and process information (Curcio et al. 2006).

Mood Disorders

Sleep quality and duration have been linked to psychological health and symptoms of depression and anxiety in adolescents. For instance, increased daytime sleepiness and insomnia symptoms are associated with anxiety, depression, and other emotional difficulties (Gregory and Sadeh 2012). An average sleep duration of less than 6 h per night and the shifting of bedtimes by more than 2 h between school nights and nonschool nights is also associated with significantly more depressive symptoms (Wolfson et al. 2007). Similarly, a large, nationally representative study of adolescents in the United States found that youth whose parents set their bedtime for 12:00 a.m. or later were 24% more likely to suffer from depression and 20% more likely to experience suicidal ideation compared to adolescents with parental set bedtimes of 10:00 p.m. or earlier (Gangwisch et al. 2010).

Sleep may have an impact on mood via self-regulation. Experimental research shows that adolescents who are sleep deprived rate themselves as being more anxious, hostile, and fatigued and as having worse emotional regulation compared to adolescents who obtain healthy sleep (Baum et al. 2014). It is important to note that a bidirectional relationship likely exists between sleep

disturbance and mood disorders, as symptoms of mood disorders may disrupt sleep and disrupted sleep can increase symptoms of mood disorders (Gregory and Sadeh 2012).

Medical Issues

The prevalence of pediatric obesity has increased substantially over the last several decades, such that an estimated 18% of adolescents are currently obese (Ogden et al. 2012). A review of 29 studies conducted in 16 countries found that short sleep duration and later bedtimes are associated with greater risk for overweight/obesity (Hart et al. 2011). Additional epidemiological studies are needed to elucidate the causal mechanisms linking sleep and obesity and the role that sleep may play in regulating appetite. However, one study that experimentally manipulated adolescent sleep (1 week of 10 h time in bed per night versus 1 week of 6.5 h time in bed per night) demonstrated that compared to the healthy sleep condition, adolescents experiencing restricted sleep were more likely to consume foods with a high glycemic index, such as desserts and sweets, which increase risk for obesity (Beebe et al. 2013).

Shortened sleep duration may also predispose adolescents to increased risk for other medical disorders. In adults, shortened sleep duration is associated with the development of cardiometabolic risk factors, such as hypertension and hyperlipidemia (Grandner et al. 2014). Cross-sectional studies of children and adolescents have also found associations between insufficient sleep and cardiometabolic risk factors, with the strongest evidence for the impact of sleep on glucose, insulin, and blood pressure (Matthews and Pantescio 2016).

Risk-Taking Behaviors

Increases in risk-taking behaviors, including drowsy driving and substance use, are also related to insufficient sleep. Adolescents and young adults are most likely to be involved in crashes caused by falling asleep while driving, and it is estimated that individuals younger than 25 years of age were involved in 55% of all of these types of crashes (Owens and Adolescent

Sleep Working Group, and Committee on Adolescence 2014; Pack et al. 1995). Drowsy driving is common in adolescents, as among teenagers who drive, four in ten have driven while drowsy, and 30% report drowsy driving at least once per month (National Sleep Foundation 2011). In addition to the “acute” effects of insufficient sleep causing the driver to fall asleep, “chronic” effects of sleep deprivation can interfere with an adolescents’ ability to learn the knowledge and skills necessary to engage in safe driving practices (Groeger et al. 2004).

Insufficient sleep on school nights has also been associated with increased odds of adolescent substance use, specifically use of cigarettes, marijuana, and alcohol (McKnight-Eily et al. 2011). Another study found that adolescents reported the largest difference between school-night and nonschool-night bedtimes and also reported higher levels of risk-taking behavior, specifically alcohol use (O'Brien and Mindell 2005). In the same study, reports of increased daytime sleepiness and later weekend bedtimes were associated with increased tobacco, alcohol, and marijuana use, and an increase in sexual behavior.

Assessment of Sleep in Adolescents

Clinical History

A detailed clinical sleep history includes questions regarding (1) the presenting complaint, (2) sleep routines (bedtime routine, sleep onset associations, sleep environment), (3) sleep schedule (bedtime, wake time, naps, weekday versus weekend sleep), (4) nocturnal behaviors (night wakings, quality of breathing), and (5) daytime behaviors (daytime sleepiness, fatigue, school functioning). The medical history should include a discussion of current and past medical conditions, psychiatric conditions, hospitalizations, surgeries, medications, and childhood development, as each of these may have a direct or indirect impact on sleep quantity and quality. Psychosocial factors that may influence sleep should also be queried, including significant life events like the death of a loved one, change in school, parental divorce, or the onset of substance use.

Sleep Diary

Typically completed over a period of 2 weeks, a sleep diary documents sleep patterns and includes information on bedtime, sleep onset latency (how long to fall asleep), timing and duration of night wakings, wake time, length and duration of daytime naps, and total sleep time. Sleep diaries should be completed each day, providing the clinician with a prospective picture of the patient’s sleep patterns. Along with diagnosing sleep disorders in adolescents, sleep diaries can foster feelings of independence and ownership of sleep behaviors, in particular when used during treatment for insomnia, delayed sleep-wake phase syndrome, insufficient sleep duration, and/or poor sleep hygiene.

Actigraphy

Actigraphy provides a reliable and valid estimate of sleep patterns over a 1- to 2-week period in the adolescent’s natural sleep environment (Meltzer et al. 2012; Sadeh 2011). This wristwatch-sized device has an accelerometer that uses motion to determine when the adolescent is awake or asleep. It provides an estimate of total sleep time and has the benefit of collecting information on sleep patterns over weekday and weekend nights. In addition, actigraphy is useful in the week prior to a multiple sleep latency test to ensure a sufficient sleep opportunity and duration. Although many activity monitoring devices, such as wrist worn fitness devices or cellular phones, are now commercially available, research to date has found mixed results in adolescents (de Zambotti et al. 2015; Meltzer et al. 2015).

Polysomnography and Multiple Sleep Latency Test

Unlike actigraphy, polysomnography (PSG) is a diagnostic tool that is typically conducted in a sleep laboratory on one night. It is widely considered the gold standard for identifying sleep architecture and detailing breathing, body movements, and arousals during sleep (Sheldon 2005). Overnight PSG is used to diagnose OSA and PLMD and is commonly ordered for the following indications: sleep-disordered breathing, to titrate for CPAP or BiPAP, abnormal limb movements

during sleep, atypical parasomnias, and/or unexplained daytime sleepiness. PSG is not indicated when the clinical question is insomnia with no comorbid sleep disorder.

The multiple sleep latency test (MSLT) is an objective study of daytime sleepiness used to diagnose narcolepsy. Following an overnight PSG, patients are given four or five 20-min nap opportunities at 2-h intervals. A short sleep onset latency (time it takes the adolescent to fall asleep) and the presence of sleep onset REM during naps are considered for a diagnosis of narcolepsy (American Academy of Sleep Medicine 2014). However, these are also seen with significant sleep deprivation; thus, it is important to ensure the adolescent is obtaining sufficient sleep for at least 1 week prior to the MSLT (by sleep diary, but preferably by actigraphy).

Conclusion

Adolescents who have long been seen as moody, grumpy, or lazy may actually be chronically sleep deprived. Although the average adolescent needs 9.25 h of sleep per night, they obtain on average only 7.2 h. Insufficient sleep is the most common cause of excessive daytime sleepiness in adolescents worldwide (Gradisar et al. 2011), likely due to an interaction of extrinsic and intrinsic factors that are specific to this developmental period (Carskadon 2011). The consequences of insufficient sleep may be severe and hamper many aspects of development, including academic performance, mood disorders, risk-taking behaviors, obesity, and other medical complications (Owens and Adolescent Sleep Working Group, and Committee on Adolescence 2014). The management of sleep disorders in adolescents involves (1) diagnosing and treating any underlying physiological sleep disruptors and (2) increasing total sleep time through the improvement of sleep hygiene and maintenance of a consistent sleep schedule. Sleep habits and patterns of behavior developed during adolescence may persist into adulthood. As a result, in addition to the diagnosis and treatment of sleep disorders in adolescence, it is necessary to promote healthy sleep habits and a

sufficient sleep opportunity during this critical period of development.

Cross-References

► Sleep Deprivation

References

- American Academy of Pediatrics. (2014). Policy statement: School start times for adolescents. *Pediatrics*, *134*, 642–649. <https://doi.org/10.1542/peds.2014-1697>.
- American Academy of Sleep Medicine. (2014). International classification of sleep disorders. In *Diagnostic and coding manual* (3rd ed.). Darien: American Academy of Sleep Medicine.
- Aran, A., Einen, M., Lin, L., Plazzi, G., Nishino, S., & Mignot, E. (2010). Clinical and therapeutic aspects of childhood narcolepsy-cataplexy: A retrospective study of 51 children. *Sleep*, *33*, 1457–1464.
- Bagley, E. J., Kelly, R. K., Buckhalt, J. A., & El-Sheikh, M. (2015). What keeps low-SES children from sleeping well: The role of presleep worries and sleep environment. *Sleep Medicine*, *16*, 496–502.
- Baum, K. T., Desai, A., Field, J., Miller, L. E., Rausch, J., & Beebe, D. W. (2014). Sleep restriction worsens mood and emotion regulation in adolescents. *Journal of Child Psychology and Psychiatry*, *55*, 180–190. <https://doi.org/10.1111/jcpp.12125>.
- Beebe, D. W. (2006). Neurobehavioral morbidity associated with disordered breathing during sleep in children: A comprehensive review. *Sleep*, *29*, 1115–1134.
- Beebe, D. W., & Byars, K. C. (2011). Adolescents with obstructive sleep apnea adhere poorly to positive airway pressure (PAP), but PAP users show improved attention and school performance. *PLoS One*, *6*(3), e16924. <https://doi.org/10.1371/journal.pone.0016924>.
- Beebe, D. W., Rose, D., & Amin, R. (2010). Adolescent health brief: Attention, learning, and arousal of experimentally sleep-restricted adolescents in a simulated classroom. *Journal of Adolescent Health*, *47*, 523–525. <https://doi.org/10.1016/j.jadohealth.2010.03.005>.
- Beebe, D. W., Simon, S., Summer, S., Hemmer, S., Strotman, D., & Dolan, L. M. (2013). Dietary intake following experimentally restricted sleep in adolescents. *Sleep*, *36*, 827–834.
- Bhushan, B., Maddalozzo, J., Sheldon, S. H., Haymond, S., Rychilk, K., Lales, G. C., & Billings, K. R. (2014). Metabolic alterations in children with obstructive sleep apnea. *International Journal of Pediatric Otorhinolaryngology*, *78*, 854–859.
- Blumer, J. L., Findling, R. L., Shih, W. J., Sourbrane, C., & Reed, M. D. (2009). Controlled clinical trial of zolpidem for the treatment of insomnia associated with attention-deficit/hyperactivity disorder in children 6 to 17 years of age. *Pediatrics*, *123*, e770–e776.

- Boergers, J., Gable, C. J., & Owens, J. A. (2014). Later school start time is associated with improved sleep and daytime functioning in adolescents. *Journal of Developmental and Behavioral Pediatrics, 35*, 11–17.
- Calamaro, C., Thornton, B., & Ratcliffe, S. (2009). Adolescents living the 24/7 lifestyle: Effects of caffeine and technology. *Pediatrics, 123*, e1005–e1010.
- Carskadon, M. A. (1990). Adolescent sleepiness: Increased risk in a high-risk population. *Alcohol, Drugs, and Driving, 6*, 317–328.
- Carskadon, M. A. (2011). Sleep in adolescents: The perfect storm. *Pediatric Clinics of North America, 58*(3), 637–647. <https://doi.org/10.1016/j.pcl.2011.03.003>.
- Carskadon, M. A., & Acebo, C. (2002). Regulation of sleepiness in adolescents: Update, insights, and speculation. *Sleep, 25*, 606–614.
- Carskadon, M. A., Harvey, K., Duke, P., Anders, T. F., Litt, I. F., & Dement, W. C. (1980). Pubertal changes in daytime sleepiness. *Sleep, 2*, 453–460.
- Carskadon, M. A., Acebo, C., Richardson, G. S., Tate, B. A., & Seifer, R. (1997). An approach to studying circadian rhythms of adolescent humans. *Journal of Biological Rhythms, 12*, 278–289.
- Carskadon, M. A., Wolfson, A. R., Acebo, C., Tzischinsky, O., & Seifer, R. (1998). Adolescent sleep patterns, circadian timing, and sleepiness at a transition to early school days. *Sleep, 21*, 871–881.
- Curcio, G., Ferrara, M., & DeGennaro, L. (2006). Sleep loss, learning capacity and academic performance. *Sleep Medicine Reviews, 10*, 323–337.
- Czeisler, C. A., Richardson, G. S., Coleman, R. M., Zimmerman, J. C., Moore-Ede, M. C., Dement, W. C., et al. (1981). Chronotherapy: Resetting the circadian clocks of patients with delayed sleep phase insomnia. *Sleep, 4*, 1–21.
- Danner, F., & Phillips, B. (2008). Adolescent sleep, school start times, and teen motor vehicle crashes. *Journal of Clinical Sleep Medicine, 4*, 533–535.
- de Bruin, E. J., Oort, F. J., Bögels, S. M., & Meijer, A. M. (2014). Efficacy of internet and group-administered cognitive behavioral therapy for insomnia in adolescents: A pilot study. *Behavioral Sleep Medicine, 12*, 235–254. <https://doi.org/10.1080/15402002.2013.784703>.
- de Zambotti, M., Baker, F. C., & Colrain, I. M. (2015). Validation of sleep-tracking technology compared with polysomnography in adolescents. *Sleep, 38*, 1461–1468.
- Dewald, J. F., Meijer, A. M., Oort, F. J., Kerkhof, G. A., & Bögels, S. M. (2010). The influence of sleep quality, sleep duration, and sleepiness on school performance in children and adolescents: A meta-analytic review. *Sleep Medicine Reviews, 14*, 179–189.
- Durmer, J. S., & Quraishi, G. H. (2011). Restless legs syndrome, periodic limb movements, and periodic limb movement disorder in children. *Pediatric Clinics of North America, 58*, 591–620. <https://doi.org/10.1016/j.pcl.2011.03.005>.
- Eddinger, J. D., & Means, M. K. (2005). Cognitive-behavioral therapy for primary insomnia. *Clinical Psychology Review, 25*, 539–558.
- Gangwisch, J. E., Babiss, L. A., Malaspina, D., Turner, J. B., Zammit, G. K., & Posner, K. (2010). Earlier parental set bedtimes as a protective factor against depression and suicidal ideation. *Sleep, 33*, 97–106.
- Garetz, S. L., Mitchell, R. B., Parker, P. D., Moore, R. H., Rosen, C. L., Giordani, B., . . . Redline, S. (2015). Quality of life and obstructive sleep apnea symptoms after pediatric adenotonsillectomy. *Pediatrics, 135*, e477–e486. <https://doi.org/10.1542/peds.2014-0620>.
- Gradisar, M., Gardner, G., & Dohnt, H. (2011). Recent worldwide sleep patterns and problems during adolescence: A review and meta-analysis of age, region, and sleep. *Sleep Medicine, 12*, 110–118.
- Grandner, M. A., Chakravorty, S., Peris, M. L., Oliver, L., & Gurubhagavata, I. (2014). Habitual sleep duration associated with self-reported and objectively-determined cardiometabolic risk factors. *Sleep Medicine, 15*, 42–50. <https://doi.org/10.1016/j.sleep.2013.09.012>.
- Gregory, A. M., & Sadeh, A. (2012). Sleep, emotional and behavioral difficulties in children and adolescents. *Sleep Medicine Reviews, 16*, 129–136.
- Groeger, J. A., Zijlstra, F. R. H., & Dijk, D. J. (2004). Sleep quantity, sleep difficulties and their perceived consequences in a representative sample of some 2000 British adults. *Journal of Sleep Research, 13*, 359–371.
- Hart, C. N., Cairns, A., & Jelalian, E. (2011). Sleep and obesity in children and adolescents. *Pediatric Clinics of North America, 58*, 715–733. <https://doi.org/10.1016/j.pcl.2011.03.007>.
- Harvey, A. G. (in press). A transdiagnostic intervention for youth sleep and circadian problems. *Cognitive and Behavioral Practice*. <https://doi.org/10.1016/j.cbpra.2015.06.001>.
- Horne, R. S., Yang, J. S., Walter, L. M., Richardson, H. L., O'Driscoll, D. M., Foster, A. M., . . . Davey, M. J. (2011). Elevated blood pressure during sleep and wake in children with sleep-disordered breathing. *Pediatrics, 128*, e85–e92. <https://doi.org/10.1542/peds.2010-3431>.
- Hysing, M., Pallensen, S., Stormark, K. M., Lundervold, A. J., & Siversten, B. (2013). Sleep patterns and insomnia among adolescents: A population-based study. *Journal of Sleep Research, 22*, 302–307.
- Jarrin, D. C., McGarth, J. J., & Quon, E. C. (2014). Objective and subjective socioeconomic gradients exist for sleep in children and adolescents. *Health Psychology, 33*, 301–305. <https://doi.org/10.1037/a0032924>.
- Kotagal S, Pianosi P. (2006). Sleep disorders in children and adolescents. *BMJ, 332*(7545):828-832.
- Marcus, C. L., Traylor, J., Gallagher, P. R., Brooks, L. J., Huand, J., . . . Tapia, I. E. (2014). Prevalence of periodic limb movements during sleep in normal children. *Sleep, 37*, 1439–1452. <https://doi.org/10.5665/sleep.3928>.
- Matthews, K. A., & Pantescio, E. J. (2016). Sleep characteristics and cardiovascular risk in children and adolescents: An enumerative review. *Sleep Medicine, 18*, 36–49.
- McKnight-Eily, L. R., Eaton, D. K., Lowry, R., Croft, J. B., Presley-Cantrell, L., & Perry, G. S. (2011). Relationships between hours of sleep and health-risk behaviors in US

- adolescent students. *Preventative Medicine*, 53, 271–273. <https://doi.org/10.1016/j.ypmed.2011.06.020>.
- Meltzer, L. J., Montgomery-Downs, H. E., Insana, S. P., & Walsh, C. M. (2012). Use of actigraphy for assessment in pediatric sleep research. *Sleep Medicine Reviews*, 16, 463–475. <https://doi.org/10.1016/j.smr.2011.10.002>.
- Meltzer, L. J., Hiruma, L. S., Avis, K., Montgomery-Downs, H., & Valentin, J. (2015). Comparison of a commercial accelerometer with polysomnography and actigraphy in children and adolescents. *Sleep*, 38, 1323–1330. <https://doi.org/10.5665/sleep.4918>.
- Meltzer, L. J., Shaheed, K., & Ambler, D. (2016). Start later, sleep later: School start times and adolescent sleep in homeschool versus public/private school students. *Behavioral Sleep Medicine*, 14, 140–154. <https://doi.org/10.1080/15402002.2014.963584>.
- Mindell, J. A., Owens, J. A., & Carskadon, M. A. (1999). Developmental features of sleep. *Child and Adolescent Psychiatric Clinics of North America*, 8, 695–725.
- Mohri, I., Kato-Nishimura, L., Kagitani-Shimono, K., et al. (2012). Evaluation of oral iron treatment in pediatric restless legs syndrome (RLS). *Sleep Medicine*, 13, 429–432. <https://doi.org/10.1016/j.sleep.2011.12.009>.
- Morgenthaler, T., Kramer, M., Alessi, C., Friedman, L., Boehlecke, B., Brown, T., . . . Swick, T. (2006). Practice parameters for the psychological and behavioral treatment of insomnia: An update. An American Academy of Sleep Medicine report. *Sleep*, 29, 1415–1419.
- National Sleep Foundation. (2006). Sleep in America poll. Retrieved March 31, 2006, from <http://www.sleepfoundation.org/>
- National Sleep Foundation. (2011). Sleep in America poll: Communications technology in the bedroom. Retrieved February 21, 2016, from <http://www.sleepfoundation.org/>
- Nehlig, A., & Boyett, S. (2000). Dose-response study of caffeine effects on cerebral functional activity with a special focus on dependence. *Brain Research*, 858, 71–77.
- O'Brien, E. M., & Mindell, J. A. (2005). Sleep and risk-taking behavior in adolescents. *Behavioral Sleep Medicine*, 3, 113–133.
- Ogden, C. L., Carroll, M. D., Kit, B. K., & Flegal, K. M. (2012). Prevalence of obesity and trends in body mass index among US children and adolescents, 1999–2010. *JAMA*, 307, 483–490.
- Ohayon, M. M., Ferini-Strambi, L., Plazzi, G., Smirne, S., & Castronovo, V. (2005). Frequency of narcolepsy symptoms and other sleep disorders in narcoleptic patients and their first-degree relatives. *Journal of Sleep Research*, 14, 437–445.
- Owens, J., & Adolescent Sleep Working Group & Committee on Adolescence. (2014). Insufficient sleep in adolescents and young adults: An update on causes and consequences. *Pediatrics*, 134, e921–e932.
- Owens, J. A., & Moturi, S. (2009). Pharmacologic treatment of pediatric insomnia. *Child and Adolescent Psychiatric Clinics of North America*, 18(4), 1001–1016.
- Owens, J. A., Belon, K., & Moss, P. (2010). Impact of delaying school start times on adolescent sleep, mood, and behavior. *Archives of Pediatric and Adolescent Medicine*, 164, 608–614.
- Pack, A. I., Pack, A. M., & Rodgman, E. (1995). Characteristics of crashes attributed to the driver having fallen asleep. *Accident Analysis and Prevention*, 27, 769–775.
- Pagel, J. F., Forister, N., & Kwiatkowi, C. (2007). Adolescent sleep disturbance and school performance: The confounding variable of socioeconomics. *Journal of Clinical Sleep Medicine*, 3, 19–23.
- Picchiatti, D., Allen, R. P., Walters, A. S., Davidson, J. E., Myers, A., & Ferini-Strambi, L. (2007). Restless legs syndrome: Prevalence and impact in children and adolescents – The Peds REST study. *Pediatrics*, 120, 253–266.
- Picchiatti, D. L., Bruni, O., de Weerd, A., Durmer, J. S., Kotagal, S., Owens, J. A., & Simakajornboon, N. (2013). Pediatric restless legs syndrome diagnostic criteria: An update by the International Restless Legs Syndrome Study group. *Sleep*, 14, 1253–1259.
- Pieters, D., De Valck, E., Vandekerckhove, M., Pirrera, S., Wuyts, J., Exadaktylos, V., . . . Cluydts, R. (2014). Effects of pre-sleep media use on sleep/wake patterns and daytime functioning among adolescents: The moderating role of parental control. *Behavioral Sleep Medicine*, 12, 427–443. <https://doi.org/10.1080/15402002.2012.694381>.
- Redline, S., Tishler, P. V., Schluchter, M., Aylor, J., Clark, K., & Graham, G. (1999). Risk factors for sleep-disordered breathing in children. Associations with obesity, race, and respiratory problems. *American Journal of Respiratory and Critical Care Medicine*, 159, 1527–1532.
- Sadeh, A. (2011). The role and validity of actigraphy in sleep medicine: An update. *Sleep Medicine Reviews*, 15, 259–267. <https://doi.org/10.1016/j.smr.2010.10.001>.
- Sadeh, A., Pergamin, L., & Bar-Haim, Y. (2006). Sleep in children with attention-deficit hyperactivity disorder: A meta-analysis of polysomnographic studies. *Sleep Medicine Reviews*, 10, 391–398.
- Sánchez-Armengol, A., Fuentes-Pradera, M. A., García-Díaz, E., Capote-Gil, F., Cano-Gómez, S., Carmona-Bernal, C., & Castillo-Gómez, J. (2001). Sleep-related breathing disorders in adolescents aged 12 to 16 years: Clinical and polygraphic findings. *Chest*, 119(5), 1393–1400.
- Schlarb, A., Liddle, C., & Hautzinger, M. (2010). JuSt-a multimodal program for treatment of insomnia in adolescents: A pilot study. *Nature and Science of Sleep*, 3, 13–20.
- Sheldon, S. H. (2005). Polysomnography in infants and children. In S. H. Sheldon, R. Ferber, & M. H. Kryger (Eds.), *Principles and practices of pediatric sleep medicine* (pp. 49–72). Philadelphia: Elsevier Saunders.
- Spilsbury, J. C., Storfer-Isser, A., Rosen, C., & Redline, S. (2015). Remission and incidence of obstructive sleep apnea from middle childhood to late adolescence. *Sleep*, 38, 23–29.
- Thacher, P. V., & Onyer, S. V. (2016). Longitudinal outcomes of start time delay on sleep, behavior, and

- achievement in high school. *Sleep*, 39, 271–281. <https://doi.org/10.5665/sleep.5426>.
- Troester, M. M., & Pelayo, R. (2015). Pediatric sleep pharmacology: A primer. *Seminars in Pediatric Neurology*, 22, 135–147. <https://doi.org/10.1016/j.spen.2015.03.002>.
- Viorritto, E. N., Kureshi, S. A., & Owens, J. A. (2012). Narcolepsy in the pediatric population. *Current Neurology and Neuroscience Reports*, 12, 175–181. <https://doi.org/10.1007/s11910-011-0246-3>.
- Vorona, R. D., Szklo-Coxe, M., Lamichhane, R., Ware, J. C., McNallen, A., & Leszczyszyn, D. (2014). Adolescent crash rates and school start times in two central Virginia counties, 2009–2011: A follow-up study to a southeastern Virginia study, 2007–2008. *Journal of Clinical Sleep Medicine*, 10, 1169–1177. <https://doi.org/10.5664/jcsm.4192>.
- Wahlstrom, K. (2002). Changing times: Findings from the first longitudinal study of later high school start times. *NASSP Bulletin*, 86, 3–21.
- Wahlstrom, K., Dretzke, B., Gordon, M., Peterson, K., Edwards, K., & Gdula, J. (2014). *Examining the impact of later school start times on the health and academic performance of high school students: A multi-site study*. St Paul: Center for Applied Research and Educational Improvement, University of Minnesota.
- Wolfson, A. R., Spaulding, N. L., Dandrow, C., & Baroni, E. M. (2007). Middle school start times: The importance of a good night's sleep for young adolescents. *Behavioral Sleep Medicine*, 5, 194–209.
- Wyatt, J. K. (2011). Circadian rhythm sleep disorders. *Pediatric Clinics of North America*, 58(3), 621–635. <https://doi.org/10.1016/j.pcl.2011.03.014>.
- Zimmerman, F. (2008). *Children's media use and sleep problems: Issues and unanswered questions*. Menlo Park. Menlo Park: Henry J. Kaiser Family Foundation.

Smart Drugs

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Smart drugs are cognitive-enhancing drugs that influence a wide range of factors relating to thinking, such as memory, understanding, alertness, and cognition. Formally, smart drugs are known as Nootropics. Nootropics are a heterogeneous group of compounds of diverse chemical composition and biological function that are alleged to facilitate learning and memory or overcome natural or induced cognitive impairments (see Malik et al. 2007). Much of the research in this area has

focused on memory impairment, especially memory decline, which typically begins after the age of 30. That research reveals that memory enhancers and treatments for age-related memory decline are quite suggestive and, for some drugs, highly persuasive (for reviews, see McDaniel et al. 2002; Malik et al. 2007). That research is supplemented by studies examining a wide variety of effects that drugs, including non-prescriptive ones, do have on cognitive activity. For example, several drugs can positively influence even incredibly complex human brain disorders such as depression and anxiety (Gerlai 2003). The potential of smart drugs continues to increase dramatically, which has led to increasing concern about the potential negative effects of these drugs on individuals and society as a whole (see Rose 2002).

Concern about smart drugs, sometimes called memory enhancers, has grown rapidly as off-label and nonprescription drugs increasingly are used by healthy individuals for the purposes of enhancement rather than treatment (Cakic 2009). For example, it is now suggested that there is an increase in “academic doping” by university and high school students, that there is, for example, a widespread nonmedical use of psychostimulants such as methylphenidate across universities for the purposes of enhancing concentration (McCabe et al. 2005). The use of these drugs is increasing as some medications currently available to patients with memory disorders have been shown to increase performances in healthy people, and drugs designed for psychiatric disorders can enhance certain mental functions (Lanni et al. 2008). Where these trends will continue remains to be seen, but popular media has played increasing attention to it, which has helped to fuel the use of enhancers (Cakic 2009).

References

- Cakic, V. (2009). Smart drugs for cognitive enhancement: Ethical and pragmatic considerations in the era of cosmetic neurology. *Journal of Medical Ethics*, 35, 611–615.
- Gerlai, R. (2003). Memory enhancement: The progress and our fears. *Genes, Brain, and Behavior*, 2, 187–188.

- Lanni, C., Lenzken, S. C., Pascale, A., Del Vecchio, I., Racchi, M., Pistoia, F., et al. (2008). Cognition enhancers between treating and doping the mind. *Pharmacological Research*, *57*, 196–213.
- Malik, R., Sangwan, A., Saihgal, R., Jindal, D. P., & Piplani, P. (2007). Towards better brain management: Nootropics. *Current Medicinal Chemistry*, *14*, 123–131.
- McCabe, S. E., Knight, J. R., Teter, C. J., & Wechsler, H. (2005). Non-medical use of prescription stimulants among US college students: Prevalence and correlates from a national survey. *Addiction*, *99*, 96–106.
- McDaniel, M. A., Maier, S. F., & Einstein, G. O. (2002). “Brain-specific” nutrients: A memory cure. *Psychological Science in the Public Interest*, *3*, 12–38.
- Rose, S. P. (2002). “Smart Drugs”: Do they work? Are they ethical? Will they be legal? *Nature Review Neuroscience*, *3*, 975–979.

understanding of social psychology evidence for a key shift in self-consciousness and the importance of peer relationships in adolescence. This essay will present a summary of findings from functional imaging studies of the social brain in adolescence and concurrent social cognitive development, along with an overview of the prominent theoretical models of these findings. Relationships with structural neuroimaging research will be briefly touched upon. Bringing together these fields – social neuroscience, social cognition, and the study of brain development – will enhance our understanding of how the social brain develops during adolescence.

Social Brain

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Overview

Social cognition is the collection of cognitive processes used to understand and interact with others, and the term “social brain” refers to the set of brain regions that carry out these social cognitive processes. Certain social cognitive abilities continue to develop during adolescence. These include face processing, mental state attribution, and the response to peer influence and social rejection. Adolescent social cognitive development is paralleled by a shift in functional brain activity within social brain regions. Concurrently, structural neuroimaging studies show protracted development within parts of the social brain in adolescence. Together, these cognitive neuroscience findings may contribute to the

The Social Brain in Adolescence

Humans are inherently social. A large proportion of the human brain is involved in understanding and interacting with other people. The collection of brain regions involved in social cognition is referred to as the “social brain.” Noninvasive methods for assessing correlates of brain activity, including functional magnetic resonance imaging (fMRI) and electroencephalography (EEG), show that components of the social brain undergo functional development during adolescence (Blakemore 2008). fMRI studies assess neural activity indirectly but with relatively high spatial resolution, by measuring local changes in blood flow that occur in response to the metabolic demands of synaptic activity. EEG, which has relatively low spatial resolution, measures neural activity on a millisecond timescale via electrodes positioned on the scalp. Together, developmental fMRI and EEG studies show evidence for continuing development during adolescence of the neural correlates of face processing, mental state attribution, and the response to social rejection. Behavioral studies show evidence that these and additional social cognitive abilities, such as the ability to resist peer influence, continue to develop during adolescence. Concurrently, structural MRI studies show protracted development during adolescence in the volume and composition of gray and white matter, including within the social brain.

The Social Brain: Definition

The social brain is defined as the complex network of brain regions that enable us to recognize other social agents, infer their mental states (intentions, beliefs, and desires), perceive their enduring dispositions and their actions, and respond to them – communicatively, behaviorally, and emotionally. Over the past two decades, research has begun to shed light on how social brain regions enable the diverse set of cognitive functions that allow humans to interact. Key social brain regions include the fusiform face area (FFA), the posterior superior temporal sulcus (pSTS), the temporo-parietal junction (TPJ), the anterior temporal cortex (ATC), the anterior rostral medial prefrontal cortex (arMPFC), the anterior cingulate cortex (ACC), and the amygdala. The social brain is composed of a number of partially discrete, specialized neural systems. These systems show some overlap with brain regions involved in non-social functions, such as perception, emotion, and the executive functions (Frith and Frith 2010). Due to the complexity of social brain systems, this essay will be limited to a number of key components that have been studied in adolescence using fMRI, EEG and empirical cognitive tasks. In the following section, evidence will be summarized from developmental studies looking at: (a) face processing, (b) mentalizing, (c) peer influence, and (d) social rejection.

The Social Brain in Adolescence: Evidence from Cognitive Neuroscience

Face Processing

A fundamental requirement for social cognition is the ability to recognize conspecifics (other members of one's species), using visual, auditory, and other cues. Humans seem to be equipped with the ability to visually detect faces at birth: neonates prefer to look at photographs and cartoons of faces than at other objects, or at inverted faces. This early face recognition ability probably relies on subcortical structures. fMRI studies in adults show that later face recognition relies on additional cortical areas such as the FFA, which is

important for perceiving invariant aspects of faces (e.g., identity), and the pSTS, which responds to dynamic or changeable aspects of faces (e.g., eye gaze, emotion expressions). Developmental fMRI studies show that these neural components of face processing ability are functionally present in adolescence. However, there may be protracted development in the extent of regional specialization and integration in face-processing networks. Evidence for this notion is provided by EEG studies, which show continuing development in the millisecond time-sequence of face processing components. For example, the early "P1" component at ~90 ms (thought to reflect automatic visual processing) and the "N170" component at 140–190 ms (which is enhanced during face vs. object processing) shift during adolescence toward an adult pattern. This shift is thought to correspond to findings from behavioral studies that show continuing development during adolescence in face processing tasks, for example, delayed recognition of unfamiliar faces.

Another component of face processing, and one that is vital for social interactions, is the ability to read emotion in faces. Functional imaging studies show that the brain's response to facial displays of emotion develops throughout adolescence (for a review, see Blakemore 2008). This processing relies on face-sensitive brain regions described above (FFA, pSTS), and in addition recruits the amygdala, which is important for reflexive and unconscious emotional processing, and the arMPFC and bordering ACC, which participate in high-level social cognitive processes such as mentalizing (e.g., inferring beliefs or desires). In addition, cognitive control-related regions of the prefrontal cortex (PFC) are recruited during emotional self-regulation. Developmental fMRI studies show that passive viewing of emotional (e.g., angry, fearful) relative to neutral faces results in increased activity within parts of PFC in adolescents, relative to both children and adults. One study reported an age-related increase between 8 and 15 years in activity within lateral and superior PFC, and another study showed greater activation of the ACC in adolescents (aged 9–17 years) relative to adults (aged

25–36 years). Heightened adolescent PFC activity may reflect development in the emotional or regulatory response to emotionally evocative face stimuli, as shown in a number of behavioral studies. EEG studies in children and adolescents show nonlinear development of the N170 response to emotional faces. The N170 initially decreases in amplitude during childhood (up to the age of 10), and then reverses between 10 and 13 years, steadily increasing in amplitude during the remainder of adolescence. The N170 has been linked to face processing expertise, and behavioral studies show continuing improvement in facial emotion recognition during adolescence.

There is evidence that the development of face processing may be influenced by puberty. Puberty onset occurs around 10–13 years, which is the age of N170 reversal described above; furthermore, behavioral studies have shown that face processing is perturbed around the onset of puberty: Studies of facial identity and emotion recognition have shown a temporary decline in performance around puberty onset (age 11 in girls, 12 in boys), and relatively poorer performance on facial identity recognition in mid-puberty relative to pre-/post-puberty groups matched for age (see Blakemore 2008). Further research is needed to explore this possible relationship and its neurobiological mechanisms.

Mentalizing

Another aspect of social cognition, which enables us to understand others and predict their future actions, is the ability to work out a conspecific's mental state – for example, their intentions, beliefs, or desires. This ability is known as “theory of mind” or “mentalizing.” A large number of functional imaging studies in adults have shown evidence for the involvement in mentalizing of a circumscribed set of brain regions comprising the pSTS, TPJ, ATC, and arMPFC (Frith and Frith 2003). Recently, a number of fMRI studies have investigated the development during adolescence of the functional brain correlates of mentalizing. These studies have used a wide variety of mentalizing tasks – involving the spontaneous attribution of mental states to animated shapes, reflecting on one's intentions to carry out certain

actions, thinking about the preferences and dispositions of oneself or a fictitious story character, and judging the sincerity or sarcasm of another person's communicative intentions. Despite the variety of mentalizing tasks used, fMRI studies have consistently shown an age-related decrease in activity within arMPFC during mentalizing relative to control tasks, during adolescence (Blakemore 2008). Conversely, activity within posterior and temporal components of the mentalizing system – the pSTS, TPJ, or ATC – shows the opposite developmental pattern, depending on the task involved. Given the purported role of arMPFC in representing mental states, the age-related decrease in arMPFC activity may correspond to the development of mentalizing proficiency. Alternatively, or in addition, this change in activity may reflect emerging functional specialization, or a change in neurohaemodynamic coupling, with effects on fMRI signal. Evidence from a recent fMRI study that investigated functional connectivity has shown that the shift in arMPFC response during adolescence is accompanied by a shift in task-dependent interactions with the pSTS and TPJ. This suggests that adolescent development in mentalizing-related fMRI signal is accompanied by a change in functionally relevant interactions within the neural network as a whole.

The development of mentalizing proficiency up to the age of five has been studied extensively and is well characterized (e.g., Frith and Frith 2003) but, until recently, very little was known about the development of mentalizing beyond early childhood and into adolescence. However, evidence from social psychology studies shows substantial changes in social competence and social behavior during adolescence, and this is hypothesized to rely on a more sophisticated manner of thinking about and relating to other people – including understanding their mental states. Recent social cognition studies have begun to provide evidence in support of this hypothesis. One study investigated the development during adolescence of emotional perspective-taking, which is the ability to infer the feelings of others or “step into their shoes.” The results showed a decrease during adolescence in the reaction time

difference between taking one's own versus another person's perspective. A study by Dumontheil et al. (2010) used a novel mentalizing task, in which participants aged 7–28 years were instructed to sequentially move objects between a set of shelves arranged in a grid, as instructed by a "Director." The Director could see the contents of only some of the shelves, and therefore correct interpretation of the Director's instructions required participants to take into account the Director's visual perspective, and use this mental state information online in a communicative situation. Results showed continuing development during adolescence in performance on visual perspective (mentalizing) relative to rule-based (executive) control trials. Whether this development in performance is related to the age-related decrease in arMPFC activity during adolescence is a matter for future study.

Behavioral economic paradigms have proven effective in investigating the use of mental state information to guide strategic social behavior, including during functional neuroimaging. In these paradigms, which include the Ultimatum Game and the Trust Game, participants engage in structured competitive/cooperative interactions in which the aim is to win money. A number of fMRI studies in adults have shown task-related activity within the brain's reward system (e.g., nucleus accumbens) during these games, consistent with the desire to win monetary rewards, as well as within mentalizing regions such as pSTS, TPJ, arMPFC, and ACC, thought to relate to the processing of the others' actions and intentions during the game. These games are beginning to be investigated developmentally using fMRI. Of interest, behavioral studies using these games show that the tendency to strategically use mental state information to win money continues to develop in adolescence. For example, one study has shown that the tendency to make a generous offer of money is increasingly modulated by the perceived power of one's co-player to punish a selfish offer, between the ages of 9 and 18 years (Güröglu et al. 2009). This stands in contrast to evidence that the tendency to act upon basic, inflexible social principles, such as fairness and

reciprocity (e.g., reciprocating generous offers of money), is present from a relatively early age (6–9 years).

Peer Influence

Another aspect of social cognition, and one that is particularly relevant to adolescence, is the tendency to be influenced by other people (particularly peers). Peer influence can affect one's actions, beliefs, and emotions. Brain regions such as the STS (including pSTS), which is involved in the perception of actions, may be important for this social function, as are parts of the frontal cortex involved in motor control and the ability to "mirror" actions (e.g., premotor cortex, inferior frontal gyrus). Cognitive control and decision-related regions of PFC (e.g., dorsolateral PFC) are thought to be involved in the decision to mirror, or to resist mirroring actions. Recent developmental functional and structural MRI studies have shown correlates, within these brain regions, of the ability to resist peer influence. For example, an fMRI study investigated the functional correlates of a self-report measure of resistance to peer influence (RPI) in pre-adolescent (10-year old) children. Previously, this measure of RPI has been shown to increase linearly across childhood and adolescence, stabilizing between ages 14 and 18. During fMRI scanning, groups of high-RPI and low-RPI children viewed clips of angry hand and face gestures. The fMRI results showed that children with low RPI exhibited greater activity during observation of angry gestures within right dorsal premotor cortex and left dorsolateral PFC. However, children characterized by high RPI showed stronger functional connectivity between brain regions underlying action perception (e.g., STS) and decision making (e.g., lateral PFC, premotor cortex). A recent structural MRI study in adolescents (age 12–18) used the same RPI measure to show a relationship between self-reported RPI and inter-regional correlations in gray matter thickness in lateral prefrontal and premotor cortex (Paus et al. 2008).

Peer influence is of particular interest with regards adolescence because epidemiological, social psychology, and behavioral studies show

that adolescents are particularly prone to making risky decisions (e.g., Burnett et al. 2010). It has been suggested that one factor contributing to this tendency is heightened susceptibility to socio-emotional context, during adolescence relative to adulthood. A recent experimental study investigated the influence of social context on risk-taking behavior. In this study, adolescents (age 13–16), youths (age 18–22), and adults (age 24+) played a car driving simulation game, in which there were opportunities to act in a cautious or risky manner (e.g., stop vs. speed through a traffic signal). Crucially, the game was played alone or in the presence of two peers. As predicted, adolescents took many more risks when driving in the presence of peers, compared to when they were alone. In contrast, levels of risk-taking in adults did not differ between the social and solitary conditions (youths showed an intermediate effect). The results of this study are consistent with the age-related increase in RPI scores described above.

Social Rejection

Social psychology studies have shown that adolescents (particularly female adolescents) are more sensitive to being excluded from a social interaction by peers than are adults or younger children. One recent study (Sebastian et al. 2010) investigated this effect experimentally, using a computerized ball-tossing paradigm (named Cyberball). In this game, participants are told that they are playing a ball-tossing game over the internet with other players, whereas in fact the actions of the other players are programmed in advance. This means that participants can be systematically included, or excluded, by the other players. In female adolescents aged 11–15, self-reported mood following social rejection was significantly lower than in female adults. Additionally, levels of anxiety were disproportionately increased following social rejection in the younger adolescent (aged 11–13) compared with the adult group. These results suggest that increased sensitivity to social rejection in adolescents occurs in an experimental context, in the absence of external factors such as school environment, participants' existing social status among peers,

or the potential for negative consequences arising from the rejection episode.

Neuroimaging studies are beginning to explore the neural bases of this effect. Using the Cyberball paradigm described above with fMRI, Masten et al. (2009) scanned male and female adolescents aged 12–13. In addition to a number of brain areas consistently activated during this task in adults (insula, ventrolateral PFC), adolescents also activated a number of regions involved in negative affect (subgenual cingulate cortex) and reward (ventral striatum). In contrast, adolescents did not activate the dorsal ACC, a region that has been associated with levels of distress reported during social exclusion in adults. However, adolescents and adults need to be compared within the same study in order to ascertain the extent to which these differences reflect hypersensitivity to social rejection in adolescence. Another study used an internet chat-room paradigm to investigate neural responses to anticipated peer evaluation in male and female participants aged 9–17. Results showed that in females (but not in males) there was an age-related increase in activation within regions involved in affective processing (nucleus accumbens, hypothalamus, hippocampus, and insula), but no differences within the ACC or other social brain regions. Similarly, in a study in which adults (age 19–25) as well as adolescents (age 12–17) were scanned with fMRI while undergoing a social rejection manipulation, there were age-related increases in rejection-related activity within emotion processing and emotion regulation regions (striatum, subgenual cingulate cortex, orbitofrontal cortex, lateral PFC). This perhaps implies that the crucial difference in these social rejection tasks relates to emotional self-regulation, not to specifically social cognition ability. However, in naturalistic school or social contexts, it is probable that an individual adolescent's skill in interpreting mental states will interact with their reaction to, or risk of, social rejection. In summary, fMRI studies of social rejection show age differences in neural activity that may reflect behaviorally assessed changes in the impact of social rejection on mood, and the

ability to self-regulate one's emotional response to peer evaluation and episodes of social rejection.

This review of the developmental neuroimaging literature on social cognition is not exhaustive. However, the evidence reviewed from fMRI and EEG studies suggests continuing development across adolescence in the neural correlates of social cognitive tasks including face processing, mentalizing, peer influence, and social rejection. Concurrently, there are changes in the proficiency of mentalizing and face processing, the ability to resist peer influence, and self-regulation of the emotional response to social rejection and other salient affective social cues. In the following section, these findings are placed in the context of theoretical accounts of neurocognitive development in adolescence.

Theoretical Models of Adolescent Neurocognitive Development

Recently, several models have been proposed to account for behavior associated with cognitive and functional brain development during adolescence. Many of the behaviors included in these models have a socio-emotional dimension, for example, risk-taking in the presence of peers, sensitivity to social rejection, and the increased importance of peers relative to parents during this time. The Social Information Processing Network model (Nelson et al. 2005) is the most explicitly social model, and suggests that significant neuroanatomical remodeling occurs within neural networks specialized for social evaluation and emotion regulation. Remodeling may result in part from the effect of pubertal gonadal steroids on limbic regions, which are densely innervated by gonadal steroid receptors, and partly from the gradual maturation of the prefrontal cortex, which continues into the late teens and early twenties. As well as development within "cognitive" and "affective" neural circuitry, it is also hypothesized that connectivity between these circuits continues to develop. The study of neural connectivity during cognitive tasks is still in its infancy, and it is likely that this will be an important direction for

the field of developmental social neuroscience over the next few years.

Also of relevance to social development in adolescence is the "Developmental Mismatch" hypothesis. A number of researchers have noted that adolescents exhibit heightened emotional sensitivity and increased risk-taking, relative to both children and adults. This is suggestive of a non-linear maturational trajectory for brain networks subserving these processes. It has been hypothesized that the limbic system (including the amygdala and nucleus accumbens) matures earlier in development than does the PFC, with the result that during the time lag between these two systems, individuals are more greatly affected by emotional context when making decisions. The greatest mismatch in the development of these systems is believed to occur during adolescence (Casey et al. 2008). In a variant of this model, Steinberg (2008) suggests that remodeling of the dopamine system during adolescence increases the salience of social rewards such as peer approval, while gonadal steroid release is suggested to lead to an increasing sensitivity to social stimuli, via effects on oxytocin receptors. Neuroanatomical evidence (discussed in more detail below) provides support for developmental mismatch models, with more protracted development occurring in regions typically defined as regulatory (such as PFC) than in limbic regions (Casey et al. 2008).

Neuroanatomical Development

Over the past decade, MRI studies have shown continuing development during adolescence in the structure of the brain. Two main age-associated changes, before and during adolescence, have been described using structural MRI methods. First, cortical gray matter density changes in a nonlinear and region-specific manner. This is thought to reflect regional changes in synaptic density, and/or intracortical myelination. Second, white matter density increases linearly across the cortex, and this is accompanied by an increase in white matter integrity as shown using diffusion MRI. These white matter changes are

thought to reflect axonal myelination and increased axonal caliber.

Of interest for adolescent social brain development, these neuroanatomical changes continue to occur during adolescence within brain regions involved in higher cognitive functions, including social cognition and emotion regulation. In contrast, basic sensory regions of the brain, and perhaps some limbic regions, mature earlier in development. An early study by Jay Giedd and colleagues showed that gray matter density in the frontal lobe follows an inverted-U shaped pattern, with its peak around puberty onset (age 11 in girls and 12 in boys). This is followed by an extended sequence of gray matter thinning during the remainder of adolescence. In the temporal lobe, gray matter density peaks toward the end of adolescence, on average 16–17 years. More recent studies, including those from Philip Shaw and others, have shown evidence for distinct developmental trajectories of gray matter change within subregions of each cortical lobe. In the frontal lobe, precentral (motor) gray matter peaks prior to adolescence, whereas dorsolateral PFC and parts of MPFC attain peak gray matter volume later, at around puberty onset or beyond. This may correspond to behavioral trajectories of motor control versus higher-level cognition. In the temporal lobe, regions implicated in social cognition, such as the superior temporal lobe, attain peak gray matter density relatively later (~14 years) than more middle and inferior temporal lobe regions (~11–12 years).

The functional relevance of these findings for social brain development is only beginning to be understood. It has been suggested that the relatively protracted neuroanatomical development within prefrontal-regulatory regions, relative to earlier-maturing limbic regions, may underlie adolescent profiles of social-emotional responding and risk-taking (see section “Theoretical Models of Adolescent Neurocognitive Development”). Progressive myelination or increasing axonal caliber during adolescence, thought to underlie the MRI changes in white matter density, may result in enhanced functional integration within brain networks for social cognition – for

example, within the mentalizing system (section “Mentalizing”), and in networks for social perception and peer influence (section “Peer Influence”). Functional neuroimaging studies of adolescent brain development should consider functional integration and functional connectivity, in addition to age differences in regional activation. Developmental investigations in nonsocial domains of cognition – for example, inhibitory control – have shown suggestive evidence for relationships between structural and functional brain measures as well as relationships to cognitive development.

Conclusion

Functional neuroimaging studies have shown that the social brain – the complex collection of brain regions used to understand and interact with others – continues to develop during the adolescent years. Using a number of social cognition tasks, changes in functional brain activity have been shown to occur alongside emerging social cognitive proficiency and neuroanatomical development. Face processing studies show nonlinear changes in neural components thought to reflect emerging expertise in facial identity and emotion processing. EEG studies show a peak in N170 amplitude, and fMRI studies show greater activity within parts of PFC, during adolescence relative to both younger and older ages. This is paralleled by behavioral studies showing a disruption in face processing at the start of adolescence, around the onset of puberty. fMRI studies of mentalizing in adolescents and adults consistently show an age-related decrease in activity within the arMPFC, a region involved in representing and reflecting upon mental states such as intentions, beliefs, and desires. This change in functional activity occurs alongside improvements in mentalizing proficiency. Studies of peer influence and social rejection have shown changes in functional brain activity within social cognition, affective and cognitive control-related brain regions.

Understanding functional development of the social brain, and elucidating how this is related to

concurrent changes in social cognitive ability, structural brain development, and puberty, will increase our understanding of social behavior during adolescence. Knowledge of typical adolescent brain development may contribute to a better understanding of the rise in vulnerability to certain psychiatric illnesses that occurs in adolescence, including social anxiety and depression. Development of the social brain may expose the adolescent individual to certain vulnerabilities presented in an adverse social and emotional environment, but at the same time may present a unique window of opportunity for social and self-development.

Cross-References

- ▶ [Brain Maturation](#)
- ▶ [Theory of Mind](#)

References

- Blakemore, S. J. (2008). The social brain in adolescence. *Nature Reviews Neuroscience*, 9(4), 267–277.
- Burnett, S. B., Bault, N., Coricelli, G., & Blakemore, S. J. (2010). Adolescents' heightened risk-seeking in a probabilistic gambling task. *Cognitive Development*, 25, 183–196.
- Casey, B. J., Jones, R. M., & Hare, T. A. (2008). The adolescent brain. *Annals of the New York Academy of Sciences*, 1124, 111–126.
- Dumontheil, I., Apperly, I. A., & Blakemore, S. J. (2010). Online usage of theory of mind continues to develop in late adolescence. *Developmental Science*, 13(2), 331–338.
- Frith, U., & Frith, C. D. (2003). Development and neurophysiology of mentalising. *Philosophical Transactions of the Royal Society London B*, 358, 459–473.
- Frith, U., & Frith, C. D. (2010). The social brain: Allowing humans to boldly go where no other species has been. *Philosophical Transactions of the Royal Society London B*, 365, 165–176.
- Güroğlu, B., van den Bos, W., & Crone, E. A. (2009). Fairness considerations: Increasing understanding of intentionality in adolescence. *Journal of Experimental Child Psychology*, 104, 398–409.
- Masten, C. L., Eisenberger, N. I., Borofsky, L. A., Pfeifer, J. H., McNealy, K., Mazziotta, J. C., & Dapretto, M. (2009). Neural correlates of social exclusion during adolescence: Understanding the distress of peer rejection. *Social Cognitive and Affective Neuroscience*, 4(2), 143.
- Nelson, E. E., Leibenluft, E., McClure, E. B., & Pine, D. S. (2005). The social re-orientation of adolescence: A neuroscience perspective on the process and its relation to psychopathology. *Psychological Medicine*, 35(2), 163–174.
- Paus, T., Toro, R., Leonard, G., Lerner, J. V., Lerner, R. M., Perron, M., et al. (2008). Morphological properties of the action-observation cortical network in adolescents with low and high resistance to peer influence. *Social Neuroscience*, 3(3–4), 303–316.
- Sebastian, C., Viding, E., Williams, K. D., & Blakemore, S. J. (2010). Social brain development and the affective consequences of ostracism in adolescence. *Brain and Cognition*, 72(1), 134–145.
- Steinberg, L. (2008). A social neuroscience perspective on adolescent risk-taking. *Development Review*, 28(1), 78–106.

Social Capital Theory for Youth Studies

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Introduction

Social capital plays a fundamental role in the well-being of children and youth (CY) and is the pivotal concept of social capital theory. Until recent decades, CY researchers, program administrators, government officials, and funders have neglected to recognize the crucial relationship between social capital and well-being. Since the 1980s, however, an increasing number of CY researchers have examined social capital, though few use social capital theory (SCT) to ground their studies and programs. Although the theory is still in the developmental stage, research and community programs, both suggest that social capital is a key factor in the well-being of CY. To understand the current state of the theory in CY studies, we need to examine the history of SCT and outline the theory's main tenets. To improve the understanding of CY well-being, it would be useful, if not necessary, to view well-being through the SCT lens. Such an approach would make it possible to best advise, evaluate, and develop valid, efficient, and effective CY programs.

What Is Social Capital and Why Is It Important?

Social capital (SC) refers to the intangible product of an individual's relationships with others. It is what is produced within relationships between people. Many scholars have come to define it as feelings of trust, respect, and loyalty. However, SC is not restricted to these feelings in that it can include many other feelings that bond people together, such as love and commitment.

Social capital is essential to the development of well-being, because personal well-being – regardless of how it is defined – is contingent on the individual and the groups to which the individual belongs. Acquiring social capital is a complex matter that will be discussed later, but put succinctly, social capital is acquired through the interaction between an individual's unique characteristics and those of other group members. Social capital is unique to the individual, and therefore different people have varying degrees of social capital. For each individual, the development of social capital starts with innate or socially programmed characteristics (such as being gregarious, extroverted, etc.). These individual characteristics help each person actualize resources held within a group or by another individual in the group. Actualizing resources also depends on the other member(s) of the group and the efficiency (or deficiency) of structural (who is in the group) and functional (how group members function) social resources. In addition, all the groups to which an individual belongs are interconnected, and therefore an individual's social capital is not merely the additive combination of social capital from each group – 1 (e.g., family), 2 (e.g., school), and 3 (e.g., community organization) – but rather an individual's social capital is the synergetic transformation of social resources held in all of the groups to which he or she belongs. Social capital is not stagnant, but can change rapidly, depending on group membership (because changes in group member(s) can affect the individual). The examination of SC requires researchers/program officers to examine people/groups within their social environment. The conceptualization and operationalization of social

capital is not easy, though its examination is essential if we want to uncover why well-being discrepancies exist.

History of the Concept

Social capital is not a new concept, but rather an idea that has been central to the development of self and community, probably since the beginning of human civilization. Throughout the world, orally transmitted stories (mythologies) that have been told for millennia remind individuals of the ancient teachings of the formation, reliance, and trust that are held within groups, specifically, the family, or the larger society. Within written language, there are numerous examples of social thinkers using the idea of social capital as a foundation of their writing. Although they do not use the term “social capital,” such social thinkers as Marcus Aurelius (1964), Aristotle (1953), and their teachers and followers relied heavily on ideas associated with it. Aurelius, in *Meditations*, discussed the vital aspects of life, somewhat of a philosophical combination of the books of *Proverbs* and *Ecclesiastes*. Much of what he wrote hinges on the social ties that people have within their community. In his words, a person needs “to keep his mind from straying to paths incompatible with to those of an intellectual and social being” (Book 3, Paragraph 7) and to “avoid forming opinions that are in variance with Nature and with the Constitution of a reasonable being” (Book 3, Paragraph 9). These two quotations exemplify how Aurelius discussed of what is required to belong to a positive, healthy group and thereby enhance one's own well-being. Aristotle, in contrast, devoted enough writing to develop a book solely on “ethics,” which sociologists refer to as values – a key factor in the development of social capital. In his work *Ethics*, Aristotle discussed how individuals can form and be a part of strong groups (such as friendships and society). In Books 8 and 9, types of friendships are discussed, as is “Grounds of Friendship.” All well-known religious leaders (also social thinkers) have discussed similar issues that directly crosscut the present understanding of

social capital – Buddha, Jesus of Nazareth, and Mohamed to name just a few.

If mythology, social thinkers, and religious leaders have talked about social capital for thousands of years and deemed it fundamental for individuals' well-being, why has it taken so long for researchers to incorporate this elementary concept into their work? Much of this stagnation is rooted in the positivistic foundations of the social sciences. Since the social revolutions of the mid-twentieth century, social research has broadened its epistemological and ontological underpinnings, and most social researchers would now agree that non-tangible concepts, such as social capital, are important if not vital to understand disparities in well-being. In addition, the area of child and youth studies emerged during this period. And while scholars of the mid-twentieth century were the first to recognize the period of "childhood" and the importance of studying children and youth, this research was adult-centered. Consequently, the people that were being studied did not have a voice. It has only been since the late 1980s that the field of childhood and youth has blossomed, giving agency to these individuals. These factors alone, however, do not explain why social capital is not used more broadly in CY studies or to guide programs/policies.

CY studies is an expansive field, fragmented by discipline and nation. In the 1980s, scholarly discussion surrounding social capital was relatively limited (to the USA), as was collaboration. The concept of social capital has been largely limited to Coleman's (1987, 1988, 1990), and to a lesser extent, Bourdieu's (1986) and Putnam's (1999) formulations. As an educator, academic, applied researcher, and advocate for social change, Coleman was largely devoted to bettering the lives of CY, especially those who were disadvantaged. Coleman's writings on SC have been pivotal not only in CY studies, but also among scholars who examine SC. Coleman made great strides to introduce SC and a general social theory into mainstream CY studies and programs, but by today's standards, Coleman's understanding of well-being and SC is outdated and has limited applicability. The conceptual and theoretical

development of social capital stagnated with Coleman's death in 1995.

Over the past decade, fragmentation within the field of CY studies has declined because of technological innovations. With the current widespread usage of the Internet, CY researchers, and program administrators have become increasingly aware of SC and the theory. Free-access Internet journals, conference proceedings, working papers, and manuscripts published on research-based Web sites, in addition to the availability of online abstracts and pay-per-use articles, have led to a substantial increase in the dialogue about social capital. Internet-based communication has also enabled scholars and administrators alike to engage in open (international) dialogue and to collaborate at a limited financial cost. Technology has created an abundance of social capital within the community that advocates the use of SCT, thereby allowing for a more rapid theoretical development.

Despite advances that have been made in the field, an over-reliance of Coleman's use of social capital still exists. More researchers are adopting a reflexive approach to SC and the theory, but most still limit their theoretical underpinnings to Coleman's work, while others exclusively follow Coleman's work, and still others use only the concept of social capital with limited theoretical reflection. This has serious consequences on measurement, analysis, and decision making, and thus affects the applicability of the results for program development and review. For example, because Coleman examined the influence of adult-centered groups (i.e., the family and school) on CY's well-being, how researchers conceptualize and operationalize social capital will necessarily be limited if they strictly follow Coleman's ideas. In addition, while Coleman discussed the role of family and school social capital in understanding achievement disparities among CY, other competing groups, such as peers, the workplace, counter cultures, and so forth, tend not to be examined/discussed. Because social capital forms in a number of groups – not only family and school – all potential groups need to be accounted for, at the very least in the research's theoretical component. Lastly it is important to address the fact that

Coleman's work, as is the case with much research during his time, did not account for the role of power in explaining social capital and its relationship with well-being.

The concept of social capital has been integrated into many disciplines and theories, and while helpful, its utility is partial because most researchers do not use the theory surrounding the concept. This is particularly worrisome, not only for the development of theory, but also because governments and agencies have been using the concept of social capital to direct programs since the 1990s. In times when government funding of social research and social programs for children and families have been cut back or completely cut, it is crucial that scholars and researchers provide advice based on sound, well-constructed theory.

This historical overview has conveyed not only why SCT is underdeveloped, but also why it has stagnated. Over the past decade the theory – as it pertains to CY studies – has made great progress. Now that the premises of the theory have been defined, researchers from all around the world are testing the theory, which is indicative of an international merging of scholarly ideas, as well as the unprecedented international communication between those in both the applied and academic fields. This is what is needed for the development of a valid theory that speaks to many nations and peoples.

Social Capital Theory

As I have discussed elsewhere (Bassani 2007), SCT has five main dimensions: social capital is but one form of capital, social capital influences well-being, resources must be transformed into capital, the formation of social capital is complex, and mezzo group dynamics need to be considered.

Social Capital Is But One Form of Capital

It is widely recognized that five main forms of capitals influence CY well-being: social, financial (income), human (education and skills), cultural (cultural knowledge, abilities, and experiences), and physical (material goods). SCT maintains that

SC is the highest form of capital, and therefore it is central to all aspects of CY well-being.

Social Capital Influences Well-Being

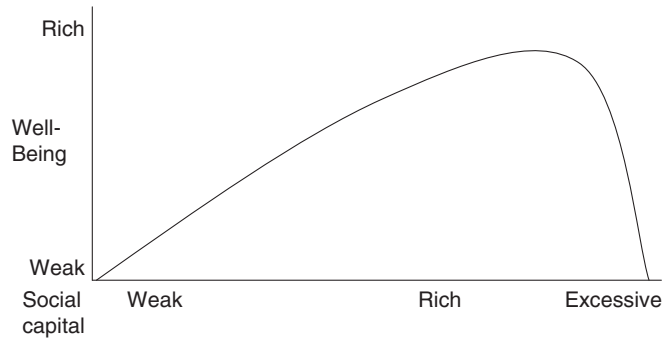
Two aspects of social capital's influence on well-being need to be acknowledged.

Direct and Indirect Influences. SC has both direct and indirect influences on well-being. The direct influence of SC is noted throughout the literature, and traditionally, it has been the only (directional) influence that scholars have recognized. Until recently (Bassani 2007, 2008, 2009), the indirect influence of SC has not been considered. Due to the very nature of SC, however, it has an essential role in transforming other resources into capital. Consequentially, SC indirectly influences well-being through the formation (or mobilization) of other forms of capital. Social capital mobilizes (a parent's, teacher's, peer's, etc.) human, financial, cultural, and physical resources into capital. The stagnation of SCT's development and poor theoretical conceptualization in both academia and the private sectors are the culprits of this lapse in understanding. I am currently testing this aspect of the theory with representative national samples, as well as samples from marginalized (immigrant) groups (Bassani forthcoming). More research is needed to further test this tenet.

Direction of Relationship. Social capital appears to have a curvilinear influence on well-being. Coleman (1990) originally argued that social capital positively influences well-being, but since then, research has repeatedly illustrated that when social capital becomes too strong, it negatively influences well-being (Ream 2003). Ream identifies this as the "downside" of social capital. Rather than the one-way, linear trajectory that SC has traditionally been viewed as having, SC should be envisioned on a continuum that instead has a curvilinear relationship with well-being. Figure 1 illustrates this relationship, with social capital on the x axis and well-being on the y axis. On the one end, there is an extremely limited amount of social capital, which produces a negative influence on well-being. In the middle-to-upper range, social capital increases and consequentially has a progressively positive influence

Social Capital Theory for Youth Studies,

Fig. 1 The curvilinear relationship between social capital and well-being



on well-being. Lastly, on the far end, social capital becomes too strong within a group and, as a result, has a negative influence on well-being. In this latter case, the ties between people in the group are too intense, and, as a result, the group becomes “closed.” Group membership becomes the sole identity for people in this group, and as a result of this excessive, unhealthy closure, social capital in other groups wanes or is nullified. Excessive closure tends to occur within marginalized groups, such as immigrant and/or ethnic minority groups (Ream 2003) and gangs (Deuchar 2009). (Group closure will be discussed in further detail in the context of the fourth dimension.) This relationship was only recently noted in the literature by scholars who examine samples of marginalized youth. Since the vast majority of CY and SC researchers use representative samples, this curvilinear relationship was not noticed because of the combination of the nature of representative samples and statistical laws (that regress relationships to the mean). Much work is needed that specifically examines an array of marginalized CY (and adults), and nonlinear analyses need to be conducted to further test this newly recognized tenet.

Resources Must Be Transformed into Capital

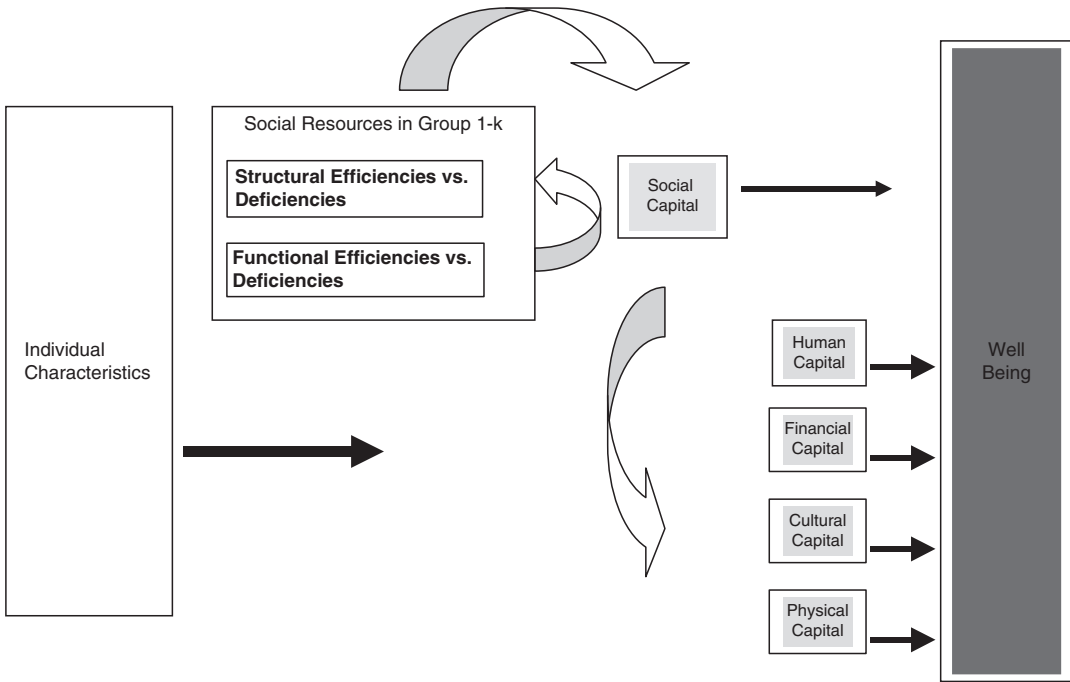
Capital is a product of an actualized resource. Resources become stable only when they are transformed into capital. Marx became most well-known for his discussion of this transformation two centuries ago, though this is an aspect of the theory that is often overlooked. As a result, conceptualizing and operationalizing social capital has been problematic at times, which has

affected the concept’s explanatory power. This in turn has negatively influenced the researchers’ (and consequentially program makers’) ability to fully appreciate the complexity of SC and its influence on well-being.

As Fig. 2 illustrates, the synthesis of structural and functional social resources transforms human, financial, cultural, and physical resources into capital. This means that SC plays an instrumental role in the creation of all capital. To expand briefly, all other resources, such as parental education, can be mobilized only after social capital has been developed. A limited amount of (or a void in) social capital held between a child and his or her parent(s) necessarily influences the creation and utility of human capital (the actualization of the parent’s human resources).

The Formation of Social Capital Is Complex

The formation of social capital begins with the individual, with one’s own innate or socially programmed characteristics (such as being gregarious, extroverted, etc.). Although the literature tends to omit any discussion of the influence of individual characteristics in the formation of social capital, they play a fundamental role in its development, because such characteristics influence functional social resource efficiencies. These individual characteristics help an individual to actualize resources held within a group or by another individual in the group. Within a group, social capital is formed by the melding of structural social resources (SSRs) and functional social resources (FSRs). This section discusses the formation of social capital in one group; however, it is essential to recognize that all of the groups to



Social Capital Theory for Youth Studies, Fig. 2 Formation of social capital and its influence on well-being

which an individual belongs are interconnected, and therefore an individual’s social capital is not merely an arithmetical combination of social capital from each group – 1 (e.g., family), 2 (e.g., school), and 3 (e.g., community organization) – but rather a synergetic transformation of social resources held in all groups. To simplify the discussion, the next section will address the interconnectedness of groups.

Four interlinked factors work to create SC in a group: efficiencies and deficiencies in the group, the group’s structural and functional resources, the individual member’s values, and closure of the group. These factors all concern group dynamics, because SC is created in a group even though it is unique to each individual and utilized by the individual. Without a healthy combination of these four factors, the development of social capital is thwarted.

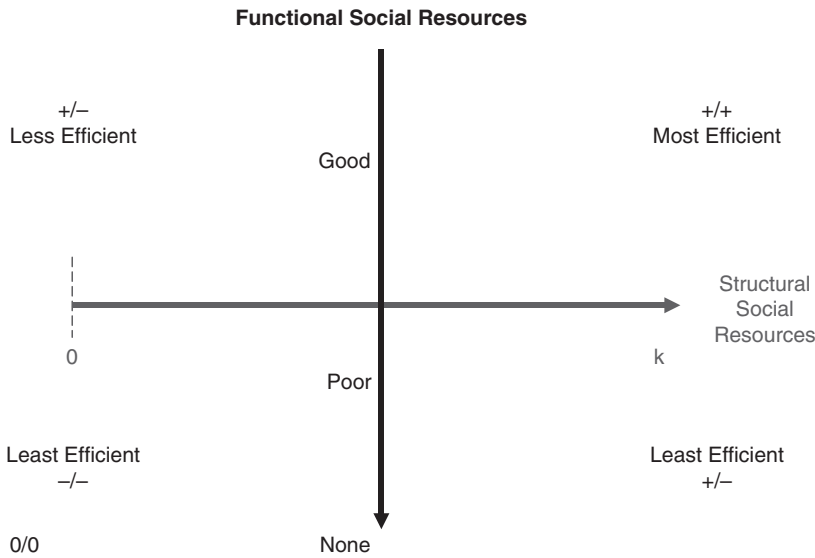
Efficiency and Deficiency of Resources in the Group.

Social resources become capital when structural and functional group efficiencies outweigh

structural and functional deficiencies. Efficiencies and deficiencies are not static and the scale on which they are weighed is not absolute; as such, there is no uniform definition of an efficient or deficient resource. Efficiencies should be thought of as “healthy” resources that help social capital develop, while “deficiencies” should be thought of as “unhealthy” or “absent” resources that hinder or completely restrict the development of social capital.

Structural and Functional Social Resources

Structural and functional social resources go hand in hand with resource efficiency/deficiency in the creation of social capital. A structural social resource (SSR) is defined as who is in the group, while a functional social resource (FSR) is defined as the relationship between individuals in the group. Figure 3 illustrates the simplified relationship between SSRs and FSRs. The four quadrants in Fig. 3 illustrate high efficiency (top-right quadrant), moderate efficiency (top-left quadrant), and deficiency (bottom two quadrants). As shown in Fig. 3 (in the top-right quadrant), when structural



Social Capital Theory for Youth Studies, Fig. 3 Relationship between structural social resources and functional social resources. Note: Coleman (1987) first discussed the dichotomy between SSR and FSR, though his perspective was limited since it only considered

the family and school (religious schools) groups. Recently, Lin (2001) expands on these concepts. While Lin’s work is pivotal in the development of SCT in general, her discussions are adult-centered and are largely generic in terms of discipline

and functional resources are most efficient – that is to say, the SSRs are numerous and the FSRs are strong – social capital is rich. Weaker social capital may also be created when SSRs or FSRs have deficiencies. The top-left quadrant of Fig. 3 reveals that the creation of SC is hindered by structural deficiencies despite strong FSRs. SSRs are the foundation from which SC is built. Without SSRs, it is impossible to have any FSRs and thus SC. The dotted blue line in Fig. 3 illustrates this notion. FSRs, however, are quintessential in the formation of SC because they have the power to moderate SSR deficiencies. In a single-parent family, for example, SC may or may not be weaker than that found in the two-parent family. When FSRs are constant between the two family types, the two-parent family will have richer social capital. When FSRs are stronger in the single-parent family than the combined FSR in the two-parent family, however, the one-parent family will have more SC, despite the SSR deficiency.

quadrant, no social capital can be created: This is indicative of a group that has disintegrated, such as a parent that has become absent after a divorce or separation. The remainder of this portion of Fig. 3 illustrates the consequence of poor FSRs and SSRs. The bottom-right quadrant illustrates that weak SC is created via limited FSRs, despite the larger number of SSRs. An in-depth discussion of the relationship between SFRs and FSRs may be found elsewhere (Bassani 2007, forthcoming).

In the bottom quadrant of Fig. 3, SSR and FSR deficiencies are present. A limited amount of SC is created in such circumstances. In the far-left

When assessing SSR and FSR deficiencies (and efficiencies), resource depletion must be considered. Most groups (i.e., family, school and recreation, and peer – virtual or real – groups) have leaders. In adult-centered groups, adults tend to hold the power over CY and therefore are the leaders. In families, parents tend to be the leaders; in schools and recreational groups, teachers/coaches are the leaders. In youth-centered groups, however, age is not always a determinant of leadership because power is gauged differently in these groups and is based on popularity (which could be the result of physical and/or socially accrued characteristics). When the ratio of CY to

leader(s) increases, *resource depletion* occurs, which leads SC to decline or to be thwarted. When there is one parent in a family and numerous CY, parent–child interaction (FSR) is limited and thus social capital is apt to be weaker than in a family that has a larger ratio of CY to adults. Similarly, as the ratio of students to adults (teachers/volunteers/assistants) in a classroom increases, the amount of teacher–child interaction declines and so too does the social capital that can be formed in the classroom.

Functional social resources between CY in non-CY-centered groups (such as the family, schools, and recreation and work groups) may act to counter resource depletion. Within the family, bonds between siblings can work to increase SC in the family. In this group, siblings can create additional SC between one another, which works to increase the SC found in the family. Acting as pseudo-parents, (older) siblings may be able to meet some of the other (younger) siblings' needs. In the case of nonfamily groups, a planned (such as a buddy system) or even an unplanned contingency plan (students helping their friends) that bonds CY together may have a similar effect to that found in the family between siblings.

One last point needs to be addressed concerning FSR and SSR: the density hierarchy that Coleman (1987, 1988) first theorized. Coleman postulated that social capital was the richest among groups that were biologically related. Specifically, he argued that SC was strongest in biological families (compared to step-families). This perspective is highly flawed, because it is a combination of SSR and the magnitude of FSR that factors into one's wealth or depravity of SC. Although FSR may appear to be stronger between biological parents and their CY, FSR (and thus social capital) may be stronger between step-parents and CY or even within groups that compete with family group (such as peer groups) for primary status. This competition will be addressed further when mezzo group dynamics are discussed.

Values

Individuals' values play a fundamental role in the creation of social capital. Individuals that share

the same values with a particular group will develop a richer supply of social capital because FSR tend to be stronger in such groups. Shared values strengthen FSR and lead to an increase in the group's closure (boundaries), thus yielding richer social capital.

Culture and values are highly interrelated. I use the term "culture" loosely to convey whether the individual belongs to the majority culture (dominant society), (any of a number of) minority culture(s) (subdominant groups in society), or a combination of the two. Typically these two general groups have been viewed as separate distinct entities, though it is theoretically important to recognize that marginalized groups belong to both minority and majority groups. The relationship between culture and values is not as clear-cut as was once believed. Scholars need to consider all of the groups that the CY belongs to and how the values and culture associated within each group interact between groups. Many researchers that use SC and SCT pay little attention to culture. This is a major critique of SCT (Morrow 1999; Ream 2003), because issues of "power" have not traditionally been incorporated into the paradigm. Even when "culture" is integrated, however, it tends to be synonymous with "ethnicity", and more specifically, with a marginalized ethnic minority group (Bankston and Caldas 1998; Caldas and Bankston 1998; Portes and MacLeod 1999; Ream 2003; Zhou and Bankston 2000). Although ethnicity is an important factor that needs consideration when examining the well-being of CY, ethnicity is but one example of the majority–minority power divide. Other divisions (based on gender, sexuality, ability, etc.) are also relevant to address when examining CY. For example, CY are more likely than adults to belong to a subculture, which, by definition, is a group of people that share a distinct set of cultural beliefs and thus behaviors that differ from dominant society. And in fact, being a child or youth necessarily places individuals in a distinct subculture, because these individuals tend to hold a very different point of view from adults in society. With the exception of CY researchers who examine gang behaviors (i.e., Deuchar 2009), few if any others consider the influence that the CY's subculture

has on well-being. Much work is needed in this area to improve the understanding of values and their relationship with social capital.

Closure

A group's closure is the last factor that must be considered when delineating the formation of social capital. Closure represents the (invisible) boundaries that hold a group together. Closure ranges from weak to excessive, as does social capital. Groups that have weak closure have weak social capital and are apt to disband, while groups that have excessively strong closure (and social capital) become fully "closed," disassociating themselves from other groups, which might include larger society. Both extremes of closure have detrimental effects on the development of social capital. As discussed in a previous section, social capital has a curvilinear influence on well-being, because both weak and excessively strong social capitals have a negative influence on an individual (Fig. 1). Groups that have many SSRs and efficient FSRs produce healthy closure, which enables the development of rich social capital.

Mezzo Group Dynamics Need to Be Considered

The last dimension of SCT concerns mezzo group dynamics. In the previous pages, discussion has focused on a single group, such as the family, school, peers, or work, to simplify discussion of the theory. In reality, one cannot separate the groups to which CY belong, because there is not only a natural overlap between groups (because individuals overlap, or bridge, groups), but also a synergy between groups in the formation of social capital. SCT recognizes that examining the individual requires also examining the groups to which they belong. For this reason, group structure and functioning are key to the theory, and thus to understanding well-being.

Primary and Secondary Groups. To begin, groups can be divided into primary and secondary groups on the basis of their importance for socialization and the development of social capital. Social capital tends to be richest in the primary group, though social capital from secondary

groups can also be strong (but not as strong as that developed in the primary group). All individuals are socialized in a primary group, which for most people is the family. People are then introduced into a variety of secondary groups (including, but not limited to school, the dominant and subdominant community, peer, work, leisure, virtual). As CY get older, secondary groups vie for primacy between one another and with the primary group. This means that there is a hierarchy of importance among secondary groups. This hierarchy is not stagnant, because it changes based on the CY's age and individual values. In some instances, a leading secondary group can usurp the primary group, and as a result, the primary and secondary statuses of these groups are exchanged. In such situations, group closure within the newly appointed primary group may be excessively strong, which creates an overall disadvantage for the individual, because social capital is either partially or wholly restricted in secondary groups.

Bridging. Bridging, which is key to the development of social capital (Coleman 1987, 1988, 1990), occurs when an individual belongs to two groups; because of the individual the two groups are "bridged" or linked together. At least three issues related to bridging need to be considered. First, groups are bridged together by individuals. This means that a person who is a member of a family and school bridges the family and school together. Second, the more common the bridging between groups, the stronger are the bridges. In other words, the more people in one (primary or secondary) group who also belong to a shared second (secondary) group, the stronger the linkage between the groups. Strong bridging is crucial to the development of rich social capital, because it increases the commonality among group members. Structural and functional social resource efficiencies abound in such situations, leading to the development of richer social capital in *both* groups. This last aspect is the third element concerning mezzo group dynamics – the possibility of heightened SFR and FSR efficiencies. The more commonalities (bridging) between group members, the stronger the shared values and time spent together. Such individuals are more

likely to have higher FSR efficiencies compared to group members who do not have as many shared bridges. This issue is crucial, since heightened FSR efficiencies lead to richer social capital.

To review, groups comprise individuals and have a unique structure and functioning that is contingent on group members. Social capital formed in each group is interdependent. The amalgamation of one's social capital can have one of three effects on the individual. When two or more (bridged) groups have high social capital a booster effect occurs, enhancing the CY's well-being. When two or more (bridged) groups have low social capital, a double-jeopardy effect occurs, detracting from the CY's well-being. In other situations, when a CY belongs to a group in which exposure to SC is heightened, this can work to mitigate the negative influence from low SC in another group(s). These three basic relationships represent the spectrum of SC's influence on CY.

Dynamics. One last point worth mentioning is that group dynamics are just that – dynamic – and therefore they should not be viewed as stagnant. Group dynamics are constantly changing, which in turn influences the social resources and thus SC available to CY in any given group. Both the structure and functioning of a group changes in two situations: (1) when membership changes, and (2) when the resources that group members bring into the group change. In other words, groups change when the lives of group members (and the capital that they hold within other groups) change. Individual changes, such as changes in family structural and/or functional social resources (the family's social capital) can have a profound influence on the group, and consequentially the development of social capital in that group. Group dynamics and the synergy that creates a CY's SC make it necessary to optimally rely on longitudinal research when examining SC and CY well-being. Since the vast majority of research that examines the role of SC on CY well-being analyzes cross-sectional data, much research needs to be done that examines longitudinal panel data. Internationally, since the late 1990s, researchers have witnessed an increased sharing of (government) datasets. This, coupled with the

widespread usage of multilevel modeling, means that longitudinal examinations of CY well-being need to be the highest priority if SCT is to be used widely by practitioners who deal directly with CY in their communities.

Conclusion

Social capital has a tremendous influence on CY's well-being. It is not merely a concept, but the core concept of social capital theory. The theory is powerful and can help researchers, policymakers, and program leaders cultivate the well-being of CY. Until recently, the theory has been used in a limited capacity, and therefore its utility has been largely restricted. With technological advances and the widespread accessibility of the Internet, much conversation about the concept and theory has occurred over the past decade. This has without a doubt aided the theory's development and has led to a wider usage of the theory among those that are interested in CY's well-being. Still, much more analytical testing needs to be done to strengthen the theory.

References

- Aristotle. (1953). *Ethics* (J. A. K. Thompson, Trans.). Great Britain: Penguin. (Original work published n.d.)
- Aurelius, M. (1964). *Meditations* (M. Staniforth, Trans.). Great Britain: Penguin. (Original work published n.d.)
- Bankston, C., & Caldas, S. (1998). Family structure, schoolmates and racial inequalities in school achievement. *Journal of Marriage and Family, 60*(3), 715–723.
- Bassani, C. (2007). Five dimensions of social capital theory as they pertain to youth. *Journal of Youth Studies, 10*(1), 17–34.
- Bassani, C. (2008). Social capital and disparities in Canadian youth's math achievement. *Canadian Journal of Education, 31*(3), 727–760.
- Bassani, C. (2009). Young people and social capital. In A. Furlong (Ed.), *Handbook of youth and young adulthood: New perspectives and agendas* (pp. 74–80). London: Routledge/Taylor & Francis.
- Bourdieu, P. (1986). The forms of capital. In J. Richardson (Ed.), *Handbook of theory and research for the sociology of education*. New York: Greenwood.
- Caldas, S., & Bankston, C. (1998). The inequality of separation: Racial composition of schools and academic

- achievement. *Educational Administration Quarterly*, 34, 533–557.
- Coleman, J. (1987). Families and schools. *Educational Researcher*, 16, 32–38.
- Coleman, J. (1988). The creation and destruction of social capital. *Journal of Law, Ethics & Public Policy*, 3, 375–404.
- Coleman, J. (1990). *Foundations of social theory*. Cambridge: The Belknap Press of Harvard University Press.
- Deuchar, R. (2009). *Gangs, marginalized youth and social capital*. Stoke on Trent: Trentham.
- Morrow, V. (1999). Conceptualizing social capital in relation to the well-being of children and young people: A critical review. *The Sociological Review*, 47(4), 765–774.
- Portes, A., & MacLeod, D. (1999). Educating the second generation: Determinants of academic achievement among children of immigrants in the United States. *Journal of Ethnicity and Migration Studies*, 25(3), 373–396.
- Putnam, R. (1999). Bowling alone: America's declining social capital. *Journal of Democracy*, 6(1), 65–78.
- Ream, R. (2003). Counterfeit social capital and Mexican-American underachievement. *Educational Evaluation and Policy Analysis*, 25(3), 237–262.
- Zhou, M., & Bankston, C. (2000). *Straddling two social worlds: The experience of Vietnamese refugee children in the United States* (Urban Diversity series, Vol. 111). New York: Institute for Urban and Minority Education.

Social Cognition

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Social cognition refers to mental operations that underlie social interactions. These mental operations are those involving higher cognitive function that enable individuals to understand social situations by interpreting the social cues of others and considering appropriate responses to those cues (Staub and Eisenberg 1991). The modern study of social cognition seeks to understand how individuals represent the structure and content of social knowledge and how that knowledge translates into action (see Mascolo and Margolis 2004). Arguably the area of adolescent development that has involved social cognitive frameworks has been youth violence and aggression, e.g., social information-processing models seek to

account for individual differences in youth's behavior by describing cognitive steps involved in processing information in a social situation (Fite et al. 2008). Social cognition paradigms, however, increasingly reach a wide variety of social aspects of adolescent development, as exemplified by recent research examining adolescents' social cognitions regarding sexual identity and sexual rights (Horn et al. 2008).

Cross-References

► [Social Reasoning](#)

References

- Fite, J. E., Goodnight, J. A., Bates, J. E., Dodge, K. A., & Pettit, G. S. (2008). Adolescent aggression and social cognition in the context of personality: Impulsivity as a moderator of predictions from social information processing. *Aggressive Behavior*, 34(5), 511–520.
- Horn, S. S., Szalacha, L. A., & Drill, K. (2008). Schooling, sexuality, and rights: An investigation of heterosexual students' social cognition regarding sexual orientation and the rights of gay and lesbian peers in school. *The Journal of Social Issues*, 64, 791–813.
- Mascolo, M. F., & Margolis, D. (2004). Social cognition as a mediator of adolescent development: A coactive systems approach. *European Journal of Developmental Psychology*, 1, 289–302.
- Staub, E., & Eisenberg, N. (1991). Social cognition, affect and behavior: An essay and review of Robert Selman's the growth of interpersonal understanding: Developmental and clinical analyses. *Developmental Review*, 1, 385–400.

Social Competence

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Overview

Social competence is vitally important for adolescents. Longitudinally, social difficulties

experienced during youth, such as rejection and victimization by peers, predict significant difficulties later in life, including dropping out of school, criminality, and psychological disorders (e.g., Copeland et al. 2013; Parker and Asher 1987). Concurrently, poor social functioning has been implicated in the maintenance of many psychological problems, including internalizing difficulties such as depression (e.g., Rudolph et al. 2000) and externalizing symptoms such as aggressive behavior (e.g., Lansu et al. 2013). These associations lend urgency to the development of theoretical models of youth social competence, as well as measurement tools that adequately capture this construct. This entry outlines current thinking that conceptualizes social competence as an evaluation of interpersonal effectiveness that will vary as a function of characteristics of individuals, the behaviors they use, the situations in which they are acting, and who is evaluating them. Measures typically used to assess social competence are placed within this theoretical framework, and implications for intervention are discussed briefly.

Definitions and Theoretical Models of Youth Social Competence

Although a large body of work has been devoted to understanding and measuring youth social competence (see Ladd 2005, for review), there remains significant heterogeneity in definitions of this construct (Rantanen et al. 2012). Historically, researchers have taken one of two approaches to the conceptualization of social competence (see Dirks et al. 2007a). Trait models localize social competence in the person; in other words, competence is a property of youth, who each possess this trait to a lesser or greater extent. Youth who are more competent will experience better social outcomes. This approach is appealing, perhaps to developmental psychologists in particular, as it provides a unifying construct which can be assessed across the life span. On the other hand, trait approaches to competence have been challenged both theoretically and clinically. Theoretically, McFall (1982) noted that the logic underlying this approach is circular: people

achieve social success because they are competent, but they are deemed competent because they are successful interpersonally. Clinically, localizing competence entirely within youth is problematic because it does not suggest targets for intervention. Once individuals who are struggling socially have been identified, how can clinicians help them to achieve social success?

One way to solve this problem is to examine the behaviors in which youth are engaging. In contrast to trait models, social skills models equate social competence with behaviors (see McFall 1982), such that youth who engage in “good” behaviors would be seen as competent, whereas youth engaging in “problematic” behaviors would be seen as incompetent. The challenge associated with locating competence exclusively in social behaviors becomes apparent almost immediately: somebody has to decide which behaviors are competent. This idea of competence as an evaluation is reflected in McFall’s (1982) definition, which states that the construct of social competence “reflects somebody’s judgment, on the basis of certain criteria, that a person’s performance on some task is adequate” (McFall 1982, p. 13). Although there are differing opinions about what the criteria underlying these judgments should be, there is increasing convergence on the idea that interpersonal effectiveness should be the benchmark for competence (see Rose-Krasnor 1997).

McFall’s (1982) definition indicates that four factors will impact evaluations of interpersonal effectiveness: individual, behavior, situation, and judge. Clearly, characteristics of *individuals* will contribute to evaluations of their social competence; for example, children who are more physically attractive may be judged by others to be more competent (e.g., Kennedy 1990; Langlois and Stephan 1977), as may youth who are better liked by their peers (e.g., Goldstein et al. 2006). The *behaviors* in which youth engage will also influence evaluations of their effectiveness. Numerous studies have examined social behaviors associated with positive and problematic outcomes in the peer group (see Ladd 2005). For example, in general, aggressive and avoidant behaviors are associated with rejection by peers, whereas sociable actions (e.g., being friendly) are

associated with peer acceptance (see Newcomb et al. 1993). This pattern suggests that, on average, sociable behaviors may be seen as more effective than are aggressive and avoidant actions.

In addition to making independent contributions to perceptions of social competence, characteristics of individuals may interact with features of their behavior to predict evaluations of interpersonal effectiveness; that is, the same behavior may be differentially effective when enacted by two different youth. For example, youth's and teachers' perceptions of the effectiveness of responding to peer aggression by telling an adult vary as a function of the age of the actor: this strategy is seen as less competent when it is used by youth in grade 8 than when it is employed by youth in grade 6 (Dirks et al. 2010). Responses to peer aggression may also be differentially effective for boys and girls. Elledge et al. (2010) found that girls identified as stable victims were less likely to report that they would respond to peer aggression by doing nothing than were non-victimized girls, an association not present for boys, suggesting that this avoidant strategy may be more successful for girls. This team also investigated whether associations between responses to peer provocation and victimization varied as a function of how victimized the child is. They found that for highly victimized boys, endorsement of strategies involving walking away or physical aggression was associated with increased victimization; in contrast, for non-victimized boys, reported use of walking away was not associated with victimization, and endorsement of physical aggression predicted less victimization. Though this study did not find significant history x strategy interactions for girls, Visconti and Troop-Gordon (2010) found that among girls experiencing high or average levels of victimization, endorsement of avoidance predicted increased victimization. More recently, Dirks et al. (in press) documented that peer-nominated aggression moderated the associations between early adolescents' reported responses to peer provocation and peer-nominated victimization. Specifically, selection of assertive strategies, which are generally perceived by adolescents to be effective responses to peer provocation (e.g.,

Craig et al. 2007; Dirks et al. 2010), was associated with lower victimization, but only for youth low on peer-nominated aggression. Moreover, reported use of telling an adult was associated with greater victimization, an association that was stronger for youth reported to be aggressive by classmates. Taken together, then, there is growing evidence that the effectiveness of a strategy may vary as a function of who is enacting it. Although more longitudinal studies are needed to test this hypothesis, such data suggest that rather than asking the question "what works," researchers and clinicians may need to specify "what works for whom?"

In addition to characteristics of the person, the effectiveness of a given behavior will likely also depend on the *situation* in which that individual is acting. It is well documented that social situations influence the type of behaviors in which people engage. Different situations will press for different actions; in general, youth should, and do, respond differently when they are shoved by a peer than when a peer says hello to them (see Shoda et al. 1994). Even within a relatively homogeneous class of situations, youth behavior shows marked specificity. For example, youth are more likely to report that they would use physical aggression in response to physical provocation by a peer, compared to relational and verbal provocation (Dirks et al. 2007b, 2014). Not only will the interpersonal context affect how an individual responds, it will also shape others' perceptions of that action. For example, peers evaluate children who strike a peer who hit or pushed them first more positively than they do children who have used physical aggression unprovoked (Willis and Foster 1990). Although few studies have tested this hypothesis explicitly, the effectiveness of a given strategy is likely inextricably bound to the antecedent event.

The other key feature that will influence judgments of competence is the identity of the person making them, or the *judge*. If competence is a judgment, then the perceived competence of an action will likely vary depending upon who is evaluating it. Little research has examined this issue. Inter-rater discrepancies in evaluations of youth social competence have been well

documented (see Renk and Phares 2004); however, these investigations have typically assessed the extent to which peers, parents, and teachers agree about (a) the competence of a target individual or (b) how often a target individual engages in behaviors that are prejudged to be competent (e.g., prosocial behaviors) or incompetent (e.g., aggression). In other words, they have examined inter-rater agreement concerning *whether* a youth is liked or *what* a youth is like (see Parker and Asher 1987).

Such studies leave unanswered the question of the extent to which important people in the social environment concur about the competence of specific behaviors. It has long been acknowledged that perceptions of competence will vary across cultures (see Chen and French 2008); however, research has also hinted that even within a given social or cultural group, key groups of individuals, such as peers and teachers, may hold varying views about the effectiveness of critical interpersonal strategies. For example, a growing body of work has linked aggressive behavior to increased popularity with peers (see Cillessen et al. 2014). This pattern suggests that some adolescents may view aggression as an appropriate and effective interpersonal strategy, at least under some circumstances. Teachers, however, likely will not. Engaging in physical and verbal aggression are common reasons students are suspended from school (Mendez and Knoff 2003), suggesting disapproval of such behaviors among educators. Consistent with these findings, Dirks et al. (2010) found that early adolescents evaluated physical, verbal, and relational aggression (i.e., damaging or threatening the aggressor's social relationships) to be more effective responses to peer provocation than did their teachers. Importantly, within the group of youth judges, some aggressive responses were viewed to be as effective as assertive strategies: for both boys and girls, ending one's relationship with the aggressor, a strategy often construed as relationally aggressive (e.g., Delveaux and Daniels 2000), was deemed to be as effective as seeking an explanation or stating that the aggressor's actions were not acceptable. Furthermore, boys also evaluated physical aggression to be as effective as

these strategies. Work with younger children has also hinted at the existence of important differences between adults and youth in their evaluations of the effectiveness of interpersonal behaviors. Warnes et al. (2005) documented that teachers and parents identified a number of skills they thought were important for success with peers that were not identified by fifth grade children, such as being respectful and having manners. In sum, there is evidence that youth's perceived competence will vary systematically depending upon who is evaluating them; some adolescents may be interpersonally effective from the vantage of peers, but not adults, whereas others may be "doing everything right" from the perspective of grown-ups, but not perceived as competent by peers.

Implications of a Contextualized Approach to Social Competence for Assessment and Intervention

Mounting empirical evidence suggests that evaluations of social competence will vary as a function of who is acting, what they do, in what situation, and who is evaluating them; however, this contextualized view of social competence is not generally reflected in current measurement practices. Researchers often operationalize social competence in one of two ways: peer status and interpersonal behaviors. It is now widely recognized that peer status consists of two distinct dimensions: acceptance, or how well-liked someone is, and perceived popularity, or how popular an individual is seen to be (Cillessen and Rose 2005; van den Berg et al. 2015). In research with adolescents, these constructs are typically assessed with peer-nomination procedures. To measure acceptance, students are often asked to identify classmates they like most and least, whereas to assess perceived popularity, students nominate classmates who are most popular and least popular (Cillessen and Marks 2011). These two markers of social status provide valuable information about an adolescent's social adjustment; however, their limitations have also been noted. For example, an adolescent's social status

is usually measured with respect to a particular reference group, typically their classmates at school. Adolescents have friends in multiple contexts (e.g., at their part-time jobs, in their neighborhood); as such, nomination procedures focusing on only one network may not provide complete information regarding their social functioning (Kiesner et al. 2003).

More generally, indices of peer status are limited as measures of social competence because they tell us about adolescents' social adjustment, but not about what they are doing to earn that status (Bierman and Welsh 2000). In other words, these techniques provide data about individuals, but not their behaviors. To address this limitation, researchers may assess youth behavior directly. Often, this is done by having peers nominate classmates who fit specific behavioral descriptions (e.g., physically aggressive, relationally aggressive, withdrawn; Ladd et al. 2014). Alternatively, people knowledgeable about the target individual, such as parents, teachers, or the youths themselves, may be asked to complete behavior-rating scales. In general, these types of measures ask informants to rate how often youth engage in a variety of behaviors. When working with adolescents, it is essential that rating scales assess behaviors that are relevant and important for youth of this age. The types of behaviors required to negotiate successfully the social tasks of this developmental period, which include increased experiences with the opposite sex, as well as establishing autonomy from parents, are different than the interpersonal demands placed on younger children. Given these differences, simple adaptations of measures created for other developmental periods are not appropriate. Moreover, measures of social skills need to be updated frequently, as the ways in which adolescents engage socially will evolve as communications technology and social media platforms continue to develop. For example, adolescents now conduct a large percentage of their interactions with peers through text messaging (Lenhart 2012). Currently, very little is known about the interpersonal effectiveness of texting behaviors and how they can be used skillfully to contribute to high-quality relationships with peers.

Assessing the frequency with which youth engage in key behaviors can provide important information, insofar as knowing about those actions is of interest. When these data are used to inform conclusions about social competence, however, two challenges emerge. First, in general, rating scales do not provide information about the social circumstances in which behaviors are embedded. Some individual items on a rating scale may include contextual information (e.g., "Stands up for him/herself when treated unfairly," Gresham and Elliott 2008). Such situational details, however, are generally lost when researchers sum items to form a total score (Wright et al. 2001). Youth must coordinate different types of behavioral strategies to manage the diversity of interpersonal situations that they encounter (Dirks et al. 2014), and as a result of both the items included and the methods of scoring, behavioral rating scales generally do not capture this complexity.

Second, this approach to measurement does not allow for the possibility that the competence of the behaviors assessed may vary as a function of both who is evaluating them and who is enacting them. Rating scales provide information about the frequency with which youth engage in a predetermined set of behaviors. To draw conclusions about social competence from such data requires that judgments be made concerning the effectiveness of a particular action. For example, the conclusion that an adolescent who engages in aggressive behaviors frequently and assertive behaviors infrequently is not competent is predicated on the suppositions that aggressive actions are incompetent for that youth, whereas assertive ones would be effective. These blanket judgments are problematic. As described previously, aggressive behaviors are viewed as effective by some peers (Dirks et al. 2010) and may increase social standing for some youth (Cillessen et al. 2014). As such, identifying youth who engage in these behaviors as incompetent may be underestimating their social effectiveness with classmates. Moreover, as described previously, assertive behaviors may not yield positive results for all adolescents (Dirks et al. [in press](#)). Similarly, although prosocial behaviors are generally associated with

positive outcomes in the peer group (Newcomb et al. 1993), some youth – for example, those who are very inhibited – may engage in prosocial actions in ways that are not viewed favorably by peers (see Eisenberg and Spinrad 2014). Such data suggest that these strategies may not be competent for all youth. The implicit assumption of behavior-rating scales is that effectiveness is a static property of behaviors. Given evidence that the effectiveness of a behavior is variable, and not fixed, this premise limits the utility of these tools as measures of social competence.

In summary, the tools that researchers have used to assess youth social competence have typically focused on determining whether youth are experiencing positive or negative outcomes with peers, or how often youth engage in behaviors predetermined to be effective or not. Although these measures provide valuable information, they do not capture the evaluative and contextual features of social competence that are increasingly recognized by theorists. As a result, researchers may be over- or underestimating youth's social competence, as it is perceived by the people who are actually in a position to reward or punish their behavior. Furthermore, omission of situation- and judge-level factors may lead to misspecification of variability to the individual. For example, youth in lower-income environments are more likely to be targeted aggressively by peers (Dhimi et al. 2005), a type of situation that presses for aggressive responding (Dirks et al. 2007b; Wright et al. 1999). In the absence of contextual information, one might conclude that these children are very aggressive, when, in reality, the issue is that they must manage a greater number of problematic situations.

Recognizing that social competence is a multivariate evaluation, how can researchers manage this complexity so that they may gain insight into the social successes and struggles of adolescents? Several investigators have suggested that social competence is best understood with respect to key social situations (see Farrell et al. 2010; McFall 1982; Rose and Asher *in press*). Situation-specific measurement provides at least three noteworthy advantages. First, given that individuals' behaviors change as a function of the situation, the most

useful and relevant information about social performance will be obtained by determining how youth respond in critical interpersonal contexts. Second, assessing how youth manage key situations provides a more detailed picture of the strategies they are using, an important consideration given that social behaviors are highly nuanced, and seemingly minor differences may have a major effect on interpersonal success. For example, Dirks et al. (2007b) found that many youth generated "hostilely assertive" responses, which combined verbal aggression with seeking an explanation (e.g., saying "What's your problem?" as opposed to the less aggressive "Why did you do that?") in response to hypothetical vignettes describing provocation by a peer. Researchers have often treated such responses as aggressive (e.g., Peets et al. 2007). However, both peers and teachers are sensitive to the difference between a verbally aggressive response and a response that combines verbal aggression and assertiveness, with both groups viewing the latter type of response as significantly more effective (Dirks et al. 2010). Thus, treating such behaviors as aggressive will underestimate youth's social competence. Such fine distinctions may be lost in more global measures of interpersonal behavior, such as rating scales. Finally, this approach provides detailed information about when and how youth experience social difficulties, thereby providing clinicians with clear targets for intervention.

If behavior is assessed with respect to key situations, it is important that measures contain the most relevant interpersonal contexts. Youth will confront an infinite number of social scenarios, but most will not yield interesting information about their social functioning. Goldfried and D'Zurilla (1969) posited that the most important situations are those that are commonly occurring, difficult to manage, and critical (i.e., performing inadequately will have negative consequences). Several research teams have set out to identify such situations in populations of adolescents. In general, these investigations have used the behavioral-analytic approach (Goldfried and D'Zurilla 1969). Working within this framework, investigators create an inventory of problematic

situations by asking members of the population of interest to generate relevant scenarios. Freedman et al. (1978) and Gaffney and McFall (1981) developed what were perhaps the first taxonomies of problematic situations for adolescent boys (Adolescent Problem Inventory) and girls (Problem Inventory for Adolescent Girls), by asking adolescents, as well as individuals who interact frequently with youth (e.g., parents, teachers), to identify problematic situations in the lives of teenagers. The final taxonomy covered a variety of social contexts, such as school (e.g., “A gym teacher picks on you, makes you do extra push-ups”), family relationships (e.g., “Your father gets upset when you ask to borrow the car”), and academics (e.g., “You feel hopelessly lost in a geometry class”). Cavell and Kelley (1992, 1994) used similar methods to develop the Checklist of Adolescent Problem Situations (CAPS) and the Measure of Adolescent Social Performance (MASP). Both of these measures include situations representing many different facets of adolescent life, such as relationships with peers (e.g., “Friend ignores you”), siblings (“Sibling borrows something of yours without asking,”), and parents (“Parents refuse to discuss a decision they say is final”).

One domain not covered in detail by the CAPS and the MASP is relationships with opposite-sex peers. Adolescence is marked by a transition from the almost exclusively same-sex peer groups of childhood to social networks comprised of both males and females (Grover et al. 2007). Relationships with members of the opposite sex will present adolescents with new and challenging interactions to manage, such as responding to conflict with a romantic partner and sexual harassment (Grover and Nangle 2003; Wolfe et al. 2001). Such situations were identified in the Measure of Adolescent Heterosocial Competence (MAHC; Grover et al. 2005). The researchers had adolescents generate as many “difficult” situations with the opposite sex as they could. The final measure contained scenarios reflecting various themes including dating situations (e.g., asking for a date; turning a date down), initiating a friendship/relationship (e.g., calling someone that you like), and situations involving

drugs and alcohol (e.g., physical contact with another person when drinking).

These types of situations, as well as those included in the CAPS and the MASP, likely continue to be relevant for many adolescents; however, given the rapid changes that occur in the societal contexts in which adolescent development is embedded, it is important to update situation inventories regularly. For example, the widespread availability of computers and smartphones has created a new set of challenging interpersonal contexts for adolescents (e.g., cyberbullying; Elgar et al. 2014). It is also important to consider whether the types of situations that youth encounter will vary as a function of sociocultural features. For example, youth living in socioeconomically disadvantaged neighborhoods may confront circumstances – such as witnessing violence, being approached by drug dealers, or being asked to join a gang – that are not as common in more advantaged environments. When there are theoretical reasons to expect that the situations identified as commonly occurring, difficult to manage, and critical may be different for a particular group, it will be necessary to generate a new taxonomy of situations. For this reason, Farrell and colleagues have interviewed urban, African-American adolescents, as well as adults involved in their lives (e.g., parents, teachers, school security guards), to identify the challenging situations that they must manage (e.g., Farrell et al. 2007; Sullivan et al. 2010). Participants in these studies described many situations not identified in other investigations, such as having a teacher falsely accuse them or tell lies about them or dealing with an adult who is using substances. These studies highlight the unique challenges associated with living in urban poverty and the importance of developing contextually appropriate situation taxonomies.

Situation-based inventories have been used to assess social competence in two ways. It has been suggested that simply knowing how frequently adolescents experience these situations and how difficult they find them to be will predict their social adjustment (e.g., Cavell and Kelley 1994). Adolescents who respond ineffectively to interpersonal situations are likely to generate new

social problems and, as such, will experience challenging situations at a higher rate than will their more socially effective peers (see Rudolph et al. 2000). And indeed, Cavell and Kelly (1994) found that youth who were disliked by peers perceived situations to be more difficult and more frequently occurring than did their better accepted classmates. Similarly, Farrell et al. (2006) documented that youth who reported experiencing problem situations more frequently also reported greater engagement in aggressive and delinquent behaviors, as well as more anxious and depressive symptoms. Youth experiencing greater anxious and depressive symptoms, as well as those engaging in more relational aggression, also rated the situations as more difficult. These findings are consistent with research documenting that early adolescents with greater internalizing and externalizing symptoms report experiencing more social and academic hassles in their daily lives (Carter et al. 2006).

Of course, the most detailed picture of adolescent social functioning will emerge if researchers determine not only how often youth experience challenging interpersonal situations, and how difficult they perceive these encounters to be, but also how they respond in these circumstances, and whether or not their responses are effective. In addition to the behavioral-analytic inventories described earlier, many other studies have examined how youth respond to key interpersonal situations, including transgressions by friends (MacEvoy and Asher 2012) and provocation by peers (e.g., Dirks et al. 2007b, 2014). These situation-based assessments have typically been used to address basic research questions about the behaviors youth use to manage important situations in their interpersonal lives; however, integrating these tools into clinical research and practice would pay dividends. Youth experiencing psychopathology do not have difficulty managing all interpersonal situations. For example, Wright et al. (1999) documented that youth with clinically significant conduct problems were more aggressive than their peers only when provoked by another youth. As such, situation-based tools will provide insight into the specific circumstances in which youth struggle interpersonally.

Moreover, they can reveal important nuances in behavioral changes both over time and in response to interventions. Wright et al. (2011) found that children attending a residential summer camp became less aggressive overall, but engaged in increasingly more aggression in response to provocation by peers, an important qualification obscured by global measures of behavioral frequency.

Of course, to assess social competence, it is necessary to know not only how a person responds to a social challenge but how well that strategy worked. One way of gauging the effectiveness of youth's interpersonal behaviors is to have the people who are actually in a position to evaluate these strategies in the "real world" – including peers, teachers, and parents – provide ratings of the competence of behaviors commonly used by adolescents to manage critical social situations (Goldfried and D'Zurilla 1969). For example, peers and teachers would be the most relevant judges of the effectiveness of youth's responses to aggression by peers at school. These ratings can then be used to develop a system for assessing youth's social competence: youth who endorse responses rated as more effective would receive higher scores. A handful of research teams have taken this step; however, they have typically relied upon adult "experts" (e.g., psychologists, parents, and teachers) to evaluate the competence of youth's responses to important interpersonal scenarios (e.g., Cavell and Kelley 1992; Grover et al. 2005). As such, there are currently no measures that assess the effectiveness of youth's management of important social situations from the perspective of their peers. Such a tool would be of considerable utility for the assessment of adolescents, given that there is evidence that peers and adults do not agree about the effectiveness of important strategies in adolescents' interpersonal repertoires, such as aggression (Dirks et al. 2010). Interestingly, Gaffney and McFall (1981) found that social competence, as perceived by peers, did not discriminate between delinquent and nondelinquent girls, whereas social competence, as judged by adults, did. In other words, delinquent girls were not viewed by their age-mates to be less competent

than their nondelinquent peers. In general, it appears that the correlates of social competence may vary depending upon from whose frame of reference competence is evaluated. For this reason, obtaining the perspectives of all the relevant judges, and maintaining their unique viewpoints when scoring the measure, as opposed to combining them to form a global estimate, may provide a richer understanding of the associations between social competence and key adjustment indices, including psychological symptoms and social outcomes.

Assessing competence from the perspective of the multiple judges in a position to evaluate adolescents' social behavior may also enable clinicians to intervene more effectively. Understanding how youth perceive the interpersonal actions of their peers may provide important insight into the reinforcement contingencies shaping youth's behavior. If peers do not perceive behaviors as problematic, or if they identify them as competent, it may be difficult to get youth to stop engaging in these actions, even if they are causing problems with adults. Moreover, recommending strategies that are adult-approved without considering how they are viewed by youth may contribute to social sanction by peers. For example, many adults advocate that youth tell a teacher when they are victimized by peers (e.g., Lovegrove et al. 2013). Yet, few early adolescents report relying on this strategy (Dirks et al. *in press*, 2011), and during this developmental period, greater reported use of telling an adult to manage peer provocation is linked to higher victimization (Dirks et al. *in press*), suggesting that this strategy may not yield desired results with peers. Considering how an action will be perceived from the perspective of all the people in a position to reward or punish that behavior will allow clinicians to help youth to solve the challenging multi-constraint problem posed by having to satisfy multiple groups with differing perspectives.

To make recommendations to youth that will increase their social success, it will also be necessary to consider how well a chosen strategy will work for a specific individual, given evidence hinting that the effectiveness of a given behavior may vary across youth (e.g., Dirks et al. *in press*).

It may be possible to capture broad individual differences in effectiveness by having judges evaluate behaviors as enacted by youth with specific characteristics. For example, as reviewed previously, behavioral effectiveness is likely to vary as a function of both the age and gender of the actor. As such, effectiveness ratings could be made for specific developmental periods (e.g., teachers would be instructed to imagine that all strategies were being enacted by early adolescents) and separately for boys and girls. These evaluations would provide general guidance as to whether or not a given behavior is likely to be successful for an individual; however, it will not be feasible to capture every characteristic that could impact the perceived effectiveness of a behavior in this way. To examine how well strategies work for individual adolescents, it may be necessary to develop a more idiographic approach. For example, adolescents could be asked to report on how they responded to critical interpersonal situations and then describe what happened next; this information would provide insight into how well the strategy worked. As noted by others (Gaffney and McFall 1981; Grover et al. 2005), critical issues to consider would be whether the adolescent's response resolved the current situation, prevented it from happening again, and introduced any new problems for the person (e.g., if the adolescent responded to provocation by a peer in a way that escalated the conflict such that a teacher intervened). It would then be possible to provide feedback about the outcomes of the behavior and work with the adolescent to modify the strategy accordingly.

Conclusion

Although often assessed by developmental and clinical psychologists, social competence is rarely operationalized in ways that are consistent with the current understanding that it is an evaluation of effectiveness that will vary as a function of features of individuals, the behaviors they select, the situations in which they are acting, and who is in a position to evaluate their actions. By

developing measures of social competence, and, ultimately, interventions targeting social competence, that capture and address these complexities, researchers and clinicians will be better able to help adolescents who are struggling socially.

References

- Bierman, K. L., & Welsh, J. A. (2000). Assessing social dysfunction: The contributions of laboratory and performance-based measures. *Journal of Clinical Child Psychology, 29*, 526–539.
- Carter, J. S., Garber, J., Ciesla, J. A., & Cole, D. A. (2006). Modeling relations between hassles and internalizing and externalizing symptoms in adolescents: A four-year prospective study. *Journal of Abnormal Psychology, 115*, 428–442.
- Cavell, T. A., & Kelley, M. L. (1992). The Measure of Adolescent Social Performance: Development and initial validation. *Journal of Clinical Child Psychology, 21*, 107–114.
- Cavell, T. A., & Kelley, M. L. (1994). The Checklist of Adolescent Problem Situations. *Journal of Clinical Child Psychology, 23*, 226–238.
- Chen, X., & French, D. C. (2008). Children's social competence in cultural context. *Annual Review of Psychology, 59*, 591–616.
- Cillessen, A. H. N., & Marks, P. E. L. (2011). Conceptualizing and measuring popularity. In A. H. N. Cillessen, D. Schwartz, & L. Mayeux (Eds.), *Popularity in the peer system* (pp. 25–56). New York: Guilford.
- Cillessen, A. H. N., & Rose, A. J. (2005). Understanding popularity in the peer system. *Current Directions in Psychological Science, 14*, 102–105.
- Cillessen, A. H. N., Mayeux, L., Ha, T., de Bruyn, E. H., & LaFontana, K. M. (2014). Aggressive effects of prioritizing popularity in early adolescence. *Aggressive Behavior, 40*, 204–213.
- Copeland, W. E., Wolke, D., Angold, A., & Costello, E. J. (2013). Adult psychiatric outcomes of bullying and being bullied by peers in childhood and adolescence. *JAMA Psychiatry, 70*, 419–426.
- Craig, W., Pepler, D., & Blais, J. (2007). Responding to bullying what works? *School Psychology International, 28*, 465–477.
- Delveaux, K. D., & Daniels, T. (2000). Children's social cognitions: Physically and relationally aggressive strategies and children's goals in peer conflict situations. *Merrill-Palmer Quarterly, 46*, 672–692.
- Dhami, M. K., Hoglund, W. L., Leadbeater, B. J., & Boone, E. M. (2005). Gender-linked risks for peer physical and relational victimization in the context of school-level poverty in first grade. *Social Development, 14*, 532–549.
- Dirks, M. A., Treat, T. A., & Weersing, V. R. (2007a). Integrating theoretical, measurement, and intervention models of youth social competence. *Clinical Psychology Review, 27*, 327–347.
- Dirks, M. A., Treat, T. A., & Weersing, V. R. (2007b). The situation specificity of youth responses to provocation by peers. *Journal of Clinical Child and Adolescent Psychology, 36*, 621–628.
- Dirks, M. A., Treat, T. A., & Weersing, V. R. (2010). The judge specificity of the evaluations of youth social behavior: The case of peer provocation. *Social Development, 19*, 736–757.
- Dirks, M. A., Treat, T. A., & Weersing, V. R. (2011). The latent structure of youth responses to peer provocation. *Journal of Psychopathology and Behavioral Assessment, 33*, 58–68.
- Dirks, M. A., Suor, J. H., Rusch, D., & Frazier, S. L. (2014). Children's responses to hypothetical provocation by peers: Coordination of assertive and aggressive strategies. *Journal of Abnormal Child Psychology, 42*, 1077–1087.
- Dirks, M. A., Cuttini, L. A., Mott, A., & Henry, D. B. (in press). Associations between victimization and adolescents' self-reported responses to peer provocation are moderated by peer-reported aggressiveness. *Journal of Research on Adolescence*. <https://doi.org/10.1111/jora.12282>.
- Eisenberg, N., & Spinrad, T. L. (2014). Multidimensionality of prosocial behavior: Rethinking the conceptualization and development of prosocial behavior. In L. M. Padilla-Walker & G. Carlo (Eds.), *Prosocial development: A multidimensional approach* (pp. 17–42). New York: Oxford.
- Elgar, F. J., Napoletano, A., Saul, G., Dirks, M. A., Craig, W., Poteat, V. P., ... & Koenig, B. W. (2014). Cyberbullying victimization and mental health in adolescents and the moderating role of family dinners. *JAMA Pediatrics, 168*, 1015–1022.
- Elledge, L. C., Cavell, T. A., Ogle, N. T., Malcolm, K. T., Newgent, R. A., & Faith, M. A. (2010). History of peer victimization and children's response to school bullying. *School Psychology Quarterly, 25*, 129–141.
- Farrell, A. D., Sullivan, T. N., Kliewer, W., Allison, K. W., Erwin, E. H., Meyer, A. L., & Esposito, L. (2006). Peer and school problems in the lives of urban adolescents: Frequency, difficulty, and relation to adjustment. *Journal of School Psychology, 44*, 169–190.
- Farrell, A. D., Erwin, E. H., Allison, K. W., Meyer, A., Sullivan, T., Camou, S., ... & Esposito, L. (2007). Problematic situations in the lives of urban African American middle school students: A qualitative study. *Journal of Research on Adolescence, 17*, 413–454.
- Farrell, A. D., Mays, S., Bettencourt, A., Erwin, E. H., Vulin-Reynolds, M., & Allison, K. W. (2010). Environmental influences on fighting versus nonviolent behavior in peer situations: A qualitative study with urban African American adolescents. *American Journal of Community Psychology, 46*, 19–35.
- Freedman, B. J., Rosenthal, L., Donahoe, C. P., Schlundt, D. G., & McFall, R. M. (1978). A social-behavioral analysis of skill deficits in delinquent and

- nondelinquent adolescent boys. *Journal of Consulting and Clinical Psychology*, *46*, 1448–1462.
- Gaffney, L. R., & McFall, R. M. (1981). A comparison of social skills in delinquent and nondelinquent adolescent girls using a behavioral role-playing inventory. *Journal of Consulting and Clinical Psychology*, *49*, 959–967.
- Goldfried, M. R., & D’Zurilla, T. J. (1969). A behavioral analytic model for assessing competence. In C. D. Spielberger (Ed.), *Current topics in clinical and community psychology* (Vol. 1, pp. 151–195). New York: Academic.
- Goldstein, S. E., Tisak, M. S., Persson, A. V., & Boxer, P. (2006). Children’s evaluations of ambiguous provocation by relationally aggressive, physically aggressive and prosocial peers. *British Journal of Developmental Psychology*, *24*, 701–708.
- Gresham, F. M., & Elliott, S. N. (2008). *Social Skills Improvement System Rating Scales*. Minneapolis: NCS Pearson.
- Grover, R. L., & Nangle, D. W. (2003). Adolescent perceptions of problematic heterosocial situations: A focus group study. *Journal of Youth and Adolescence*, *32*, 129–139.
- Grover, R. L., Nangle, D. W., & Zeff, K. R. (2005). The Measure of Adolescent Heterosocial Competence: Development and initial validation. *Journal of Clinical Child and Adolescent Psychology*, *34*, 282–291.
- Grover, R. L., Nangle, D. W., Serwik, A., & Zeff, K. R. (2007). Girl friend, boy friend, girlfriend, boyfriend: Broadening our understanding of heterosocial competence. *Journal of Clinical Child and Adolescent Psychology*, *36*, 491–502.
- Kennedy, J. H. (1990). Determinants of peer social status: Contributions of physical appearance, reputation, and behavior. *Journal of Youth and Adolescence*, *19*, 233–244.
- Kiesner, J., Poulin, F., & Nicotra, E. (2003). Peer relations across contexts: Individual-network homophily and network inclusion in and after school. *Child Development*, *74*, 1328–1343.
- Ladd, G. W. (2005). *Children’s peer relations and social competence: A century of progress*. New Haven: Yale University Press.
- Ladd, G. W., Ettekal, I., Kochenderfer-Ladd, B., Rudolph, K. D., & Andrews, R. K. (2014). Relations among chronic peer group rejection, maladaptive behavioral dispositions, and early adolescents’ peer perceptions. *Child Development*, *85*, 971–988.
- Langlois, J. H., & Stephan, C. (1977). The effects of physical attractiveness and ethnicity on children’s behavioral attributions and peer preferences. *Child Development*, *48*, 1694–1698.
- Lansu, T. A., Cillessen, A. H., & Bukowski, W. M. (2013). Implicit and explicit peer evaluation: Associations with early adolescents’ prosociality, aggression, and bullying. *Journal of Research on Adolescence*, *23*, 762–771.
- Lenhart, A. (2012). Teens, smartphones & texting. *Pew Internet & American Life Project*, *21*, 1–34.
- Lovegrove, P. J., Bellmore, A. D., Green, J. G., Jens, K., & Ostrov, J. M. (2013). “My voice is not going to be silent”: What can parents do about children’s bullying? *Journal of School Violence*, *12*, 253–267.
- MacEvoy, J. P., & Asher, S. R. (2012). When friends disappoint: Boys’ and girls’ responses to transgressions of friendship expectations. *Child Development*, *83*, 104–119.
- McFall, R. M. (1982). A review and reformulation of the concept of social skills. *Behavioral Assessment*, *4*, 1–33.
- Mendez, L. M. R., & Knoff, H. M. (2003). Who gets suspended from school and why: A demographic analysis of schools and disciplinary infractions in a large school district. *Education and Treatment of Children*, *26*, 30–51.
- Newcomb, A. F., Bukowski, W. M., & Pattee, L. (1993). Children’s peer relations: A meta-analytic review of popular, rejected, neglected, controversial, and average sociometric status. *Psychological Bulletin*, *113*, 99–128.
- Parker, J. G., & Asher, S. R. (1987). Peer relations and later personal adjustment: Are low-accepted children at risk? *Psychological Bulletin*, *102*, 357–389.
- Peets, K., Hodges, E. V. E., Kikas, E., & Salmivalli, C. (2007). Hostile attributions and behavioral strategies in children: Does relationship type matter? *Developmental Psychology*, *43*, 889–900.
- Rantanen, K., Eriksson, K., & Nieminen, P. (2012). Social competence in children with epilepsy: A review. *Epilepsy & Behavior*, *24*, 295–303.
- Renk, K., & Phares, V. (2004). Cross-informant ratings of social competence in children and adolescents. *Clinical Psychology Review*, *24*, 239–254.
- Rose, A. J., & Asher, S. R. (in press). The social tasks of friendship: Do boys and girls excel in different tasks? *Child Development Perspectives*. <https://doi.org/10.1111/cdep.12214>
- Rose-Krasnor, L. (1997). The nature of social competence: A theoretical review. *Social Development*, *6*, 111–135.
- Rudolph, K., Hammen, C., Burge, D., Lindbergh, N., Hertzberg, D., & Daley, S. E. (2000). Toward an interpersonal life stress model of depression: The developmental context of stress generation. *Development and Psychopathology*, *12*, 215–234.
- Shoda, Y., Mischel, W., & Wright, J. C. (1994). Intraindividual stability in the organization and patterning of behavior: Incorporating psychological situations into the idiographic analysis of personality. *Journal of Personality and Social Psychology*, *67*, 674–687.
- Sullivan, T. N., Erwin, E. H., Helms, S. W., Masho, S. W., & Farrell, A. D. (2010). Problematic situations associated with dating experiences and relationships among urban African American adolescents: A qualitative study. *The Journal of Primary Prevention*, *31*, 365–378.
- van den Berg, Y. H., Burk, W. J., & Cillessen, A. H. N. (2015). Identifying subtypes of peer status by combining popularity and preference: A cohort-sequential

- approach. *The Journal of Early Adolescence*, 35, 1108–1137.
- Visconti, K. J., & Troop-Gordon, W. (2010). Prospective relations between children's responses to peer victimization and their socioemotional adjustment. *Journal of Applied Developmental Psychology*, 31, 261–272.
- Warnes, E. D., Sheridan, S. M., Geske, J., & Warnes, W. A. (2005). A contextual approach to the assessment of social skills: Identifying meaningful behaviors for social competence. *Psychology in the Schools*, 42, 173–187.
- Willis, L. M., & Foster, S. L. (1990). Differences in children's peer sociometric and attribution ratings due to context and type of aggressive behavior. *Journal of Abnormal Child Psychology*, 18, 199–215.
- Wolfe, D. A., Scott, K., Reitzel-Jaffe, D., Wekerle, C., Grasley, C., & Straatman, A. L. (2001). Development and validation of the conflict in adolescent dating relationships inventory. *Psychological Assessment*, 13, 277–293.
- Wright, J. C., Zakriski, A. L., & Drinkwater, M. (1999). Developmental psychopathology and the reciprocal patterning of behavior and environment: Distinctive situational and behavioral signatures of internalizing, externalizing, and mixed-syndrome children. *Journal of Consulting and Clinical Psychology*, 67, 95–107.
- Wright, J. C., Lindgren, K. P., & Zakriski, A. L. (2001). Syndromal versus contextualized personality assessment: Differentiating environmental and dispositional determinants of boys' aggression. *Journal of Personality and Social Psychology*, 81, 1176–1189.
- Wright, J. C., Zakriski, A. L., Hartley, A. G., & Parad, H. W. (2011). Reassessing the assessment of change in at-risk youth: Conflict and coherence in overall versus contextual assessments of behavior. *Journal of Psychopathology and Behavioral Assessment*, 33, 215–227.

Social Connectedness

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Introduction

Psychology and other fields have long recognized that humans crave social contact with other humans. For example, Elliott Aronson's influential book, *The social animal*, is now in its tenth

edition. Maslow's hierarchy of needs denotes "love and belonging needs" in the middle of his pyramid, highlighting the essential need of people being connected with others. Attachment theory, as explained by John Bowlby and others, emphasizes the necessity for social connections at early ages as well as later. Social connectedness is a key aspect of development and an important construct in the understanding of human development.

Social connectedness as a construct is receiving increasing attention across a number of disciplines, and researchers are progressively taking seriously the task of describing and operationalizing what it means to be socially connected as well as determining how these connections affect other spheres of human experience. Despite problems with measurement and definitions of this construct, findings generally show that connection to the social world yields specific outcomes that are positively related to a variety of important end-states. The study of social connection within adolescence is illuminating because young people are caught between two major sources of change: (1) the outside world, i.e., changing expectations and social pressures, training and education as preparation for adult work, evolving social roles, etc., and (2) inside, i.e., changes in their physical and intrapsychic selves. Adolescents' connections to others have been shown to serve a protective function against these stressors, providing stability, anchorage, and a sense of a meaningful place in the world. Nevertheless, much more needs to be known how adolescents come to have (or not have) a sense of connection, and how that sense of connection functions in their lives to protect and nurture their development.

Definitions of Connectedness

Definitions of connectedness vary across research studies and theoretical models, with different authors highlighting different aspects of this construct. Although there is no consensus at this time concerning a definition of connectedness, two sets of authors have advanced related but somewhat different definitions. Lee and Robbins (1995,

1998), drawing on psychoanalytic self theory, defined social connectedness as “the subjective awareness of being in close relationship with the social world” (p. 338). This conceptualization focuses on the individual’s self perceptions and the elected target of connectedness is the social world in general. According to these authors, a sense of social connectedness develops early in life and expands throughout the life span. This dynamic of social connectedness refers to a global and stable aspect of the self, reflecting wide-ranging beliefs and attitudes about relationships and the general other (Lee et al. 2001).

A second viewpoint enunciated by Barber and colleagues (Barber et al. 2005; Barber and Schluterman 2008), who prefer to use the term *connection* over connectedness due to conceptual confusion concerning what connectedness embodies, has offered a different vision of this construct. For these authors (Barber and Schluterman 2008, p. 213), connection is:

“a tie between the child and significant other persons (groups or institutions) that provides a sense of belonging, an absence of aloneness, a perceived bond. Depending on the intimacy of the context, this connection is produced by different levels, degrees, or combinations of consistent, positive, predictable, loving supportive, devoted, and/or affectionate interaction.”

This latter conceptualization focuses explicitly on the relationship tie and defines, in a more specific way, the several targets of connectedness (an individual, a group, or an institution). In addition, Barber et al. (2005) advance some ideas about predictors (antecedents) and products (consequences) of connectedness. Taken together, these two definitions capture the essence of the wide-ranging enquiry that has evolved in research in this domain (see later sub-section entitled “Research linking connectedness to adolescent outcomes”).

The Nature and Importance of Social Connectedness

The emergence of social connectedness as a relevant construct in the study of adolescence has

roots in three conceptual shifts taking place in the last 20–30 years. Those shifts involved the recognition of: connectedness as a developmental goal, the importance of different contexts of socialization in adolescence, and the importance of a strengths-based approach to the study of adolescence and youth. This section examines these shifts.

Connectedness as a Developmental Goal

Early research on adolescence relied largely on theories of individual development. These theories, which reflected the Western view of the ideal adult as an independent self, have highlighted the adolescent’s need for independence, separation, and progressive autonomy (see Harter 1999). Within this perspective, the role of socializing agents, mainly the family, was to foster those characteristics thought to be primary in the individual’s development to become an autonomous and “individuated” person. Recently, however, several scholars have challenged the assumption that autonomy is the primary developmental goal of adolescence. In tune with several theoretical contributions which have emphasized the human need to belong, feel connected, and form interpersonal relationships with others (Baumeister and Leary 1995; Deci and Ryan 2000; Harter 1999), there has emerged in Western literature a growing interest in the importance of adolescents’ engagement with significant others and the social world. Research on family processes was particularly helpful to illuminate this idea. As they get older, adolescents tend to spend less time with parents, get involved in more activities with peers, and increasingly strive for autonomy; on the other hand, they still wish their relationships with families to be close (Feldman and Gehringer 1988) and a growing body of research shows that they benefit from a cohesive and supportive family environment in late adolescence and young adulthood. It seems, then, that adolescents fundamentally grapple with the task of individuating from parents/caregivers while also remaining psychologically connected to them. Accordingly, within this line of thought, the role of socializing agents such as the family is to promote *both* autonomy and connectedness. This conceptual

shift encompasses two aspects – autonomy and connectedness – once considered polarized goals, but now seen as complementary for adolescent development. Whereas before, autonomy was considered to be the primary goal to be achieved, now a combination of autonomy and connectedness is commonly agreed to be the best trajectory for healthy development (Harter 1999).

This apparent paradox, the balance between autonomy and connectedness, might be usefully explained by attachment theory. John Bowlby postulated the human need to form and maintain bonds with significant others throughout the life span (Bowlby 1979). The presence of reliable and available attachment figures allows the formation of secure attachment (among other aspects, the assurance that one is loved and will be taken care of). According to this viewpoint, it is precisely the security of the attachment bond that allows the exploration of the outside world. In childhood, this exploration involves discovering and engaging with new toys, games, and other outside stimuli, enduring progressive physical distance from the attachment figure(s), etc. In adolescence, exploration takes on new forms, such as academic interests, activities, new relationships (e.g., friendships with peers), and other aspects that involve navigating the social world beyond the family. Thus, it is expected that teenagers keep connected with and attached to their parents/caregivers throughout adolescence, and it is precisely this connection to their primary context (and not the severing of this link) that invites adventuring in new contexts (Laursen and Collins 2009). Naturally, the bond between adolescents and the family suffers alterations over time: the adolescent simultaneously strives for a sense of independence and mature separateness and renegotiates relationship structures to attain a more mature form of connectedness (Gavazzi and Sabatelli 1990).

Adolescents' Different Contexts of Socialization

While prior to the mid-1980s, research on adolescence was mainly concerned with individual development, afterwards researchers started to pay increased attention to the role of the different

contexts to which adolescents belonged, namely family, school, peer group, and, at a broader level, communities and neighborhoods. This shift was greatly influenced by Bronfenbrenner's ecological model (1979), which emphasized that development takes place in a web of interdependent contexts interacting with each other and the individual. Alongside this major contribution, theories of the development of the self have also highlighted how relations with others shape self-representations and how, especially after the transition to adolescence, it is possible to form multiple selves, i.e., different ways of being and relating to others depending on the specific context and nature of relationship (Harter 1999; Neff and Harter 2003). Harter et al. (1998), for instance, found that teenagers saw themselves differently when they were with peers compared to when they were with parents or teachers. The recognition that development is rooted in nested contexts and that individuals might differ in their behaviors, cognitions, and emotions in each of these contexts were among the many contributions that encouraged a growing body of research on the unique impact of adolescents' connection within each of these contexts (i.e., family, school, peer, and neighborhood/community connectedness) on health, adjustment, and wellbeing outcomes.

Two major conclusions can be drawn from the fast-growing literature on adolescent connectedness. The first points to diversity: adolescents of different ages differ in the number and strength of their connectedness to different contexts (Witherspoon et al. 2009). Experiences of connectedness vary within individuals across settings (i.e., one adolescent might be very well connected to family but not to school, while another might show a strong connection to their community and peers but not to their family, etc.) and across individuals depending on demographic and background characteristics (Witherspoon et al. 2009). The second major conclusion is that adolescents who are connected to key contexts report better adjustment, health, and wellbeing, in that connectedness seems to serve a protective function for adolescent development (Barber and Schluterman 2008).

Strengths-Based Approach to Adolescent Development

An important new development within psychology over the last 20 years is the focus on “positive psychology” (Diener and Seligman 2002; Lyubomirsky et al. 2005) rather than the traditional emphasis on disorder and maladaptation. In line with this trend, the study of adolescence is increasingly embracing a strengths-based approach, which aims to identify protective factors linked to positive developmental outcomes. Connectedness has been identified as one of these protective factors. For instance, some positive youth development theorists (e.g., Lerner et al. 2006) have identified connection (or connectedness) as one of the five main important dimensions of youth development, alongside confidence, competence, character, and caring (i.e., the Five Cs). The positive youth development approach has emphasized the relevance of connectedness and integrated it with other positive processes within the broader rubric of the ecological approach. Whereas, for instance, attachment theory has traditionally focused on important close relationships with family members, authors and researchers in the positive youth development movement have espoused a broader perspective, considering relationships in all relevant contexts to be important and specifically defending that one’s sense of connection with people and institutions within widely disparate contexts (e.g., gangs) is a research avenue worth exploring (Witherspoon et al. 2009).

Major Theorists and Seminal Analyses

Although connectedness is a relatively new term in the literature, authors from a variety of different disciplines have for a long time recognized the importance of individuals building and maintaining positive relationships with others across the life span. Thus, it is possible to find roots of the study of connectedness in adolescence in the contributions of many authors from different disciplines. Next, a selection of three important review papers is presented. Building upon Abraham Maslow’s work on the human need of

love/belonging, Baumeister and Leary (1995) offered, in their influential paper, a conceptualization of the need to belong as a fundamental human motivation. According to these authors, disconnection is a pressing social problem: individuals who feel disconnected are at risk for social isolation, deficits in belongingness, and lack of meaning and purpose in their lives. Their work has highlighted the importance of connectedness by showing that it is not sufficient that individuals establish non-conflictual relationships: people who feel disconnected are likely to lack support, feel lost and alone, and are at risk for psychological ill-being.

Ten years later, Townsend and McWhirther (2005) wrote a literature review paper specifically about the construct of connectedness, gathering an assortment of scattered information (including references to studies conducted with groups from different cultural backgrounds) and advancing implications for the areas of counseling, assessment, and research. These authors’ extensive review concludes that connectedness is an important factor in healthy interpersonal functioning and suggests a developmental approach to this construct in order to examine and develop interventions that promote adaptive connectedness beginning in childhood and throughout the life span. Finally, a third paper by Barber and Schluterman (2008) specifically targeted connectedness (or “connections”) in the lives of children and adolescents, recognizing the growing body of evidence that shows connectedness serves a protective function for adolescent health. These authors presented an in-depth review of the construct of connectedness and how it had been studied in the literature, and provided chief recommendations to future research in the field, namely with regard to its labeling, conceptualization, and measurement.

Research Linking Connectedness to Adolescent Outcomes

As a consequence of a general interest in the topic of connectedness, a body of research linking connectedness to several domains and adolescent psychological and health outcomes has been developing. Following a general trend in

adolescence research, the study of negative outcomes (e.g., depression, risk behaviors, etc.) has been more prevalent and, only recently, positive outcomes (e.g., wellbeing, resilience) are starting to receive more attention. In regards to the construct of connectedness, two main streams of research have developed. One perspective considers social connectedness to be a unidimensional construct referring to a *general* sense of connection to the social world. The other perspective considers connectedness to be a distinctly multidimensional construct, encompassing various domains of connectedness, individual domains corresponding to the key contexts in people's lives. Within the first stream, Lee and Robbins (1995, 1998) consider social connectedness as an aspect of the self that reflects subjective awareness of interpersonal closeness of the world. Research using this construct has shown that high social connectedness is a protective factor with regard to psychological symptoms, such as anxiety, depression, self-esteem, and others (Williams and Galliher 2006). For this approach, two concerns emerge: first, despite the effort to distinguish social connectedness from other constructs (such as, for instance, social support), more empirical research is needed to assess its uniqueness as a construct, namely, to distinguish it from general social competence (Williams and Galliher 2006); second, this construct has not yet been seriously studied in adolescent samples, most studies in this stream have predominantly used young adult samples (i.e., university students).

This brings up the second stream of research, broader and more heterogeneous in its scope, including both studies with smaller samples as well as large national-level research projects on adolescent development (e.g., the National Longitudinal Study of Adolescent Health in the USA and the Youth Connectedness Project in New Zealand). Within this stream, connectedness is assessed in a contextual approach that highlights belonging/connection to different domains. The four domains most commonly studied are family, school, peers, and communities/neighborhoods (Barber and Schluterman 2008). In some studies, connection to the domains of spirituality (Resnick et al. 1993) and, more recently,

technology (see Valkenburg and Peter 2009, for a review about research on adolescents' social connectedness and the internet) have also been examined.

The connectedness domain of family has been most researched. For instance, stronger family connectedness has been considered a protective factor against negative outcomes such as poor body image (Fulkerson et al. 2007; Resnick et al. 1993); emotional distress; cigarette, marijuana, and alcohol use; delay in sexual debut (Resnick et al. 1997); and depression (Barber and Olsen 1997). Longitudinal studies, although rarer, also add to the evidence of the protective function of family connectedness. Higher family connectedness has been linked to higher body satisfaction in teenage girls (Crespo et al. 2010), lower risk of suicidal behaviors (Borowsky et al. 2001), and lower depression (Cavanagh 2008) 1 year later.

Studies focusing on the school domain have linked school connectedness to lower levels of suicidal thoughts, cigarette, marijuana, and alcohol use, delay in sexual debut (Resnick et al. 1997); lower levels of stress and higher social confidence (Rice et al. 2008); and lower levels of social rejection and depression (Anderman 2002). In terms of positive outcomes, school connectedness has been also linked to academic achievement (Anderman 2002), positive coping (Cunningham et al. 2004), and life satisfaction (You et al. 2008), among others. Longitudinally, school connectedness has also been demonstrated to be a predictor of lower depression (Bond et al. 2007).

Few studies so far have included more than one domain of connectedness. Resnick et al. (1993), studying a large sample of US adolescents, found that family and school connectedness were the most important protective factors, family playing a more relevant role in internalized disturbed behaviors (which included poor body image, disordered eating, emotional stress, suicidal ideation and attempts, etc.) and school making a difference for acting out behaviors (drug use, school absenteeism, pregnancy, delinquency risk, among others). An Australian study (McGraw et al. 2008) found that while peer connectedness predicted lower levels of negative affect 1 year later,

family and school connectedness did not. Costa et al. (2005) found that although all four domains of connectedness – family, peer, school, and neighborhood – were independently linked to less problem behavior, the family and peer contexts were the most influential for American adolescents, while peer and school were the most influential for Chinese adolescents. Markham et al. (2010), in a systematic literature review on the predictor role of connectedness on adolescent sexual and reproductive health outcomes, found that family and school connectedness demonstrated the ability to delay sexual initiation or protect against early sexual debut; however, there was insufficient evidence to examine the association between these outcomes and peer and community connectedness. Kaminski et al. (2010) found that family connectedness, followed by school connectedness, was the most consistent predictor of lower risk of self-directed violence among adolescents. In this study, peer connectedness was linked to increased risk of self-directed violence, a result that fell below significance when demographic and background variables were controlled.

One major conclusion emerges from research published so far: in terms of the most studied contexts, regardless of how family and school connectedness are defined or measured, they are consistently linked to positive outcomes in health, psychological, social, and academic arenas. Due to their inconsistency and scarcity, results with peer and neighborhood connectedness need to be further investigated.

Measures and Measurement Issues

Following the two themes in connectedness research enunciated above, researchers describe and measure connectedness differently within these two perspectives. Within the unidimensional perspective, Lee and Robbins (1995) have constructed a measure of connectedness named the Social Connectedness Scale, later revised to become the Social Connectedness Scale-R (Lee et al. 2001). This scale is constituted by 20 items, with answer options on a six-point Likert scale

ranging from strongly disagree to strongly agree. Some examples of items are “I am able to connect with other people,” “I don’t feel I participate with anyone or any group” (reversed scored), and “I feel understood by the people I know.” This scale has shown good psychometric qualities and has been translated in several languages. It has been considered a useful tool in assessing a global and subjective perception of connectedness to the social world in general. However, this measure is not adequate for research that aims to measure connectedness to different targets in different domains.

The course of the domain-specific approach to the study of connectedness has been much more heterogeneous. Since research on connectedness has its roots in a variety of disciplines, researchers operating within these disciplinary constraints have called on already existing and familiar constructs and scales to measure connectedness. This issue is the main caveat identified by Barber and Schluterman (2008): several related constructs are being used interchangeably with the term “connectedness.” This term, “connectedness,” has been used to cover several distinct conceptual and measurement approaches. In their call for conceptual clarity on connectedness, while defending a more unified line of research, Barber and Schluterman (2008) also state the pressing importance of researchers defining very accurately what their use of connectedness is and how they operationalize the construct in their empirical endeavors. These efforts become even more important when researchers intend to compare the differential impact of each domain of connectedness since there must be a coherent measurement approach within all of them.

Controversies

General or Domain-Specific Connectedness?

Theory and research have shown that both a general sense of connectedness to the social world and connectedness to specific domains are relevant to understanding healthy adolescent positive development. Nevertheless, the majority of the most recent studies have opted for examining the

specific domains and analyzing their individual and combined contributions to different outcomes. This path allows a more specific and complex view of the web of connections that link adolescents to their environments; plus, results that can be attributed to different domains are more likely to be translated into policies, facilitating bridges between adolescent research and practice/interventions.

Nature of the Construct of “Connectedness”

Researchers have used the term “connectedness” in various ways. In their critical review, Barber and Schluterman (2008) have identified four distinct ways in which connectedness has been used so far: a measure of the quality of a relationship system, degree of liking an environment or relationship, the possession of feelings or attitude states, and a combination of states and behaviors that precede them. Given that research on connectedness interests researchers embracing different theoretical perspectives, a consensus about which one of these operationalizations should prevail is likely to be difficult to achieve, Barber and Schluterman (2008) suggest that a thorough explanation of the rationale authors adopt should be always included in future research reports.

Locus of Connectedness

When conceptualizing connectedness, the existing literature presents mainly two options: the first focuses on connectedness as the nature, property, or quality of a relationship system (i.e., a dyad such as the parent–child relationship, or a group such as the whole family). An example of the use of this focus would be the item “For my family, spending time together is very important” used by Crespo et al. (2010) in the family connectedness measure of their study. The second locus of connectedness, in contrast, is on the individual and their perceptions of themselves in relation to other persons, groups or institutions. In this case adolescents are asked how much they feel their family understands them and/or cares for them (e.g., Cavanagh 2008; Fulkerson et al. 2007). Two more examples of this focus in different contexts would be “I feel like a real part of my school,” an item from the Psychological Sense of

School Membership scale (Goodenow 1993) and “I feel like I belong in my neighborhood” (Witherspoon et al. 2009). The choice of the locus of connectedness is vital as it has consequences for measurement strategies and interpretation of the findings. Although both approaches fall within the realm of adolescents’ self perceptions of connectedness, the formulation of the questions emphasizes different types of perceptions: one to the group as a whole, the other to the self individually. Measures should adopt a consistent perspective throughout all their items; in addition, if the influence of more than one context is to be compared in the same study, a congruence of locus of connectedness for all the different contexts’ measures should also be privileged (see Barber and Schluterman 2008).

Gaps in Knowledge

Longitudinal Research

Studies examining connectedness or connection over time in adolescence are still scarce. Not much is known about: trajectories of different domains of connectedness across time, the reasons why certain adolescents show similar or dissimilar patterns across time, and how these trajectories are linked to positive (or negative) outcomes. It is likely that, for instance, connectedness and some positive outcomes support each other over time (i.e., feeling connected is linked to being better adjusted, that in turn leads to feeling more connected and so on): published empirical studies have yet to include examination of bidirectional findings between connectedness and other variables, which can only be achieved with a longitudinal research design. The Youth Connectedness Project in New Zealand (Jose et al. [under review](#)), for instance, has found that a general sense of connectedness was predictive of an improved sense of wellbeing 1 year later but not the other way around, i.e., adolescents’ wellbeing did not make them feel more connected 1 year later. On the other hand, when data were examined at the domain level, family connectedness and wellbeing seemed to support each other in a bidirectional relationship.

In addition, very little is known about the factors that predict connectedness over time. Of particular interest would be to examine the transition from childhood to adolescence and identify which factors foster connectedness in different domains.

Longitudinal research will be helpful to disentangle conceptual confusion about antecedents and outcomes of connectedness. This information is crucial in advancing theory development in this field and also to design interventions aiming at fostering connectedness from a developmental perspective.

Interdependence of Multiple Domains of Connectedness

Only recently, researchers have started to include examination of connectedness in multiple contexts in the same study. But simply adding various domains together is not enough: since connectedness to family, school, peers, and communities and neighborhoods are nested contexts, i.e., influence each other, accounting for the possible interdependence or complementarity of these contexts is crucial in composing a more complex and holistic picture of adolescents' lives (Witherspoon et al. 2009).

Theory and research suggest that feeling connected to multiple contexts is likely to provide greater benefits, embodying the idea that "more is better." However, research shows that adolescents differ in the number and strength of their connections to different contexts (Witherspoon et al. 2009); in addition, data from the social capital perspective reveals that the protective role of different sources/contextes may be function-specific in the sense that what is important for one outcome might not be for another. Thus, more than mere additive effects of the different contexts, it is important to study the joint effects of multiple domains. Some studies have already provided evidence that the particular domain and number of contexts matter. Costa et al. (2005) found that protection in one context attenuated the effect of risk in another context on adolescent problem behavior. Witherspoon et al.'s (2009) study of family, school, and neighborhood contexts identified different constellations of connectedness: some adolescents were connected to all three

contexts, some were disconnected from all of them, another group was connected to family and school but not to neighborhood, and another one was connected to neighborhood and school but not to family. In studying the links between these constellations of connectedness and three outcomes (grades, self-esteem, and depression), the authors found a threshold effect in the sense that one connection yielded significantly better results than none. They also noted that benefits beyond two contexts were minimal. Connectedness to multiple contexts was associated with more positive outcomes and, supporting prior research, family and school were found to be the most important contexts. Research advancing Witherspoon's idea of "connecting the dots" of connectedness contexts is, thus, a relevant avenue for future research.

Diversity of Samples: Gender, Age, and Culture

Research so far has found general tendencies for gender, such as adolescent girls feeling less connected to families and more connected to schools when compared to adolescent boys (e.g., Ohannessian et al. 1995; Waters et al. 2001; McNeely et al. 2002). In regards to age, there seems to be a general trend: during adolescence connectedness to multiple domains tends to decrease (Coley et al. 2008; Feldman and Gehring 1988). More needs to be learned about the role of these demographic variables and, specifically, how they moderate the links between connectedness and adolescent outcomes. Connectedness in adolescence, as in other developmental stages, can only gain meaning within a specific local and historical context. However, only a small amount of research has been conducted with adolescents from minority ethnic backgrounds; even less research has examined connectedness cross-culturally (see Costa et al. 2005, for an exception).

Quality of the Contexts to Which Adolescents Are Connected

So far, based on theory and promising research results, authors have assumed that being connected is a positive dynamic leading to positive outcomes. However, to this point, the precise

nature of the domain (context) and target (person, group, or institution) of connectedness has not been taken sufficiently into account. It is possible, for instance, that being connected to a problematic environment (e.g., a gang or a dysfunctional family) might be more harmful than protective (Witherspoon et al. 2009) or might lead to both positive and negative consequences. Future research should examine if adolescents' outcomes are universally positive depending on or regardless of the quality and features of the context to which they are connected. Some inconsistent findings from connections to peers (sometimes found to be protective, other times found to be harmful) could be explained in this new light. The use of qualitative methodology could be particularly useful to address this as well as other research questions: young people's open-ended discourse would be likely to provide in-depth insight about the meanings of connectedness for different groups of adolescents in different contexts.

Summary and Conclusions

This essay has described the construct of social connectedness and its role in adolescent development. Although the topic is of long-standing and enduring interest to many disciplines, recent research has operationalized this construct in new ways and asked some innovative questions concerning how connectedness is involved in adolescents' lives. The set of extant findings strongly suggests that social connectedness confers multiple benefits to adolescents traversing this challenging period of life. Family connectedness, in particular, seems to be the most important of the multiple domains that have been studied thus far.

Several challenges remain. Among them are increasing the sophistication of research methods and statistical treatment of data in order to capture additive, interactive, and complementary relationships among domains; studying connectedness over time with longitudinal designs; identifying precursors and causes of connectedness during the adolescent period; describing how moderators such as ethnicity, age, and gender affect the

connectedness to wellbeing relationship; and characterizing the nature of the target of connectedness sufficiently well in order to disambiguate positive and negative aspects of connectedness. Longitudinal studies of diverse populations that examine multiple connectedness domains with both quantitative and qualitative methods are likely to advance the field in this area.

References

- Anderman, E. M. (2002). School effects on psychological outcomes during adolescence. *Journal of Educational Psychology, 94*, 795–809.
- Barber, B. K., & Olsen, J. A. (1997). Socialization in context: Connection, regulation, and autonomy in the family, school, and neighborhood, and with peers. *Journal of Adolescent Research, 12*, 287–315.
- Barber, B. K., & Schluterman, J. M. (2008). Connectedness in the lives of children and adolescents: A call for greater conceptual clarity. *The Journal of Adolescent Health, 43*, 209–216.
- Barber, B. K., Stolz, H. E., & Olsen, J. A. (2005). Parental support, psychological control, and behavioral control: Assessing relevance across time, method, and culture. *Monographs of the Society for Research in Child Development, 70*.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachment as a fundamental human motivation. *Psychological Bulletin, 117*, 497–529.
- Bond, L., Butler, H., Thomas, L., Carlin, J. B., Glover, S., Bowes, G., et al. (2007). Social and school connectedness in early secondary school as predictors of late teenage substance use, mental health and academic outcomes. *The Journal of Adolescent Health, 40*, 357.e9–357.e18.
- Borowsky, I. W., Ireland, M., & Resnick, M. D. (2001). Adolescent suicide attempts: Risks and protectors. *Pediatrics, 107*, 485–493.
- Bowlby, J. (1979). *The making and breaking of affectional bonds*. London: Tavistock.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.
- Cavanagh, S. E. (2008). Family structure history and adolescent adjustment. *Journal of Family Issues, 29*, 944–980.
- Coley, R., Votruba-Drzal, E., & Schindler, H. (2008). Trajectories of mothers' and fathers' parenting, family process, and adolescent substance use: Reciprocal effects. *Journal of Abnormal Child Psychology, 36*, 613–635.
- Costa, F. M., Jessor, R., Turbin, M. S., Dong, Q., Zhang, H., & Wang, C. (2005). The role of social contexts in adolescence: Context protection and context risk in the

- U.S. and China. *Applied Developmental Science*, 9, 67–85.
- Crespo, C., Kielpikowski, M., Jose, P. E., & Pryor, J. (2010). Relationships between family connectedness and body satisfaction: A longitudinal study of adolescent girls and boys. *Journal of Youth and Adolescence*, 39(12), 1392–1401. <https://doi.org/10.1007/s10964-009-9433-9>.
- Cunningham, E. G., Werner, S. C., & Firth, N. V. (2004). Control beliefs as mediators of school connectedness and coping outcomes in middle adolescence. *Australian Journal of Guidance and Counselling*, 14, 139–150.
- Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11, 227–268.
- Diener, E., & Seligman, M. E. P. (2002). Very happy people. *Psychological Science*, 13, 81–84.
- Feldman, S. S., & Gehring, T. M. (1988). Changing perceptions of family cohesion and power across adolescence. *Child Development*, 59, 1034–1045.
- Fulkerson, J. A., Strauss, J., Neumark-Sztainer, D., Story, M., & Boutelle, K. (2007). Correlates of psychosocial well-being among overweight adolescents: The role of the family. *Journal of Consulting and Clinical Psychology*, 75, 181–186.
- Gavazzi, S. M., & Sabatelli, R. M. (1990). Family system dynamics, the individuation process, and psychosocial development. *Journal of Adolescent Research*, 5, 500–519.
- Goodenow, C. (1993). The psychological sense of school membership among adolescents: Scale development and educational correlates. *Psychology in the Schools*, 30, 79–90.
- Harter, S. (1999). *The construction of the self*. New York: Guilford.
- Harter, S., Waters, P. L., Pettitt, L. M., & Whitesell, N. (1998). Relational self-worth: Differences in perceived worth as a person across interpersonal contexts among adolescents. *Child Development*, 69, 756–766.
- Jose, P. E., Ryan, N., & Pryor, J. (under review). *Does social connectedness lead to a greater sense of well-being in adolescence?* Wellington: Victoria University of Wellington.
- Kaminski, J. W., Puddy, R. W., Hall, D. M., Cashman, S. Y., Crosby, A. E., & Ortega, L. A. (2010). The relative influence of different domains of social connectedness on self-directed violence. *Journal of Youth and Adolescence*, 39(5), 460–473.
- Larsen, B., & Collins, W. A. (2009). Parent-child relationships during adolescence. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology: Contextual influences on adolescent development* (3rd ed., Vol. 2, pp. 3–42). New York: Wiley.
- Lee, R. M., & Robbins, S. B. (1995). Measuring belongingness: The Social Connectedness and Social Assurance scales. *Journal of Counseling Psychology*, 42, 232–241.
- Lee, R. M., & Robbins, S. B. (1998). The relationship between social connectedness and anxiety, self-esteem, and social identity. *Journal of Counseling Psychology*, 45, 338–345.
- Lee, R. M., Draper, M., & Lee, S. (2001). Social connectedness, dysfunctional interpersonal behaviors, and psychological distress: Testing a mediator model. *Journal of Counseling Psychology*, 48, 310–318.
- Lerner, R. M., Lerner, J. V., Almerigi, J., Theokas, C., Phelps, E., Naudeau, S., et al. (2006). Toward a new vision and vocabulary about adolescence: Theoretical and empirical bases of a “positive youth development” perspective. In L. Balter & C. S. Tamis-LeMonda (Eds.), *Child psychology: A handbook of contemporary issues* (pp. 445–469). New York: Psychology Press/Taylor & Francis.
- Lyubomirsky, S., King, L. A., & Diener, E. (2005). The benefits of frequent positive affect. *Psychological Bulletin*, 131, 803–855.
- Markham, C. M., Lormand, D., Gloppen, K. M., Peskin, M. F., Flores, B., Low, B., et al. (2010). Connectedness as a predictor of sexual and reproductive health outcomes for youth. *The Journal of Adolescent Health*, 46, S23–S41.
- McGraw, K., Moore, S., Fuller, A., & Bates, G. (2008). Family, peer, and school connectedness in final year secondary school students. *Australian Psychologist*, 43, 27–37.
- McNeely, C., Nonnemaker, J., & Blum, R. (2002). Promoting school connection: Evidence from the National Longitudinal Study of Adolescent Health. *The Journal of School Health*, 72, 138–146.
- Neff, K. N., & Harter, S. (2003). Relationships styles of self-focused autonomy, other-focused connectedness, and mutuality across multiple relationship contexts. *Journal of Social and Personal Relationships*, 20, 81–99.
- Ohannessian, C. M., Lerner, R. M., Lerner, J. V., & von Eye, A. (1995). Discrepancies in adolescents’ and parents’ perceptions of family functioning and adolescent emotional adjustment. *Journal of Early Adolescence*, 15, 167–192.
- Resnick, M. D., Harris, L. J., & Blum, R. W. (1993). The impact of caring and connectedness on adolescent health and well-being. *Journal of Paediatrics and Child Health*, 29, S3–S9.
- Resnick, M. D., Bearman, P. S., Blum, R. W., Bauman, K. E., Harris, K. M., Jones, J., et al. (1997). Protecting adolescents from harm: Findings from the National Longitudinal Study on Adolescent Health. *Journal of the American Medical Association*, 278, 823–832.
- Rice, M., Kang, D.-H., Weaver, M., & Howell, C. C. (2008). Relationship of anger, stress, and coping with school connectedness in fourth-grade children. *The Journal of School Health*, 78, 149–156.
- Townsend, K. C., & McWhirther, B. T. (2005). Connectedness: A review of the literature with implications for counselling, assessment, and research. *Journal of Counseling & Development*, 83, 191–201.

- Valkenburg, P. M., & Peter, J. (2009). Social consequences of the internet for adolescents: A decade of research. *Current Directions in Psychological Science, 18*, 1–5.
- Waters, E. B., Salmon, L. A., Wake, M., Wright, M., & Hesketh, K. D. (2001). The health and well-being of adolescents: A school-based population study of the self-report Child Health Questionnaire. *The Journal of Adolescent Health, 29*, 140–149.
- Williams, K. L., & Galliher, R. V. (2006). Predicting depression and self-esteem from social connectedness, support, and competence. *Journal of Social and Clinical Psychology, 25*, 855–874.
- Witherspoon, D., Schotland, M., Way, N., & Hughes, D. (2009). Connecting the dots: How connectedness to multiple contexts influences the psychological and academic adjustment of urban youth. *Applied Developmental Science, 13*, 199–216.
- You, S., Furlong, M. J., Felix, E. D., Sharkey, J. D., Tanigawa, D., & Green, J. G. (2008). Relations among school connectedness, hope, life satisfaction and bullying victimization. *Psychology in the Schools, 45*, 446–460.

Social Control Theory

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One of the major theoretical and empirical developments in developmental criminology (among other related fields) has been the formulation and testing of a life-course theory of informal social control. This approach to understanding why individuals commit crime or other types of problem behavior emphasizes informal vis-à-vis formal social control. The latter form of control focuses on state sanctions as incarceration, policing, surveillance, and other ways a government can enforce conformity. Informal social control theories complement the formal, state control as it emphasizes social bonds between an individual and society and, in brief, suggests that individuals engage in problem behaviors when those bonds are either weak or broken (Hirschi 1969; Sampson and Laub 1993).

The most widely examined conceptualization of informal social control theories is Hirschi's (1969). Hirschi's social control theory states that

strong social bonds to conventional social institutions inhibit delinquency and criminal offending. Rather than question why individuals deviate from social norms, social control theory focuses on why individuals conform. At the core of social control theory is the socialization process and the internalization of dominant (traditional) social norms. This approach to understanding social control focuses on key factors, most notably including attachment, commitment, involvement, and belief. During adolescence, the element of attachment represents a child's close bonds to parents and other important individuals, peers, and school. Commitment represents investment and conviction to conventional values and norms. In other words, "commitment" is one's stake in conformity signified by the amount of potential loss if the law is violated (e.g., reputation, career). Involvement is an indicator of one's interaction and time spent in conventional activities that reinforce prosocial norms (e.g., religion, community, sports). The final element of belief refers to an individual's acceptance of the common conventional value system and is premised on the notion that one is more likely to conform to social norms that one believes in. These factors, and the theory in general, have played an important role in shaping developmental theorists', especially criminologists', understandings of criminal behavior as they argued that the changing features of social bonds might explain desistance from crime (Bushway et al. 2001) and the course of criminal careers (Laub and Sampson 2003) throughout the life course.

Much research does support social control theory's postulations. Strong social bonds do appear to reduce deviant involvement by reducing associations with deviant peers and decreasing susceptibility to negative peers influence (Erickson et al. 2000). Parental attachment and the parent-child relationship appears to be one of the most salient areas in regard to delinquency and parental monitoring is one of the most important dimensions, although the internalization of conventional parental values is also important (Miller et al. 1999). Involvement is thought to reduce delinquency by providing adolescents

with motivation for conformity, reducing free time and creating opportunities for attachments to peers and adults (Osgood et al. 1996). But, overly high levels of participation in activities may increase the risk of serious delinquency and risky behavior for young men (Booth et al. 2008). The focus on peers helps to highlight the point that the theory focuses on bonding to groups that follow traditional (dominant) norms; one of the most robust findings in this area is the high association between friends' levels of delinquency (as highlighted by adolescent friendship networks, see Haynie 2001).

Most research on social control theory as it relates to adolescents has involved only males, which makes applicability of social control theory to females not entirely clear. Attachment and commitment to parents, school and peers are associated with reduced delinquency and deviant involvement for both boys and girls (Dornbusch et al. 2001; Laundra et al. 2002). However, emotional bonds and parental attachment have a larger impact on young female delinquency (Heimer and DeCoster 1999; Huebner and Betts 2002). Attachment to parents appears more important to females (Laundra et al. 2002), and attachment has been found to directly affect substance use for females but not for males (Erickson et al. 2000). Family support appears to be more influential for adolescent females than males for minor delinquency (Mason and Windle 2002) and in the case of violent crime, attachment to parents is a significantly stronger predictor for female than males (Alarid et al. 2000); but some studies have found the converse to be true when dealing with levels of serious delinquency (Booth et al. 2008). Generally, male deviance, on the other hand, appears to be more affected by the actions of friends (Erickson et al. 2000).

Research on social control factors has tended to be narrow, even though it is one of the most-studied aspects of criminological theory. Until quite recently, this area of research has tended to focus on less serious types of delinquency; it also has not focused as much on diverse adolescent populations. But, the theory does appear useful in understanding other important domains of research relating to adolescent development,

such academic achievement (Huebner and Betts 2002), especially as those domains relate to delinquency and other types of problem behaviors.

Cross-References

► Delinquency

References

- Alarid, L. F., Burton, V. S., Jr., & Cullen, F. T. (2000). Gender and crime among felony offenders: Assessing the generality of social control and differential association theories. *Journal of Research in Crime and Delinquency*, 37, 171–199.
- Booth, J., Farrell, A., & Varano, S. (2008). Social control, serious delinquency, and risky behavior: A gendered analysis. *Crime & Delinquency*, 54, 423–456.
- Bushway, S. D., Piquero, A. R., Broidy, L. M., Cauffman, E., & Mazerolle, P. (2001). An empirical framework for studying desistance as a process. *Criminology*, 39, 491–515.
- Dornbusch, S. M., Erickson, K. G., Laird, J., & Wong, C. A. (2001). The relation of family and school attachment to adolescent deviance in diverse groups and communities. *Journal of Adolescent Research*, 16, 396–422.
- Erickson, K. G., Crosnoe, R., & Dornbusch, S. M. (2000). A social process model of adolescent deviance: Combining social control and differential association perspectives. *Journal of Youth and Adolescence*, 29, 395–425.
- Haynie, D. L. (2001). Delinquent peers revisited: Does network structure matter? *American Journal of Sociology*, 106, 1013–1057.
- Heimer, K., & DeCoster, S. (1999). The gendering of violent delinquency. *Criminology*, 37, 277–317.
- Hirschi, T. (1969). *Causes of delinquency*. Berkeley: University of California Press.
- Huebner, A. J., & Betts, S. C. (2002). Exploring the utility of social control theory for youth development. *Youth and Society*, 34, 123–145.
- Laub, J. H., & Sampson, R. J. (2003). *Shared beginnings, divergent lives: Delinquent boys to age 70*. Cambridge, MA: Harvard University Press.
- Laundra, K. H., Kiger, G., & Bahr, S. J. (2002). A social development model of serious delinquency: Examining gender differences. *Journal of Primary Prevention*, 22, 389–407.
- Mason, W. A., & Windle, M. (2002). Gender, self-control, and informal social control in adolescence: A test of three models of the continuity of delinquent behavior. *Youth and Society*, 33, 479–514.
- Miller, M. H., Esbensen, F., & Freng, A. (1999). Parental attachment, parental supervision and adolescent

deviance in intact and non-intact families. *Journal of Crime and Justice*, 22, 1–29.

Osgood, D. W., Wilson, J. K., O'Malley, P. M., Bachman, J. G., & Johnston, L. D. (1996). Routine activities and individual deviant behavior. *American Sociological Review*, 61, 635–655.

Sampson, R. J., & Laub, J. H. (1993). *Crime in the making: Pathways and turning points through Life*. Cambridge, MA: Harvard University Press.

may be impacted by social disorganization at the neighborhood level.

Social Disorganization Theory and Adolescent Social Development: A Conceptual Model

According to social disorganization theory, neighborhoods characterized by high levels of poverty, single parent households, racial and ethnic heterogeneity, and residential mobility are likely to have higher rates of juvenile delinquency (Bursik and Grasmick 1993; Elliott et al. 1996; Sampson 1997; Shaw and McKay 1942). Since the early 1990s, studies have attempted to explain the social processes or mechanisms through which the neighborhood impacts adolescent development and problem behavior. Reviews of this research reveal two complementary types of neighborhood social processes that fit within the framework of social disorganization theory: (1) social processes generated by formal and informal networks of association and (2) informal social control or collective efficacy (Leventhal and Brooks-Gunn 2003; Sampson et al. 2002). This research suggests that disorganized neighborhoods are more likely to have weak social networks and low levels of collective efficacy or informal social controls. Neighborhoods may also vary according to the opportunities they provide youth for achieving delinquent or conventional goals (Cloward and Ohlin 1960; De Coster et al. 2006; Haynie et al. 2006). Socially disorganized neighborhoods are likely to have a greater presence of delinquent opportunity structures and an absence of conventional opportunity structures.

The integrated perspective on adolescent problem behavior developed by Elliott et al. (1979) provides a framework for understanding how socially disorganized neighborhoods may affect adolescent development. According to the integrated perspective, limited opportunities, failure to achieve valued goals, negative labeling experiences, and social disorganization at home and in the community are all experiences that weaken bonds to the conventional social order. However, this condition alone does not necessarily lead to

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Overview

Adolescent development takes place within a set of embedded contexts that include both micro- and macro-level systems and their interaction. The social context of individual interactions and experiences determines the degree to which individuals can develop their abilities and realize their potential (Bronfenbrenner 1979). Childhood and adolescence are the periods in which individuals accumulate various developmental assets that shape the content of their later life. Healthy adolescent development requires that the social context provide opportunities to fulfill physical, intellectual, psychological, and social developmental needs. Unfortunately, for many adolescents, the social context in which they are embedded fails to provide the supports that are essential for their healthy growth and development. Socially disorganized neighborhoods, which are characterized by social and economic disadvantage, offer few of the resources that normally help youth to develop the physical, cognitive, social, and emotional competencies required to engage fully in family and society. Youth growing up in these environments are at risk for a variety of problem behaviors including delinquency and drug use (Coulton et al. 1995; Sampson 1992). This essay highlights the mechanisms by which adolescent social development

adolescent problem behavior. The actual performance of problem behavior is likely to depend on social reinforcement through a learning structure involving a peer group which models and positively rewards antisocial or delinquent behavior. Therefore, involvement and bonding with a delinquent or antisocial peer group increases the likelihood of sustained problem behavior. Whether or not an adolescent bonds to a delinquent peer group is likely to depend on the strength of his or her prior bonds to conventional norms and groups such as the family and school.

Building on the integrated perspective, the social development model (Hawkins 1996) offers a more in-depth explanation of the social bonding process. The process of social bonding requires the following four factors: (1) perceived opportunities for involvement in activities and interactions with others, (2) a high degree of involvement or interaction with others, (3) possessing the skills to participate in these involvements or interactions, and (4) reinforcement perceived as a consequence of performance in activities and interactions. Therefore, the social bond consists of attachment to others in the social unit, commitment to, or investment in, lines of action consistent with the socializing unit, and belief in the values of the socializing unit (Hirschi 1969). Once developed, the bond has the power to independently influence behavior by creating informal controls on antisocial and promotion and support for conventional behavior. For example, adolescents who are bonded to those who hold healthy beliefs do not want to threaten the bond by behaving in ways that would jeopardize their relationships and are rewarded for health-promoting behavior or action. It is important to note that an individual's behavior may be prosocial or antisocial depending on the predominant norms, values, and behaviors held by those to whom the individual is bonded.

Socially disorganized neighborhoods are likely to lack the prosocial networks, institutional resources, social supports, and informal social controls that are essential for healthy youth development. Consequently, youth growing up in such neighborhoods may develop weakened social bonds to conventional society (Elliott et al.

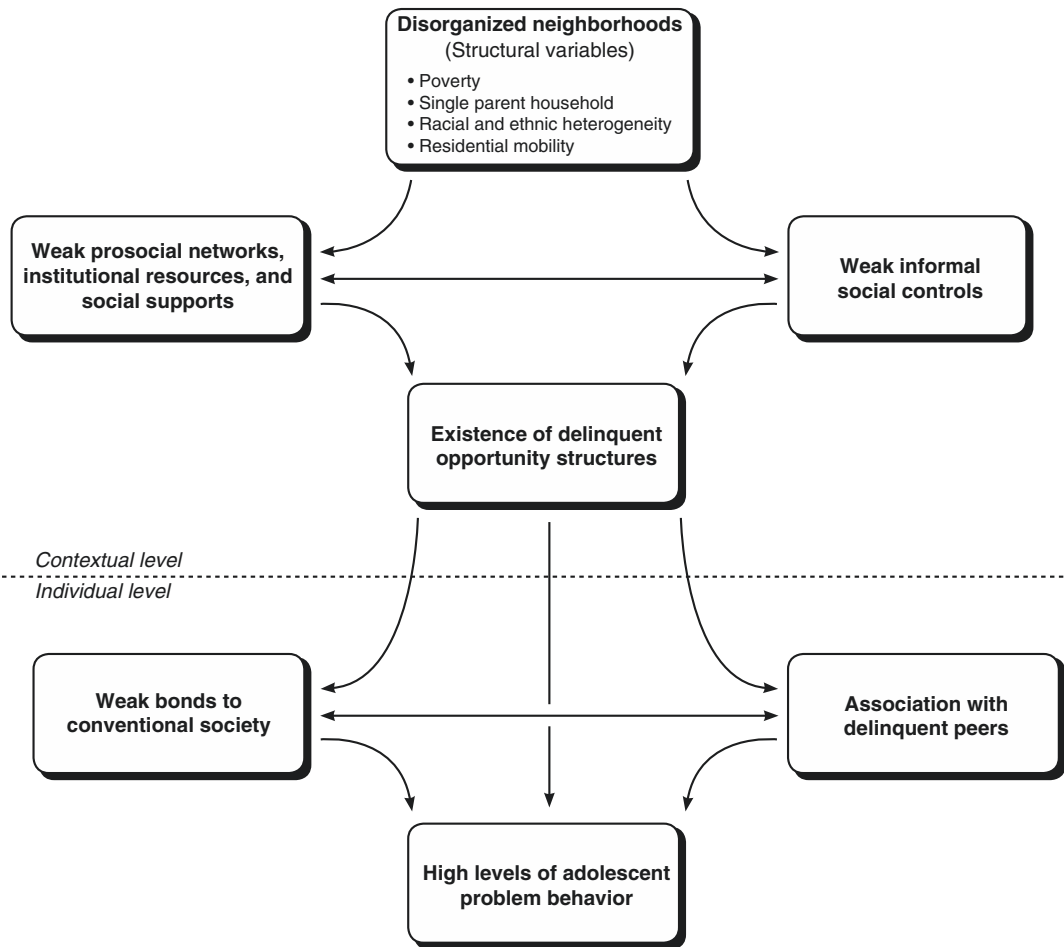
1979, 2006; Hawkins 1996). Likewise, socially disorganized neighborhoods with low levels of informal social controls may foster the existence of delinquent opportunity structures, while offering few conventional opportunity structures. For youth with weak bonds to conventional society, the social reinforcement provided by the delinquent peer group increases the likelihood of sustained problem behavior (see Fig. 1 for a visual representation of the conceptual model).

The following text describes the key areas by which the social context of disorganized neighborhoods may impede healthy adolescent social development. These include (1) the availability of educational, recreational and health resources and supports, (2) normative structure, (3) parenting behaviors, and (4) exposure to delinquent opportunity structures. Since each developmental stage is impacted by earlier histories, it is important to recognize that adolescents with long-term exposure to neighborhood disadvantage and social disorganization are likely to have worse developmental outcomes.

Differential Exposure to Educational, Recreational, and Health Resources and Supports

During adolescence, youth experience increased direct contact with their neighborhood through involvement in school, youth-serving organizations, and informal neighborhood groups. For young people, the physical features of their neighborhood form the boundaries of their social universe. Youth need their community to provide ongoing opportunities to learn and practice essential skills to be successful in school and life. Unfortunately, high poverty, socially disorganized neighborhoods provide few public resources that support the educational, recreational, and health needs of youth residing in these communities (Kingston et al. 2009; Wilson 1987). For instance, the poorest health services are often found in lower-income, minority, and transient areas (Bronfenbrenner et al. 1984; O'loughlin et al. 1999). Typically, impoverished neighborhoods also lack the presence of safe parks, recreation

Conceptual Model of Neighborhood Social Disorganization on Adolescent Problem Behavior



Social Disorganization Theory, Fig. 1 Conceptual model of neighborhood social disorganization and adolescent problem behavior

centers, educational programs, and museums that promote academic success, physical health, and socio-emotional well-being (Leventhal and Brooks-Gunn 2003). Youth residing in more affluent neighborhoods have opportunities that many impoverished youth lack, such as high-quality after-school programs and summer programs, music lessons, sports training, home computers, and special tutoring (Terzian et al. 2009; Williams and Kornblum 1985). Unequal exposure to these opportunities is especially problematic during the summer months when school is not in session. Research shows that approximately two-third of the ninth grade achievement gap between lower

and higher income youth can be explained by unequal access to summer learning opportunities during the elementary school years. This may impact their long-term developmental trajectory as low-income youth are less likely to graduate high school or enter college (Alexander et al. 2007).

The resources available in the neighborhood also impact the quality of schooling, the main formal institution responsible for the educational and social development of children. Schools in wealthy areas are more likely to have the resources to provide high-quality education that will increase students' interests in academic pursuits and impact their chances of future success. In

contrast, schools in impoverished neighborhoods are likely to impart a lower quality of education due to their limited resources. These schools are rundown, overcrowded, lack teaching supplies and textbooks, and employ less qualified teachers than more affluent neighborhood schools (Kozol 1991).

There is some evidence that the types of contact and quality of interactions with teachers and other influential adults are less supportive for children residing in impoverished neighborhoods, compared with their more affluent counterparts. For example, considerable research demonstrates that parental involvement increases the effectiveness of schools (Epstein 1987). However, in disorganized neighborhoods characterized by a high number of single parent households, parents may have little time to devote to involvement in their children's schooling. In addition, teachers of poor students are more likely to perceive the school and classroom climate less positively and provide children with fewer learning opportunities and less positive attention (Alexander et al. 1987). As a result of these differential expectations and their accompanying actions, differences in academic achievement between poor and nonpoor children may emerge or become greater (Alexander et al. 1987; Gouldner 1978).

Youth residing in socially disorganized neighborhoods with limited educational, recreational, and health resources and supports are likely to experience impediments to developing strong social bonds with conventional society. Due to their lack of resources and social supports, disorganized neighborhoods provide few opportunities for prosocial involvement, interaction, skill building, and positive reinforcement of behavior. The next section explains how the normative structure of disorganized neighborhoods may also weaken adolescents' social bonds to conventional society.

The Neighborhood Normative Structure and Adolescent Perceptions of Limited Opportunities for Their Future

The normative structures and social relationships that exist within socially disorganized

neighborhoods are unlikely to consistently model prosocial behaviors or support the avoidance of antisocial behaviors. Effective regulation of adolescent behavior requires shared expectations and standards for judging acceptable and unacceptable behavior, as well as mechanisms for rewarding and punishing that behavior. When strong social networks promoting prosocial values exist within a community, youth are provided consistent messages from their parents, teachers, neighbors, and peers regarding appropriate and inappropriate behavior. The structural characteristics of socially disorganized neighborhoods (e.g., poverty, single parent households, racial and ethnic heterogeneity, and residential mobility) hinder communication and decrease the likelihood that residents will share common values. In addition, neighborhoods with a high percentage of single parent households may have fewer adults physically available to provide surveillance for the behavior of their children or other youth in the neighborhood. The lack of adult supervision and conflicting value structures that tend to characterize socially disorganized communities may inhibit normative consensus regarding prosocial values. As a result, youth residing in these neighborhoods may not receive clear and consistent messages concerning what is acceptable or unacceptable behavior.

In addition, the social isolation fostered by urban poverty deprives youth of cultural learning from mainstream social networks (Wilson 1991). Since many adults residing within impoverished neighborhoods have inadequate education and menial employment at best, they may provide poor role models for achieving success through the conventional means of education and work. Youth residing in these areas are often uninformed about how to access potential jobs or educational supports that could provide them with the personal competencies essential for a successful transition to adulthood. Rather than acting as role models for conventional success, adults may promote or model dropping out of school, dealing drugs and petty theft, and a lifestyle of instant gratification.

Adolescents growing up in poverty may recognize the limitations of their circumstances and

have little hope for their future. For example, recent research shows youths' perceptions of limited opportunities for their future predicted higher rates of neighborhood-level property offending (Kingston et al. 2009). The fact that youth living in these environments cognitively understand that their schools and communities are grossly inadequate and that the adult role models in their lives have minimal education and are often unemployed may erode their sense of self-efficacy and hope for the future. As youth from these neighborhoods think about their future options, they can assess the limited likelihood of attaining success through legitimate means such as by going to college or by getting a good job. Research on self-efficacy demonstrates that an individual's beliefs about his or her future success affect behavior (Henderson and Dweck 1990; Skinner 1995). Thus, youth residing in impoverished environments, who feel hopeless about their future, may act in ways that are counterproductive to their healthy development (e.g., engaging in delinquent behavior, abusing illegal substances, and dropping out of school).

Social Disorganization and Parenting Practices

Social disorganization and economic disadvantage may impact an adolescent's prosocial bonds through the quality of parenting practices. While adolescents need parents that provide emotional closeness, positive reinforcement, structure, and predictability, poverty and economic stress may increase parents' tendencies to use coercive discipline, erratically monitor their children's behavior, and ignore their children's dependency needs (Conger et al. 1992; Larzelere and Patterson 1990; McLeod and Shanahan 1993). Simons et al. (1997) found that living in a socially disorganized neighborhood caused parents to focus on the present and to lack planning and organizational skills, which decreased their ability to be effective parents. In addition, parents who are poor are less likely to have formal education or exposure to various sources of

information that would increase their knowledge of the emotional needs of children (Mechanic and Hansell 1987). It is hypothesized that parenting behaviors are negatively influenced by the accumulation of damaging life events and conditions that affect adults living in poverty. Parents may be frustrated from the daily stress of their lives and not have sufficient time or energy to meet the needs of their children. Depressed and overwhelmed parents, with their own needs unmet, are unlikely to provide a family environment that supplies the emotional closeness and positive reinforcement that adolescents need (Halpern 1990).

In an attempt to protect their children from the crime and violence that often plagues disorganized neighborhoods, even the best parents may overly restrict their child's activities and interactions in ways that are detrimental to healthy development (Garbarino 1992). For example, some parents may not allow their children to hang out with friends or travel freely within the neighborhood. While this may keep them safe, it also inhibits their involvement with potentially supportive neighbors and institutions in the neighborhood (Brodsky 1996; Furstenberg 1993). During adolescence, when youth have a developmental need to build social relationships with individuals outside the family, restrictive parents increase the chances of parent-adolescent conflict. Although overly restrictive parents and rebellious youth exist in all neighborhoods, the consequences of the rebellion may be far more detrimental for youth residing in disorganized neighborhoods. For example, in affluent neighborhoods, teenage rebellion may involve experimentation with drugs or minor crime; however, in these communities prosocial supports exist that help prevent these behaviors from becoming a permanent lifestyle. While teenage rebellion in disadvantaged neighborhoods may involve similar types of illegal behaviors, there are few social supports or opportunities in these neighborhoods to preclude these behaviors from becoming a permanent part of the individual's way of life. Thus, teenage rebellion in disorganized neighborhoods may have irrevocable damaging consequences for future adulthood.

Social Disorganization and Delinquent Opportunity Structures

During adolescence, it is a natural developmental tendency for youth to spend greater amounts of time with their peers and to be more concerned about peer acceptance. Peer groups become more structured and organized than they were during earlier developmental periods. Due to the intensification of these peer relationships, the potential for peer influence increases. This influence may be positive or negative, depending on the norms, values, and behaviors exhibited by those peers (Elliott et al. 1985). Ideally, for healthy development, youth are involved with prosocial peers and engage in activities that promote prosocial norms and behaviors. Since the search for a peer group takes place within the context of the meaningful groups available for identification, choosing to join a peer group depends on what groups are available in their neighborhood. Disorganized neighborhoods that lack the resources to effectively monitor children and provide few sanctions for inappropriate behavior are likely to have a high number of delinquent peer groups available to youth (Cloward and Ohlin 1960; Rankin and Quane 2002; Sampson 1997; Sampson and Groves 1989). Recent studies support this claim by revealing that neighborhood disadvantage influences delinquency by increasing exposure to criminogenic street context (De Coster et al. 2006) and opportunities for involvement with delinquent peer groups (Haynie et al. 2006). Some of the negative influences that may be modeled by the delinquent peer group include substance abuse, early sexual activity, gang membership, and violence. Youth with preexisting weak bonds to family, school, and prosocial norms and activities are most susceptible to recruitment by delinquent peer groups (Elliott et al. 1979). Because social disorganization puts youth at a greater risk for developing weak bonds to conventional society, and delinquent opportunity structures are often available in such neighborhoods, there is an increased likelihood that youth in these circumstances will bond to a delinquent peer group and become involved in delinquent and problem behavior

patterns (Cloward and Ohlin 1960; Elliott et al. 1979).

Adolescent Social Development and Cumulative Disadvantage

Since successful adaptation at each stage of youth development is influenced by earlier developmental histories, long-term exposure to disadvantage and neighborhood social disorganization typically results in worse developmental outcomes for youth (Duncan et al. 1994; Korenman et al. 1995; Pagani et al. 1997; Simons et al. 1997). High-risk contexts such as poverty, chronic stress, and child maltreatment may have lasting effects when they damage or impair crucial adaptive systems such as adult-child attachment, intelligence, and self-regulation of emotions and behavior (Masten and Coatsworth 1998). For example, persistent poverty has more adverse effects than transitory poverty on children's cognitive development and school achievement (Duncan et al. 1994; Korenman et al. 1995; Pagani et al. 1997; Smith et al. 1997). Youth living in disadvantaged conditions for long periods of time experience more negative life events and adverse circumstances that may place demands on their coping resources that are well beyond what they can handle. As a result, exposure to chronic adversity exacts a toll on their mental, physical, and emotional health. This may trigger a cycle of lifelong deficiencies that encompass many contexts of their lives. According to Masten and Coatsworth (1998:216), "Children who enter school with few resources, cognitive difficulties, and self-regulatory problems often have academic problems, get into trouble with teachers, are more likely to be rejected by peers, and are at risk for disengaging from normative school and peer contexts, which sets them up for considerable difficulties." Since many social problems are significantly clustered and correlated with concentrated poverty and neighborhood social disorganization (Coulton et al. 1995; Sampson 1992), long-term developmental problems are expected to be much more frequent for adolescents who endure lifelong exposure to impoverished social environments.

Conclusion

Adolescent development occurs through reciprocal interactions between individuals and their social context. Therefore, youth depend on social institutions including their families, neighborhoods, and schools to support their development. Throughout childhood and adolescence, youth are involved in experiences and processes, which attenuate or reinforce their bonds to the conventional social order. Socially disorganized neighborhoods, with their lack of educational, health, and recreational resources and weak social supports and informal social controls, hinder the formation of strong prosocial bonds in adolescents. Additionally, disorganized neighborhoods, with limited prosocial opportunities and low levels of social control, may foster the existence of delinquent opportunity structures. For youth with weak bonds to conventional society, the social reinforcement provided by the delinquent peer group increases the likelihood of sustained problem behavior. Furthermore, adolescents with long-term exposure to neighborhood disadvantage and social disorganization are likely to have worse developmental outcomes.

Fortunately, by understanding the mechanisms through which neighborhood social disorganization may impact adolescent development, it becomes possible to invest in neighborhood interventions that provide prosocial opportunities and supports to strengthen bonds to conventional society. Effectively addressing the issue of cumulative disadvantage requires that these interventions begin with early childhood health and education (Heckman 2000) and continue to provide educational and social supports throughout adolescence. Key areas of intervention may include implementing programs such as the Nurse Family Partnership program, which improves children's health and development and increases their level of school readiness (Eckenrode et al. 2010), quality summer and after-school programs that inspire learning and introduce youth to opportunities outside of their neighborhoods, and matching youth with successful adult role models (American Youth Policy Forum 2006). Targeting such

comprehensive interventions to geographic areas of high need may reduce the negative impacts of social disorganization on adolescent development.

Cross-References

► [Delinquency](#)

References

- Alexander, K., Entwisle, D., & Thompson, M. (1987). School performance, status relations, and the structure of sentiment: Bring the teacher back in. *American Sociological Review*, *52*, 665–682.
- Alexander, K., Entwisle, D., & Olson, L. (2007). Lasting consequences of the summer learning gap. *American Sociological Review*, *72*, 167–180.
- American Youth Policy Forum. (2006). *Helping youth succeed through out-of-school time programs*. Washington, DC: American Youth Policy Forum.
- Brodsky, A. E. (1996). Resilient single mothers in risky neighborhoods: Negative psychological sense of community. *Journal of Community Psychology*, *24*, 347–363.
- Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge: Harvard University Press.
- Bronfenbrenner, U., Moen, P., & Garbarino, J. (1984). Child, family, and community. In R. Parke (Ed.), *Review of child development research, The family* (Vol. 7, pp. 283–328). Chicago: University of Chicago Press.
- Bursik, R. J., Jr., & Grasmick, H. G. (1993). *Neighborhoods and crime*. New York: Lexington Books.
- Cloward, R., & Ohlin, L. (1960). *Delinquency and opportunity*. New York: Free Press.
- Conger, R. D., Conger, K. J., Elder, G. H., Lorenz, F. D., Simons, R. L., & Whitebeck, L. B. (1992). A family process model of economic hardship and adjustment of early adolescent boys. *Child Development*, *63*, 526–541.
- Coulton, C. J., Korbin, J., Su, M., & Chow, J. (1995). Community level factors and child maltreatment rates. *Child Development*, *66*, 1262–1276.
- De Coster, S., Heimer, K., & Wittrock, S. M. (2006). Neighborhood disadvantage, social capital, street context, and youth violence. *The Sociological Quarterly*, *47*, 723–753.
- Duncan, G., Brooks-Gunn, J., & Klebanov, P. (1994). Economic deprivation and early childhood development. *Child Development*, *65*, 296–318.
- Eckenrode, J., Campa, M., Luckey, D. W., Henderson, C. R., Cole, R., Kitzman, H., et al. (2010). Long-term effects of prenatal and infancy nurse home visitation

- program on the life course of youths 19-year follow-up of a randomized trial. *Archives of Pediatric and Adolescent Medicine*, 164, 9–15.
- Elliott, D. S., Ageton, S. S., & Canter, R. J. (1979). An integrated theoretical perspective on delinquent behavior. *Journal of Research in Crime and Delinquency*, 16, 3–27.
- Elliott, D. S., Huizinga, D., & Ageton, S. S. (1985). *Explaining delinquency and drug use*. Newbury Park: Sage.
- Elliott, D. S., Wilson, W. J., Huizinga, D., Sampson, R. J., Elliott, A., & Rankin, B. (1996). The effects of neighborhood disadvantage on adolescent development. *Journal of Research in Crime and Delinquency*, 33(4), 389–426.
- Elliott, D. S., Menard, S., Rankin, B., & Elliott, A. (2006). *Good kids from bad neighborhoods: Successful development in social context*. New York: Cambridge University Press.
- Epstein, J. L. (1987). Parent involvement: What research says to administrators. *Education and Urban Society*, 19, 119–136.
- Furstenberg, F. (1993). How families manage risk and opportunity in dangerous neighborhoods. In W. J. Wilson (Ed.), *Sociology and the public agenda*. Newbury Park: Sage Publications.
- Gabarino, J. (1992). *Children in danger*. CA: Jasey-Bass Publishers.
- Gouldner, H. (1978). *Teachers' pets, troublemakers, and nobodies: Black children in elementary school*. Westport: Greenwood Press.
- Halpern, R. (1990). Poverty and early childhood parenting: Toward a framework for intervention. *American Journal of Orthopsychiatry*, 60(1), 6–18.
- Hawkins, J. D. (1996). *Delinquency and crime*. New York: Cambridge University Press.
- Haynie, D. L., Silver, E., & Teasdale, B. (2006). Neighborhood characteristics, peer networks and adolescent violence. *Journal of Quantitative Criminology*, 22, 147–169.
- Heckman, J. J. (2000). *The productivity argument for investing in the very young*. Chicago: Ounce of Prevention Fund and the University of Chicago Harris School of Public Policy.
- Henderson, V. L., & Dweck, C. S. (1990). Motivation and achievement. In S. S. Feldman & G. R. Elliott (Eds.), *At the threshold: The developing adolescent* (pp. 308–329). Cambridge: Harvard University Press.
- Hirschi, T. (1969). *Causes of delinquency*. Berkeley: University of California Press.
- Kingston, B., Huizinga, D., & Elliott, D. (2009). A test of social disorganization theory in high-risk urban neighborhoods. *Youth and Society*, 41, 53–79.
- Korenman, S., Miller, J., & Sjaastad, J. (1995). Long-term poverty and child development in the United States: Results from the NLSY. *Children and Youth Services Review*, 17, 127–155.
- Kozol, J. (1991). *Savage inequalities*. New York: Harper Collins.
- Larzelere, R. E., & Patterson, G. R. (1990). Parental management: Mediator of the effect of socioeconomic status on early delinquency. *Criminology*, 28, 301–324.
- Leventhal, T., & Brooks-Gunn, J. (2003). Children and youth in neighborhood contexts. *Current Directions in Psychological Science*, 12(1), 27–31.
- Masten, A., & Coatsworth, J. D. (1998). The development of competence in favorable and unfavorable environments: Lessons from research on successful children. *The American Psychologist*, 53(2), 205–220.
- McLeod, J., & Shanahan, M. (1993). Poverty, parenting, and children's mental health. *American Sociological Review*, 58, 358–366.
- Mechanic, D., & Hansell, S. (1987). Adolescent competence, psychological well-being, and self-assessed physical health. *Journal of Health and Social Behavior*, 28, 364–374.
- O'loughlin, J. L., Paradis, G., Gray-Donald, K., & Renaud, L. (1999). The impact of a community-based heart disease prevention program in a low-income, inner city neighborhood. *American Journal of Public Health*, 89, 1819–1826.
- Pagani, L., Boulerice, B., & Tremblay, R. (1997). The influence of poverty on children's classroom placement and behavior problems. In G. Duncan & J. Brooks-Gunn (Eds.), *Consequences of growing up poor* (pp. 311–339). New York: Russell Sage.
- Rankin, B. H., & Quane, J. M. (2002). Social contexts and urban adolescent outcomes: The interrelated effects of neighborhoods, families, and peers on African-American youth. *Social Problems*, 49(1), 79–100.
- Sampson, R. J. (1992). Family management and child development. In J. McCord (Ed.), *Facts, frameworks, and forecasts: Advances in criminological theory* (Vol. 3, pp. 63–93). New Brunswick: Transaction Publishers.
- Sampson, R. J. (1997). Collective regulation of adolescent misbehavior: Validation results from eighty Chicago neighborhoods. *Journal of Adolescent Research*, 12(2), 227–244.
- Sampson, R. J., & Groves, W. B. (1989). Community structure and crime: Testing social disorganization theory. *The American Journal of Sociology*, 94, 774–802.
- Sampson, R. J., Morenoff, J. D., & Gannon-Rowley, T. (2002). Assessing “neighborhood effects”: Social processes and new directions in research. *Annual Review of Sociology*, 28, 444–478.
- Shaw, C. R., & McKay, H. D. (1942). *Juvenile delinquency and urban areas*. Chicago: University of Chicago Press.
- Simons, R. L., Johnson, C., Conger, R. D., & Lorenz, F. O. (1997). Linking community context to quality parenting: A study of rural families. *Rural Sociology*, 62(2), 207–230.
- Skinner, E. A. (1995). *Perceived control, motivation, and coping*. Thousand Oaks: Sage.
- Smith, J. R., Brooks-Gunn, J., & Klebanov, P. K. (1997). Consequences of growing up poor for young children. In G. J. Duncan & J. Brooks Gunn (Eds.), *Consequences of growing up poor*. New York: Russell Sage.

- Terzian, M., Moore, K. A., & Hamilton, K. (2009). *Effective and promising summer learning programs and approaches for economically-disadvantaged children and youth*. A white paper commissioned by the Wallace Foundation. Washington, DC: Child Trends.
- Williams, T., & Kornblum, W. (1985). *Growing up poor*. Lexington: DC Heath and Co.
- Wilson, W. J. (1987). *The truly disadvantaged*. Chicago: The University of Chicago Press.
- Wilson, W. J. (1991). Studying inner-city social dislocations: The challenge of public agenda research. *American Sociological Review*, 56, 1–14.

Social Exclusion and Subculture

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Overview

The concept of “subculture” has a long intellectual pedigree. Most commentators would trace its origins to the work of the Chicago School of Sociology in the early twentieth century. Qualitative research, particularly participant observation, unearthed the distinctive social worlds – the subcultures – present in the urban milieu of America’s big cities. In youth research, the work of the Centre for Contemporary Cultural Studies (CCCS) at the University of Birmingham in the 1970s gave fresh impetus to subcultural analysis of youth. More recently, theoretically postmodern work, hinging on the concept of “post-subculture,” has challenged the CCCS’s class-based understanding of working-class subcultures.

In contrast, the concept of “social exclusion” has relatively recent origins, in the 1990s, in European political and policy spheres. It has had substantial impact on the field of youth studies in the UK, continental Europe, and Australasia (less so in North America). As with its use by politicians and policy makers, academics often use it as a short-hand phrase for a host of social problems

said to beset socially disadvantaged people and places. It has been quickly taken up in youth research to refer to the negative life-situations disadvantaged young people can find themselves in (e.g., of unemployment, poverty, homelessness, lone parenthood, crime, problematic drug use). In more in-depth, critical work, attention is also paid to the wider social and economic processes whereby young people become socially excluded.

Little empirical research has examined the contemporary relevance of the concept of subculture for young people in situations of social exclusion. This is partly explained by the post-subculturalists’ apparent fixation with the music and stylistic preferences of the more advantaged. Some studies have, however, argued for the continuing relevance of the subcultural approach – particularly to understanding the transitions, lifestyles, identities, and outcomes of socially excluded young people. This essay argues that a critical understanding of subculture remains significant for youth research, particularly in respect of processes of social exclusion.

Subculture Theory

Most commentators would trace the origins of the concept of subculture to the work of the Chicago School of Sociology in the early twentieth century. Qualitative research, particularly participant observation, unearthed the distinctive social worlds – the subcultures – present in the urban milieu of America’s big cities. Much of this work focused on young people and young adults, and had a particular interest in the exotic, the different, and the delinquent. Some criminological research from then until now, in the USA and the UK, has employed notions of subculture in theorizing the crime, deviance, and gangs associated with marginalized young people.

In the mid-1970s, the Centre for Contemporary Cultural Studies (CCCS) at Birmingham developed a particular conception of subculture which was to energize the sociology of youth culture for decades. There have been numerous reviews of the CCCS subculture approach. In short, their approach was one that rejected prevailing views

of youth as classless or best understood through the concept of generation. Rather, the working-class location of youth culture was crucial. In their key text, *Resistance Through Rituals* (Hall and Jefferson 1976), the CCCS blended sophisticated neo-Marxist social theory with an attempt to ethnographically grasp the sociological and semiotic meaning of a parade of British, postwar working-class youth subcultural styles, such as the Teds, Mods, and Skinheads. They interpreted subcultures as arising at particular historical moments of social change and offering working-class resistance to the material injustices of working-class subordination. Unable to overcome real, material problems of being young and working class (e.g., poor schooling and limited career opportunities), youth cultures attempted to resolve these problems on an ideological, symbolic level and to “magically recover” the sense of working-class sense of community and solidarity.

The theoretically ambitious approach of the CCCS – and critiques of it – dominated studies of youth culture in Britain, and elsewhere, for decades. Criticisms leveled at the CCCS have been numerous and included the allegedly poor construction and articulation of theory, the methodological paucity of the ethnographic case studies, and the empirical absences in their accounts of youth subculture (e.g., the theoretical inattention to “ordinary,” apparently nonresistant working-class youth culture; the almost complete absence of young women and youth culture from their account; and the primacy given to white working-class cultural experiences over those of other ethnicities) (see Pilkington 1994).

The Postmodern Turn: “Post-Subculture”

Since the 1990s, youth culture research in the UK and elsewhere has taken a postmodern turn leading many researchers to abandon the CCCS subcultural approach. In its place has arisen a “second wave” of British youth culture research (Roberts 2005): “post-subcultural studies” (Muggleton and Weinzierl 2003; Bennett and Kahn-Harris 2004). Studies in this vein have prioritized qualitative

research about youth style, dance culture, and music, which tend to celebrate the optimism of stylistic and musical possibility.

A central aim has been to jettison class analysis in favor of new concepts and theories with which to explain contemporary youth cultural identities. Unlike the solid, class-rooted, lasting, and meaningful working-class subcultures theorized in *Resistance Through Rituals*, contemporary youth culture is said to be fleeting, fragmented, and fluid. Stylistic cultural identity has lost its depth of meaning (if it ever possessed this) and now floats around individual lifestyle and consumption choices. Young people move swiftly through a succession of styles, “like tins of soup on a supermarket shelf,” claims Polhemus (1996, p. 143). It is the fragmented and individualized ways in which young people construct their identities that is of key significance, and new concepts, such as “neo-tribes” (Bennett 2000) and “post-subculturalist” (Muggleton 2000), have mostly replaced the older idea of subculture.

After the relative dormancy of youth culture research in the 1980s, post-subcultural studies have played an important role in rejuvenating the field. Yet, arguably, this body of work also mirrors one of the most serious empirical flaws in the CCCS’s earlier studies in that it was argued that they were preoccupied with the “stylistic art of a few” (Clarke 1982, p. 1). Shildrick and MacDonald (2006) argue that youth culture research should be about more than the stylistic exploits of minority music/dance “scenes” and “neo-tribes” and ought to give greater empirical space to the cultural lives and leisure activities of the “ordinary” majority and, also an apparent major omission, the disadvantaged minority.

More important than this empirical absence is the lack of theoretical attention given to questions of class and other social inequalities in contemporary youth culture. It seems that in their efforts to dump subculture theory, most post-subculturalists have been all too ready to ignore *any* potential influence of class background on youth culture and to *assert* the classlessness of modern youth culture. As Bosé (2003, p. 176) puts it, social class has “become a ‘no-go-area’ in many recent analyses of young people’s expressions of (post)

subcultural sociality.” One is rarely told much about the wider economic lives of their research participants (e.g., employment histories, work/education-related identities or income) or their class positions. Scouring studies for evidence about the socioeconomic location of “post-subcultural” young people produces some skimpy suggestions that they are predominantly from middle-class backgrounds. If a case *is* to be made for the declining importance of class, surely this can only be done on the basis of a proper, transparent estimation of the wider, structural influences on young people’s lives?

Youth Culture and Social Divisions: Some Alternative, Recent Studies

In this section, a small number of recent studies are discussed that throw light on the ways in which young people’s cultural identities continue to be “closely intertwined with family histories, gender, place, class, region and locality” (Nayak 2003, p. 320). Unlike post-subcultural theorists, these writers purposefully *have* attempted to include economically disadvantaged young people in their research, empirically and/or theoretically, and have found – consistently – that contemporary youth culture remains deeply divided. Once one accepts that social divisions still shape youth cultural identities, the postmodern celebration of the fragmented, fleeting, and free-floating nature of contemporary youth culture becomes difficult to sustain.

Hollands has also broadened the field of youth culture research in that, as well as the consumption of city-center nightlife by young adults, he is interested in its production (for instance, by large leisure corporations) and regulation (by local authorities, city councils, and so on) (Hollands 1995, 2002; Chatterton and Hollands 2002). While sensitive to the importance of new forms of social identity in these “new urban playscapes,” he argues that:

Despite the existence of some minority patterns of post-modern tribal club cultures, there are clear social demarcations evident in nightlife that arise from both wider social divisions and lifestyle

segmentations...the disadvantaged, the insecure and the privileged. (Hollands 2002, p. 168)

Hollands’ method (i.e., focusing primarily on those who *did* participate in the nightlife of urban centers) meant that his study was able to say a little less about the contemporary leisure and youth culture of those who were largely excluded from it. Bosé (2003) reached similar conclusions to Hollands (this time in respect of Manchester, in the North West of England) and her direct focus on the experiences of “excluded” young black people helps fill out Hollands’ account. Many of her subjects described themselves as part of an “underclass,” pointing out the difficulties of living in “deprived and disadvantaged communities” (Bosé 2003, p. 177). Economic exclusion combined with racism disallowed access to parts of the city’s nightlife and impacted on their youth cultural activities. Bosé concludes that:

the “all-dressed-up-and-nowhere-to-go” experience of Saturday evening that Clarke et al. (1976) named [in the CCCS’s *Resistance through Rituals*]... is a surprisingly contemporary experience for many black youths... A particular problem for young black and Asian men in Manchester is the experience of exclusion from popular cultural venues in the city...the persistence of selective policing and racial exclusion in the leisure spaces of the contemporary city has led local black youth in Manchester to devise various strategies of collective problem solving. (2003, p. 174/5)

Nayak’s study (2003) in North East England is one of those few, recent ones that have tried to look both at issues of youth transition and of youth culture in a context of class and ethnic identities. Like Bosé and Hollands, he also concluded that the differentiation of local youth cultural forms could only be understood in relation to local social divisions and the opportunity structures of the postindustrial economy. He uncovered three youth cultural groups: “Real Geordies,” “White Wannabes,” and “Charvers.” The “Real Geordies” were typically white working-class young men, “the salt of the earth natives” (2003, p. 311). The “White Wannabes” were white young people who “wanted to be black” (316) and who thus adopted many of the stylistic attributes associated with black (youth) culture. Finally, there were the “Charvers” who, Nayak argues, inhabited “a

different ‘youth-scape’ to that of other North East young people,” one which involved “making different transitions in the post-industrial economy that involved forging different pathways into ‘gang’ and neighbourhood networks” (312).

Studies such as this show that not all young people are able to – or want to – access leisure experiences or create cultural identities in the same way. Processes of class and racial disadvantage, and social and economic exclusion, impact heavily on youth leisure and youth culture.

Youth Transitions, Leisure Careers, and “Street Corner Society”

It has been argued that *youth culture* research has predominantly been concerned with the identities and styles of the middle-class and more socially included and some exceptions to this trend have been noted. The other main branch of youth research, at least in the UK, has been the study of the *transitions* young people make to adulthood: their “school to work,” housing, and family “careers” (Coles 1995). Paradoxically, this body of work has been disproportionately focused on working-class young people and particularly the socially excluded. Gill Jones’ *The Youth Divide* (2002) provides an excellent summary of research of this type. Young people disadvantaged by ethnicity, gender, and particularly social class make “fast-track” transitions to adulthood, exiting education early, entering the labor market quickly, forming partnerships, households, and becoming parents more speedily than their middle-class peers. The latter make “slow-track” transitions extending their time in further and higher education, delaying entry to the labor market, to parenthood, and to independent living. “Slow-track” transitions are equated with success and social inclusion. “Fast-track” transitions are linked to failure and social exclusion. Thus, those young people who make fast-track transitions are more likely to experience situations said to characterize social exclusion: unemployment, low-quality and insecure jobs, homelessness, poverty, lone parenthood, problematic drug use, and offending.

There still remains something of a divide between youth transitions and youth culture research. Very few studies have attempted to integrate analysis of youth transitions, youth culture, and social exclusion. The Teesside studies, from the North of East England (e.g., Webster et al. 2004; MacDonald and Marsh 2005), were explicitly about youth transitions and social exclusion but did also seek to examine issues of leisure and youth culture. In order to understand through qualitative methods the way young people grew up in poor neighborhoods, so as to better understand social exclusion experientially, they employed a broad concept of transition. The Teesside studies investigated “school to work,” housing, family, and drug-using as criminal careers, as aspects of transition. They also coined the concept of leisure career to describe the reported changes in young people’s free-time activities and shifting peer networks.

The Teesside researchers demonstrate how the overall transitions of young people are shaped by the interactions of experiences within these different careers. A simple example would be that changes in family career (e.g., having a major row with one’s parents) can impact on one’s housing career (e.g., becoming homeless), which can affect one’s school to work career (e.g., losing one’s job). Similarly, the shape, content, and direction of each career can be affected by experiences in the others. Thus, the leisure careers of the informants in these studies were heavily influenced by – and had heavy influence on – the wider transitions they were making. This is one reason why Shildrick and MacDonald (2006) argue for greater integration in youth studies of research about youth culture and leisure with research about youth transitions.

In MacDonald and Marsh’s (2005) study, virtually the entire sample spent much of their free time out of school during their early teenage years socializing and hanging around in the company of other young men and women in the public spaces of their estates. This “street corner society” was, however, not just a residual, “now for us to do” outcrop of being a teenager with little money on an urban estate. It provided a *normal*, unremarkable but positive opportunity for

unsupervised time away from adults, for exploration of youth identities, for romantic relationships, for fun.

Of course, this sort of street youth culture has a long history of negative public reaction (Pearson 1983). “Street corner society” of this sort brings widespread, universal condemnation press, policy commentaries, and local politicians. Describing three socially excluded neighborhoods, Page says “large numbers of unsupervised children and teenagers who gather in groups were a feature of all estates” and that “on all estates, and across all age groups, the biggest single issue identified by respondents was the antisocial behaviour of children and teenagers” (2000, p. 37). A previous study found that adult residents identified crime and young people as the two issues that impacted most negatively upon quality of life and that these problems were perceived as synonymous (Brown 1995). The impulse of respectable adult society to corral and control those engaged in apparently unproductive, street-based leisure – especially working-class young men – has culminated over the past decade in the imposition of “Anti-Social Behaviour Orders” and nighttime street curfews on British youth. For most young people, the leaving of school at 16 years, the gaining of some independent weekly income, getting new, wider friendship groups from jobs, schemes, and college were all allied with the move away from “street corner society” toward mainstream, commercialized leisure typical of working-class young adults in Britain (i.e., the sort enjoyed by most of Hollands’ subjects).

For others, however, their longer-term leisure careers remained tied firmly to neighborhood-based peer groups in which street socializing was the norm. Unlike some of their counterparts from school, these young people – young men in particular – had made little progress in the labor market and were more likely to be, or have been, involved in criminal and drug-using careers. “Street corner society” was in virtually all cases a necessary but *not* sufficient condition for the establishment of more serious offending and became a fulcrum for the most socially excluded transitions in the studies. Evidence suggests that as far back as the 1800s, street corner socializing

was not only widespread among working-class youth, but also served a number of important socioeconomic functions, yet these “corner lads” (and women) are largely absent from post-subcultural studies. Yet these Teesside studies suggest that, for some at least, “street corner society” remains a central element of working-class subcultural identity.

Social Exclusion and the Return of “Subculture”

Some of the recent studies of young people’s cultural identities and leisure practices reviewed in this essay as well as questioning the broader relevance and applicability of postmodern theories of youth culture hint at the continued salience of the concept of subculture. Bosé (2003), for instance, is one of the most explicit about this, saying that earlier work on subculture, and its focus on power relations linked to “race,” class, and exclusion, is still central to understanding the lifestyles and cultures of young people. Hodkinson considers this question in relation to his study of Goths and, although keen to avoid “some of the term’s previous implications,” he suggests that there is enough stability and “cultural substance” among Goths to argue for a “reworked and updated notion of subculture” (2002, p. 9). With a focus on socially excluded young people, MacDonald et al. (2001, p. 11) also note that “some of the potential of older criminological and sociological theories of subculture – with their emphasis upon the ways that youth cultures emerge as localised class-based ‘solutions’ to material inequalities – may have been too quickly forgotten.”

In reflecting on the value of subculture, Shildrick and MacDonald (2006) point out that most use – and critique – of the concept has been in relation to the well-known, tightly defined, and stylistically spectacular subcultures of the 1960s and 1970s (Clarke et al. 1976, p. 14). Yet the classic statement of subculture theory, *Resistance Through Rituals*, also describes subcultures as potentially coming in the form of more *generalized, loosely bounded, and unlabeled* forms of

masculine, working-class, “delinquent” subculture. Shildrick and MacDonald (2006) highlight the striking similarity between their depiction of contemporary “street corner society” in the 2000s and the following CCCS description of a looser form of working-class subculture from the 1970s (Clarke 1979, p. 251):

Locality continues to act as a focus for some working class cultural identifications, often amongst those who are in some sense marginal to production and to the collective solidarities generated there. Locality continues to act as a base for collective activity among working class adolescents, both in the sense of providing cultural identities (. . . // . . . for many otherwise unnamed youth groupings) and constituting their “social space” – “the street,” alleyways, etc. which are public and less tightly regulated than other areas.

In short, as put by Carrington and Wilson (2004, p. 65), “some theorists have dismissed CCCS approaches without considering adequately what aspects of social life the earlier works continue to explain” (MacDonald and Shildrick 2007). Ironically – after scathing and sustained critique of the approach – Muggleton (2005, p. 217), one of the leading post-subculturalists, has also wondered whether, after all, that the “future of the subcultural concept is rather more secure than has often been suggested.”

Conclusion

This essay has reviewed some key recent debates in youth studies, centering on the contemporary relevance of the concept of subculture for youth research. The intellectual pedigree of “subculture” was outlined briefly, with focus on the subculture theory of the CCCS, before turning to a fuller discussion of more recent, alternative theories of post-subculture. At the heart of the argument about the contemporary value of the two concepts – subculture versus post-subculture – is the extent to which social class still divides youth cultural experience, styles, and identities. Unfortunately, the work of the post-subculturalists is flawed in that they tend to assert rather than demonstrate the classlessness of modern youth culture (at the same time as studying what appear

to be the youth cultural forms of more advantaged young people). Ironically, one of the key criticisms of the CCCS was that they tended to assert rather than demonstrate the working-class basis of youth subcultures. A small number of other recent studies – by authors such as Hollands, Bosé, and Nayak – contradict post-subculturalist claims, showing how youth cultural experiences remain divided by long-standing social inequalities. Social and economic exclusion impacts on the ability of youth to participate freely in a post-modern, nighttime economy of club cultures and neo-tribes.

Most studies of social exclusion have not fallen within the frame of youth culture research or considered youth styles, leisure, and identity closely. Youth transitions research, on the other hand, has been interested in processes and experiences of social exclusion for young people. Research from Teesside in North East England has attempted to include exploration of leisure lifestyles into broader investigation of the socially excluded transitions of young people and has introduced the concept of leisure career as a way of doing this. Here, the “street corner society” of young adults growing up in poor neighborhoods was described as a critical element in the shaping, for some young adults, of experiences and transitions of social exclusion. As with some other British research, the Teesside studies see continuing relevance for some formulations of subculture theory. In particular, they argue for the theoretical and social policy value of understanding the hanging around and “doing nothing” of working-class young people’s “street corner society”; what Paul Corrigan (1976, p. 103) described over 30 years ago, in *Resistance Through Rituals*, as “the largest and most complex youth subculture.”

References

- Bennett, A. (2000). *Popular music and youth culture: Music identity and place*. Basingstoke: Macmillan.
- Bennett, A., & Kahn-Harris, K. (2004). *After subculture*. London: Palgrave.
- Bosé, M. (2003). Race and class in the post-industrial economy. In D. Muggleton & R. Weinzierl (Eds.), *The post-subcultural reader*. Oxford: Berg.

- Brown, S. (1995). Crime and safety in whose community? *Youth and Policy*, 48, 27–48.
- Carrington, B., & Wilson, B. (2004). Dance nations: Rethinking British youth subcultural theory. In A. Bennett & K. Khan-Harris (Eds.), *After subculture*. London: Palgrave.
- Chatterton, P., & Hollands, R. (2002). Theorising urban playscapes. *Urban Studies*, 39(1), 95–116.
- Clarke, J. (1979). Capital and culture: The post-war working-class revisited. In J. Clarke, C. Critcher, & R. Johnson (Eds.), *Working class culture*. London: Hutchinson.
- Clarke, G. (1982). Defending ski-jumpers: A critique of theories of youth sub-cultures. In *Centre for contemporary cultural studies (Paper 72)*. Birmingham: University of Birmingham.
- Clarke, J., Hall, S., Jefferson, T., & Roberts, B. (1976). Subcultures, cultures and class. In S. Hall & T. Jefferson (Eds.), *Resistance through rituals*. London: Hutchinson.
- Coles, B. (1995). *Youth and social policy*. London: UCL Press.
- Corrigan, P. (1976). Doing nothing. In S. Hall & T. Jefferson (Eds.), *Resistance through rituals*. London: Hutchinson.
- Hall, S., & Jefferson, T. (Eds.). (1976). *Resistance through rituals*. London: Hutchinson.
- Hodkinson, P. (2002). *Goth: Identity, style and subculture*. Oxford: Berg.
- Hollands, R. (1995). *Friday night, Saturday night: Youth cultural identification in the post-industrial city*. Newcastle: University of Newcastle upon Tyne.
- Hollands, R. (2002). Divisions in the dark: Youth cultures, transitions and segmented consumption spaces in the night-time economy. *Journal of Youth Studies*, 5, 153–171.
- Jones, G. (2002). *The youth divide*. York: Joseph Rowntree Foundation.
- MacDonald, R., & Marsh, J. (2005). *Disconnected youth? Growing up in Britain's poor neighbourhoods*. London: Palgrave.
- MacDonald, R., & Shildrick, T. (2007). Street corner society. *Leisure Studies*, 26(3), 339–335.
- MacDonald, R., Mason, P., Shildrick, T., Webster, C., Johnston, L., & Ridley, L. (2001). Snakes & ladders: In defence of studies of youth transition. *Sociological Research On-line*, 5, 4.
- Muggleton, D. (2000). *Inside subculture*. Oxford: Berg.
- Muggleton, D. (2005). From classlessness to clubculture: A genealogy of post-war British youth cultural analysis. *Young*, 13(2), 205–219.
- Muggleton, D., & Weinzierl, R. (2003). *The post-subcultural reader*. Oxford: Berg.
- Nayak, A. (2003). “Ivory lives”: Economic restructuring and the making of whiteness in a post-industrial community. *European Journal of Cultural Studies*, 6(3), 305–325.
- Page, D. (2000). *Communities in the balance*. York: Joseph Rowntree Foundation.
- Pearson, G. (1983). *Hooligan: A history of respectable fears*. London: Macmillan.
- Pilkington, H. (1994). *Russia's youth and its culture*. London: Routledge.
- Polhemus, T. (1996). *Style surfing*. London: Thames Hudson.
- Roberts, K. (2005, March). *What's the point in studying youth cultures?* Paper presented to the Annual British Sociological Association conference. University of York, York.
- Shildrick, T., & MacDonald, R. (2006). In defence of subculture. *Journal of Youth Studies*, 9(2), 125–140.
- Webster, C., Simpson, D., MacDonald, R., Abbas, A., Cieslik, M., Shildrick, T., et al. (2004). *Poor transitions*. Bristol: Policy Press.

Social Exclusion in Adolescence

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Introduction

Adolescents' peer group relationships play an important role in adolescent social and cognitive development. Inclusion and exclusion from social groups occur when the criteria for membership are contested or threaten group identity and group functioning. Research has shown that extensive experiences with exclusion has long-lasting negative outcomes, both in terms of impinging on healthy social development (e.g., self-esteem) as well as in terms of reflecting various forms of prejudice and discrimination (Bierman 2004; Juvonen 2013; McGlothlin et al. 2008; Rubin et al. 2006).

Three types of peer relationships are identified in adolescents: (1) dyadic friendships, (2) cliques constituted from a small group of friends that interact at different levels of closeness, and

(3) crowds that serve to organize and categorize adolescents' social worlds within the school and neighborhood context (Brown 2004; Horn 2003). Research on exclusion in adolescence has often focused on the challenges adolescents' face when interacting in intergroup contexts (Killen et al. 2013). For instance, research has examined the interracial dynamics observed in friendships (Crystal et al. 2008), the group affiliation revealed in cliques (such as the jocks, cheerleaders, and gothics) (Horn 2006), and gender and sexuality reflected in social identity in the context of school environments such as those documented in crowds (Killen et al. 2002b).

Observational research on the characteristics and structure of cliques and crowds has documented age-related changes, which are relevant for understanding changes in adolescents' attitudes and social reasoning about exclusion. In an observational study by Connolly et al. (2000), for example, adolescents' friendships changed from same-sex cliques in early adolescence to mixed-sex and mixed-age friendships in middle adolescence and then began to break up into dating pairs in late adolescence. Similarly, the structure of crowds becomes more flexible and their influence less potent in the later adolescent years. According to Kinney (1993), in early adolescence there are two main crowds: a smaller high-status crowd and a larger low-status crowd. By middle adolescence, multiple and more differentiated crowds emerge. By late adolescence, however, crowds are less hierarchical and more permeable, allowing for flexibility in membership and association. In addition, older adolescents are more secure with themselves as individuals and rely less on crowd affiliations for support and self-identification (Newman and Newman 2001). Although most research on crowd identification has been done with American adolescents, similar crowd structures can be found among European adolescents (Arnett 2002). While little is known about crowds in other cultures, it has been found that peer relationships hold relative importance to adolescents around the world (Brown and Larson 2002). Moreover, as discussed below, cross-cultural findings on how adolescents evaluate exclusion

have documented extensive similarities in cultures such as Australia, Korea, Japan, the Netherlands, Spain, and the USA (Levy and Killen 2008). The importance of such cliques and crowds for adolescents demonstrates just how strongly experiences with exclusion can impact the lives and future trajectory of adolescents who experience exclusion.

Exclusion from peer groups leads to negative outcomes for adolescents, ranging from social withdrawal, anxiety, and to depression (Leary et al. 2006). Often exclusion has been studied from the perspective of bullies and victims, examining individual differences and seeking to understand the role of individual social deficits (Rubin et al. 2006). Studying exclusion from an intergroup perspective extends this work by examining how adolescents experience exclusion from groups based on group membership including gender, race/ethnicity, culture, and sexual orientation (Killen et al. 2007b). Additionally, examining exclusion in an intergroup context takes into account the development and impact of prejudicial attitudes, stereotypes, and biases.

Overview

Exclusion and inclusion from social groups is a fundamental aspect of social life in adolescence. How adolescents evaluate exclusion based on group membership, such as ethnicity, culture, sexual orientation, and gender, is reviewed. This focus provides information on adolescents' emerging notions of fairness as well as their increasing concern with group functioning and group identity. The contexts in which adolescents view exclusion as legitimate or wrong, the reasons why, and what changes with age within adolescence have been studied using two social developmental theoretical models, Social Domain Theory and Social Identity Theory, which are both briefly reviewed. The findings indicate that adolescents' understanding of group dynamics and the role of fairness in peer relationships is complex. Further, group interactions during the period of adolescence are quite salient and reflect fundamental changes in adolescent perspectives

about group identity, exclusion, prejudice, and fairness in social relationships and interactions.

Forms of Exclusion: Gender, Race/Ethnicity, Culture

Adolescents experience exclusion based on group identity, which has long-term and wide-reaching implications (Rutland et al. 2007). One form of group identity, gender, has been a common basis for exclusion from peer groups among adolescents. While many forms of overt gender exclusion are diminishing, especially in contemporary cultures, exclusion based on gender continues to be a challenge in a wide range of types of groups including athletic teams, academic disciplines, occupations, and social organizations (Horn and Sinno 2014). Another form of exclusion is that based on race/ethnicity, which is often less explicit than gender exclusion but which contributes to intergroup tension in high schools, higher education, and the workforce (Dovidio 2001). Though children and adolescents tend to reject exclusion based solely on race/ethnicity, using moral reasoning to explain these decisions, (Killen et al. 2002b), exclusion from groups because of one's race/ethnicity is pervasive. In addition, as adolescents struggle to coordinate romantic interests and a developing sense of their gender and sexual identity, many experience exclusion based on sexual orientation (Horn 2008).

Exclusion based on cultural differences or nationality has been pervasive in Europe where strong national identities have generated exclusion for centuries. Recent patterns of migration from the Middle East, Southern Asia, Southern Europe, and African countries to Northern Europe have created new tensions for adolescents in European schools. A burgeoning area of research has focused on these forms of exclusion, such as exclusion of Muslims in the Netherlands (Geiling et al. 2010), Turks in Germany (Feddes et al. 2009), and Moroccans in Spain (Enesco et al. 2008). In the USA, cultural exclusion has focused on exclusion of new immigrants, such as Latinos (Levy et al. 2008).

Each form of exclusion discussed in this essay has different types of outcomes, ranging from

transitory to more detrimental. For example, exclusion based on culture or nationality can heighten the pressures between assimilation and acculturation and has consequences on the preservation of one's cultural identity. Further, exclusion based on race/ethnicity and culture or nationality can result in limited opportunities for advancement in the workplace, restricted access to interest groups, and even the perpetuation of violence based upon cultural or national identity. Exclusion based on sexual orientation, particularly in adolescence, has been shown to have serious negative outcomes for adolescents including depression and anxiety, school absence and delinquency, and, most troubling, suicide (D'Augelli 1998; Russell et al. 2012). Adolescents who experience exclusion as a result of their gender may struggle with gender identity, societal notions of social roles, and academic and occupational aspirations. Additionally, gender exclusion perpetuates stereotypes about acceptability of behaviors, interests, and roles for men and women. This essay will next examine theoretical models that have been applied to the empirical study of exclusion in adolescence, followed by a brief review of findings regarding the different types of exclusion discussed above.

Theoretical Framework for Examining Exclusion in Adolescence

Each of these forms of exclusion experienced by adolescents functions within unique contexts and in the face of intergroup relations. Thus, focusing on the individual deficits of those excluding or excluded is only one side of the complex phenomenon referred to as "exclusion." Another aspect of exclusion and rejection pertains to the role of group dynamics, group identity, and context in understanding these types of exclusion. The frameworks of Social Domain Theory (Turiel 1983; Killen et al. 2007b) and Social Identity Theory (Tajfel and Turner 1979) provide models for investigating exclusion from an intergroup perspective.

Social Domain Theory posits that individuals evaluate complex issues using a range of reasons,

including moral (references to justice, others' welfare, and rights), social-conventional (references to group functioning, group identity, traditions, and conventions), and psychological (references to autonomy, individuality, and personal prerogatives) for determining why and in what contexts exclusion is seen as acceptable or unacceptable. Examining the reasoning used by adolescents in making exclusion decisions enables researchers to identify underlying biases, stereotypes, and prejudices as well as to distinguish between different forms of exclusion. Social Identity Theory provides a model for examining how identification with the in-group and the out-group contributes to intergroup judgments, including intergroup exclusion (Abrams and Rutland 2008; Nesdale 2004). Developing a strong and cohesive group identity is an important milestone of adolescence; at the same time, group identity often serves to perpetuate exclusion of others who do not fit the criteria of group membership.

Killen and colleagues have used Social Domain Theory in their work analyzing children's and adolescents' exclusion decisions, revealing the ways in which different forms of reasoning are used in the exclusion process. In one study, Killen et al. (2002b) interviewed fourth, seventh, and tenth grade children and adolescents, assessing their social reasoning for exclusion based on group membership (gender and race/ethnicity) in a range of social contexts. The sample, which was evenly divided by gender, included four ethnic groups: European-American, African-American, Asian-American, and Latin-American. The social contexts analyzed were exclusion from a friendship, a peer group, and school. Different contexts were studied because it was expected that children and adolescents would evaluate exclusion from some contexts as a clearly moral issue, as has been proposed by Opatow (1990); however, in other contexts exclusion might be seen as social-conventional, for instance, with the aim of protecting group functioning.

Across all contexts, the tenth graders were more likely to approve of exclusion than were fourth or seventh graders, suggesting the vital importance of studying exclusion decisions in

adolescent populations. Findings included recognition that exclusion from school was not acceptable based on either race or gender but that exclusion from friendship groups and peer groups was more acceptable because of gender (i.e., excluding a girl was judged as acceptable) than because of race. Fairness justifications were used across all contexts. The friendship context evoked empathy and personal choice reasoning, and the peer group context was the only context that evoked group-functioning reasoning.

Participants were also counter-probed with statements indicating that others felt differently about the acceptability of exclusion than did the participant: they heard counter-probes reflective of social pressure from peers, those suggesting authority approval or disapproval of exclusion and those indicating exclusion or inclusion acceptability in another country. While social pressure did impact the exclusion decisions of children and adolescents, particularly for the friendship and peer group contexts, in general exclusion was seen as wrong, even with the added social pressure provided by the counter-probes. However, adolescents were still more willing than younger children to view exclusion as acceptable: tenth graders were more willing to approve of excluding a girl from a peer group and an African-American child from friendship. Authority counter-probes also revealed that exclusion was most wrong in the school context and more acceptable in the friendship and peer group contexts. Additionally, social pressure impacted inclusivity more so than did authority figures, reflecting the importance of peer relationships for children and adolescents. Probes about exclusion behavior in an unspecified other country resulted in more judgments of exclusion as wrong based on race/ethnicity than based on gender.

This research provides strong support for the importance of examining adolescent reasoning about exclusion. The adolescent sample was, in many ways, more accepting of exclusion than were younger children. Drawing on this research and recognizing the importance of cliques and crowds to adolescents, Horn conducted a line of research investigating the exclusion decisions of

adolescents, using contexts appropriate to adolescents as well as focusing on a variety of high- and low-status cliques (Horn 2003, Horn 2006). She surveyed primarily European-American 9th and 11th grade students, asking them to reason about members of different cliques (i.e., preppies, goths, and cheerleaders) in contexts that were either multifaceted or prototypically moral (i.e., exclusion or distributive justice). While this research would be stronger if participants were drawn from populations more reflective of the general US population, nonetheless Horn's work contributes greatly to knowledge of adolescent social reasoning.

Overall, adolescents rejected exclusion on the basis of group membership; however, exclusion was considered less wrong than denial of resources because of group membership (Horn 2003). Age-related differences included findings that 9th graders judged exclusion as less wrong than did 11th graders and used more social-conventional reasoning (i.e., maintaining group functioning) to justify these decisions. Additionally, across the age groups, boys were more approving of exclusion and used more personal and social-conventional reasoning than did girls. In ambiguous situations (i.e., when participants were only told the group membership of individuals and not about their personal traits), adolescents did tend to rely more on stereotypes in justifying their judgments. However, when provided with information about the target, they relied on this information instead of group membership.

In a separate study, Horn examined the same data set, attending to differences among high- and low-status social reference groups (Horn 2006). High- and low-status groups were defined in terms of adolescents' social cliques, for example, "preppies" were a high-status group and "goths" were a low-status group. Specifically, she asked participants to list which group they identified with and then examined which social reference group target each participant chose to include in an activity. High-status group members were chosen more than low-status group members. Additionally, high-status participants chose more high-status targets and used more social-conventional

reasoning. Low-status participants used more moral reasoning. Thus, it seems that high-status group members are more concerned with protecting the status quo, whereas low-status group members, perhaps because of greater experience with exclusion, see moral reasons, such as fairness, for inclusion of a more diverse group of individuals.

Moving from adolescent exclusion based on a range of group memberships, Horn and colleagues have conducted a line of research looking explicitly at sexual prejudice and exclusion based on gender nonconformity and sexual orientation. While sexual prejudice has been commonly studied in the social psychology literature with adult populations (Haslam and Levy 2006; Herek 1994), little other research has examined sexual prejudice in adolescents (for exceptions see Potat et al. 2013; Potat and Anderson 2012). Horn and colleagues administered a questionnaire to 14–18-year-old high school students as well as a sample of young adults in a university setting, both representative of the US population (Heinze and Horn 2014; Horn 2008; Horn and Heinze 2011). Participants provided demographic information, as well as evaluations of their comfort with gay/lesbian peers, their beliefs about the origins of homosexuality, and their attitudes toward homosexuality. Additionally, the questionnaire included descriptions of individuals who were either gender conforming or not and gay or lesbian. Participants were asked for judgments and reasoning about whether it was all right or not all right to exclude, harass, tease, assault, or accept the individuals described.

The researchers found that while 50% of participants judged homosexuality to be wrong, only 11% judged that exclusion of homosexual peers would be all right, and only 6% condoned teasing (Heinze and Horn 2014). Thus, while adolescents do not necessarily believe that homosexuality is acceptable, they are, for the most part, not willing to overtly exclude or tease peers who are homosexual and instead distinguish between beliefs about and interpersonal interactions with gay peers. For those adolescents who evaluated homosexuality as wrong, they also asserted that they would have the least amount of comfort

interacting with a gay or lesbian peer. In general, while adolescents expressed comfort interacting with homosexual peers, they were least comfortable interacting in intimate scenarios (i.e., sharing a room on a class trip).

While adolescents generally evaluated negative interactions with gay or lesbian peers as wrong, they were more likely to evaluate exclusion as more acceptable than teasing, harassing, or assaulting gay or lesbian peers. When justifying exclusion, they referenced social conventions and personal choice. Middle adolescents were more likely than older adolescents or young adults to use such reasoning and less likely to use moral reasoning (such as appeals to fairness) in justifying exclusion judgments. Additionally, gender conformity mattered a great deal to adolescents: they judged straight or gay peers who were gender nonconforming in mannerisms or appearance as less acceptable than peers who conformed to gender stereotypes or who were involved in gender nonconforming activities (such as football for girls).

The results of Horn and colleagues (2008) reveal the importance of studying sexual prejudice and gender nonconformity and reinforce that context does matter for youth when making inclusion/exclusion decisions. Additionally, this research highlights the potential for less overt and explicit forms of social exclusion among adolescents. Horn's finding that intimate encounters with gay or lesbian peers were particularly uncomfortable for adolescents highlights an important area of research across group membership: how do children and adolescents respond to intergroup contact in intimate relationships?

Killen and colleagues (2007a) investigated this issue asking fourth, seventh, and tenth grade children and adolescents from mixed-ethnicity schools about interracial exclusion contexts that varied in terms of their intimacy: lunch at school, a school dance, and a sleepover. Additionally, this research expands current knowledge about exclusion by focusing not just on majority but also on minority children and adolescents' reasoning about exclusion.

Interestingly, though all participants disavowed race-based exclusion at school, more

adolescents judged race-based exclusion (e.g., excluding someone because they are Black) to be wrong, perhaps due to greater awareness of the social tenets against race-based exclusion. For non-race-based exclusion (e.g., interracial exclusion based on lack of common interests), ratings of wrongfulness decreased with age. This likely reflects a focus by adolescents on social conventions and a desire to protect group functioning. However, minority participants judged non-race-based exclusion as less acceptable than did majority participants. Additionally, minority participants judged exclusion of a minority child as less acceptable across the different contexts. Participants also varied in the reasoning used in judging race-based exclusion as wrong: minority participants used more empathy reasoning than did majority participants. Finally, in the sleepover context, participants often judged parental discomfort with a minority race guest as a legitimate reason for exclusion, reflecting the continued importance of parent-child relationships throughout adolescence (Smetana 1988).

Drawing on Allport's (1954) hypothesis that quality contact between groups can lead to better intergroup attitudes, developmental researchers have examined the role of intergroup contact, which refers to the conditions that must be met for contact with members of out-groups to provide experiences that reduce prejudice (Tropp and Pre-novost 2008). Thus, in a study by Crystal et al. (2008), adolescents completed an intergroup contact measure, revealing the impact of intergroup contact on exclusion decisions. It was found that participants with higher levels of intergroup contact rated exclusion as more wrong and estimated lower incidences of race-based exclusion than did participants with lower levels of intergroup contact. Thus, intergroup contact may reduce prejudicial attitudes and lead to less approval of exclusion. This finding also applied to minority youth (African-American and Latinx-American) with high levels of intergroup contact (Ruck et al. 2011, 2015). Additionally Crystal et al. (2008) found, with age, adolescents estimated higher levels of race-based exclusion. Adolescents also used more non-race-based reasons for exclusion in the peer group

context than for the sleepover context, suggesting a desire to perceive peers as more positive as they become more dependent on peers and strive for autonomy from parents (Fulgini 1998).

Sunwolf and Leets extended the research on adolescents' social reasoning about exclusion by focusing on self-reports of actual experience with exclusion approaching the issue from a bona fide group perspective (BFGP) (Leets and Sunwolf 2005; Sunwolf and Leets 2003, 2004). A BFGP asserts that groups have more fluid and dynamic boundaries that can be negotiated by members and those seeking inclusion; Sunwolf and Leets (2003) asked participants to report on personal experiences of exclusion from groups. Open-ended questions about participants' own exclusion from groups they tried to enter, exclusion of others from joining a group, passive witnessing of exclusion, and rules for exclusion were asked in congruence with closed-ended questions about frequency of exclusion and stress levels associated with exclusion. In this study, researchers found that adolescents' concerns with group dynamics (e.g., peer pressure, wanting to fit in, fear of exclusion) and social fears (e.g., not wanting to be different, being uncool, or worried about reputation) inhibited them from voicing their opposition to exclusion of other peers from their group. Seventy percent of those who reported withholding disagreement with exclusionary behaviors also reported that they regretted not communicating it.

In a follow-up statistical and narrative thematic analysis of this data, Sunwolf and Leets (2004) reported on peer rejection strategies and stress associated with attempting peer group inclusion. They found that participants' recollection of rejection strategies fell in five categories, ignoring, disqualifying, insulting, blaming, and creating new rules, suggesting the ambiguity of group boundaries. It was also found that European-American participants reported experiencing significantly higher stress levels associated with exclusion than minority participants, which is counterintuitive given their higher group status. Adolescents reporting more experience with exclusion also reported significantly higher stress levels than those having less experience.

Similarly, participants who had more experience being left out expressed higher stress levels when witnessing others being excluded than those who were less often denied entry into a group.

Highlighting the negative emotions individuals may have about group experiences and the social rebuking strategies used by adolescents who exclude, the authors continued their analysis to study the rules used by adolescents to justify social exclusion (Leets and Sunwolf 2005). Through qualitative analysis of participant responses, Leets and Sunwolf (2005) identified seven categories of exclusion rules: unattractiveness, punishment, dangerous, group loyalty, benevolent protection, unqualified, never excluded, and other categories. Participants responded to two questions: one asking them to list circumstances in which it would be acceptable to exclude (rules) and another asking them to recall reasons for which they excluded someone from a group (behavior). The highest percentage of responses for both questions (33% for rules, 51% for behavior) fell in the "unattractiveness" category, thus highlighting a peer's physical appearance as a salient justification for exclusion. The next highest frequency of responses for the rule question fell into the punishment category (e.g., "he always ridiculed me, so this is revenge"). Twenty-one percent of the responses to the behavior question referenced group loyalty (e.g., "my friends did not like her") as a reason for excluding a peer from their own group, thus citing in-group favoritism as the second most important reason for exclusion. The authors suggest these results allude to the salience of maintaining a positive image of one's self through the group; thus, adolescents may consider it acceptable to exclude in the attempt to protect a positive social identity. This is in line with more current research showing the reasons that adolescents actually excluded others had to do with the victim's personality, qualifications, and group status as an out-group (Recchia et al. 2012).

The previous studies also bring to the foreground the difference between adolescents' viewpoints and actions, given the differences in frequencies of exclusion rules reported as ones adolescents acted on versus ones they stated as

acceptable. Feigenberg et al. (2008) qualitatively analyzed eighth graders' responses to a true story narrative in which an excluded child was invited to take part in the exclusion of another child. Respondents were asked to suggest strategies for how the child in the narrative should deal with the situation and give justifications for their proposed strategies. Three main strategies emerged from the responses: either "upstand" and go against the group to comfort the victim, "perpetrate" and join the group by mocking the victim, or "bystand" and be uninvolved in the ostracism. Young adolescents, who were more likely to use conventional justifications, highlighting social norms, were also more likely to recommend not getting involved in the exclusion. Those who chose to stand up for the victim were more likely to use justifications of prosocial transformation (e.g., "They might realize they are doing the wrong thing and not do it again"). Although this study provides insight into adolescents' reactionary approaches to a nonfictional social exclusion story, and helps clarify what strategies adolescents consider in such situations, it is still not clear what they will actually do given the opportunity. However, the justifications and reasoning that were assessed provide greater understanding of how group boundaries are negotiated given both their moral and social-conventional dimensions.

This research documented that distinct strategies exist when responding to exclusion. However, in order to understand moral judgments and emotion attributions surrounding exclusion, 12- and 16-year-olds were asked to make judgments after observing a video of a target being excluded either in the presence of bystanders who simply looked on, bystanders who included the target, or no bystanders (Malti et al. 2015). Participants were more likely to judge the exclusion as wrong when they observed the video with bystanders who include the target than when they observed the video with no bystanders or bystanders who were silent observers. Participants also expected the inclusive bystanders to feel empathy and expected onlooking bystanders to feel more guilt (Malti et al. 2015).

Research has also examined adolescents' expectations of exclusion as a result of

challenging group norms. Specifically, research on fourth and eighth graders examined expectations of group responses to resisting group norms involving gender-stereotypic social activities (ballet and football). Results indicated that while children expected peers to resist stereotypic group norms, adolescents were less likely to expect their peers to resist stereotypic norms (Mulvey and Killen 2015). Further, findings indicated that participants were concerned that if a group member resisted group norms, they may be excluded from the group for challenging the group norm. Interestingly, participants were especially concerned that boys who challenged their group to try ballet rather than football were especially vulnerable to social exclusion (Mulvey and Killen 2015). Additional research suggests that these patterns may not be limited to challenging group norms regarding gender-stereotypic activities. Specifically, research with eighth and tenth grade participants on challenging group norms condoning race-based humor documents that with age, adolescents are more likely to judge race-based humor as acceptable and less likely to expect their peers to intervene by challenging the group norm implicitly or explicitly (Mulvey et al. 2016). Moreover, adolescents who rejected race-based humor believed that peers who intervened would be more likely to be excluded but were also more likely to be disapproved of exclusion more than did participants who supported race-based humor (Mulvey et al. 2016). These findings, in concert, reveal the complexity of group processes involving social exclusion. While adolescents often do recognize the wrongful nature of exclusion, challenging or intervening when one observes exclusion may not be an easy choice, even if adolescents recognize it as an important action to take.

Other research further demonstrates the complexity of social exclusion decisions when in-group members challenge group norms (Hitti et al. 2014; Killen et al. 2013). Findings from this line of research showed that 9- and 13-year-olds disapproved of in-group members who challenged a group norm to distribute resources equally, by advocating for more money for his/her own group (Killen et al. 2013). With age however

adolescents recognized that the group may benefit from what the deviant member is proposing and therefore are more approving of their proposal of unequal distribution and less accepting of their exclusion (Hitti et al. 2014). Findings also showed that adolescents are overall more accepting of excluding an in-group peer who violates a moral norm of equal resource distribution and not accepting of excluding an in-group member who challenges a conventional norm related to clothing traditions (e.g., refusing to wear the group T-shirt; Hitti et al. 2014). Thus, challenging a group's moral norm could come at a higher cost (e.g., result in exclusion) than challenging a group's conventional norm.

Most of the studies described so far have been conducted with North American samples; however, several cross-cultural studies on exclusion in adolescence will be reviewed below.

Cross-Cultural Perspectives

In two studies focusing on exclusion in Japan and Korea, Killen et al. (2002a) and Park et al. (2003) surveyed American, Japanese, and Korean adolescents about exclusion in a variation of peer contexts. In these studies, fourth, seventh, and tenth grade participants were asked to judge six contexts in which a child was excluded based on specific traits that included aggressiveness, unconventional appearance, poor athleticism, cross gender identity, sad personality, and social disruptiveness. Measuring participants' evaluation of exclusion, prescription to conformity, and tolerance of differences, the data collected showed that context and gender, rather than culture, were more potent predictors of these measures.

Despite expectations that Japanese and American findings would differ based on cultural differences, the majority of all children evaluated exclusion as wrong (Killen et al. 2002a). There were within-culture differences across the different contexts, as well as between-culture similarities. Park et al. (2003) also reported within-Asian cultural differences thus proving the heterogeneity that exists in cultures. Japanese and American adolescents were more likely to exclude based on

group functioning (e.g., an aggressive child and a slow runner), while Korean students evaluated the disruptive behavior of acting like a clown as harshly as acting aggressively. Gender differences in evaluations of exclusion were found in both Japanese and American students: girls were significantly more sensitive to exclusion and were less willing to conform than boys; however, this gap was bigger for Americans. Such gender differences were not found in the Korean sample. Overall, Korean ratings of conformity were higher than Japanese and American ratings; however, conformity ratings decreased with age, emphasizing the universality of autonomy judgments in adolescents (Smetana 1997).

These studies showed that although culture does predict to some extent adolescents' evaluations about exclusion, conformity, and tolerance, context and gender play a bigger role in their considerations. Spanish adolescents' attitudes toward exclusion have been examined by Enesco et al. (2008) in a study designed to allow for comparison between American youths' evaluation of exclusion and Spanish youths' evaluations. Enesco et al. (2008) assessed exclusion from three contexts (school, peer group, and friendship), showing that Spanish adolescents evaluated exclusion along all contexts as wrong and mainly used moral reasoning to justify their answers. These findings extended the findings reported by Killen et al. (2002b). Given three contexts, and varying the gender and race (Gypsy child and African child in the case of the Spanish sample) of the child being excluded, researchers found that Spanish youth did not differentiate between exclusion across the context nor the identity of the victim, which differed from the Killen et al. (2002b) results. Findings in American samples of children and adolescents' judgments of exclusion revealed a developmental shift from the moral domain to the social-conventional domain, suggesting the importance of group functioning to adolescents. This pattern was not found in the Spanish sample. The majority of Spanish adolescents consistently repudiated exclusion using moral explanations of fairness, integration, and prevention of racism, reflecting the prosocial nature of Spanish youth. However, given the

continued prejudice that exists in adult societies, including prejudice against immigrants within Spain, further research must be carried out to understand adolescents' exclusion rules given a broader and more varied selection of contexts.

Research on exclusion from Social Identity Theory has contributed to the literature on how adolescents experience exclusion. Rutland et al. (2005) conducted two studies, one examining racial exclusion and the second examining exclusion based on nationality (British vs. German) in children and adolescents aged 6–16. They focused on how acceptable it was to punish someone for excluding based on race (Study 1) or nationality (Study 2) and also examined differences in judgments based on either low or high public self-focus in order to assess the impact of social- and authority-driven pressure against such forms of exclusion.

The findings suggest that while most children and adolescents judge racial exclusion as wrong, adolescents, in particular, see national prejudice as more acceptable: the two adolescent age groups rated punishment for race-based exclusion as significantly higher than for nationality-based exclusion. Additionally, whereas children suppressed their in-group bias under high public self-focus, the young adolescents actually increased their nationality-based in-group bias under high public self-focus and also showed high levels under low public self-focus as well. The authors suggest that this may reflect a heavy focus on intergroup rivalry among young adolescents, which may be heightened in the face of public accountability.

These studies reveal the importance of disentangling the differences between race-based and nationality-based exclusion in a variety of contexts, as it appears that nationality-based exclusion among European cultures is seen as more acceptable. This has significant applications for intergroup relations, considering the increasing global focus of the world. Additionally, while this research is insightful, it focused on minimal, not actual, groups and did not fully assess reasoning. Research on exclusion from a range of cultures, which uses the methodology of probing children about reasoning regarding exclusion,

with its foundation in Social Domain Theory will enable continued comparison across cultures and increased ability to draw conclusions about cross-cultural similarities and differences in experiences with exclusion.

For example, research about cultural tolerance can help explain adolescents' reasoning about exclusion. In a study assessing adolescents' judgments about tolerance for practices by Muslim actors, Geiling et al. (2010) surveyed Dutch adolescents about four Muslim practices, which can be reasoned about in either the personal, social-conventional, or moral domain. Findings showed that Dutch adolescents were more tolerant of practices they considered as personal (e.g., wearing a headscarf) than practices they judged to be moral (e.g., an Imam's speech against homosexuals). Tolerance for social-conventional practices (e.g., opening a Muslim school) fell in between. Another important finding stemming from this study was that endorsement of multiculturalism predicted tolerance toward Muslim practices more so than group identification, thus suggesting the salience of multicultural education to promoting social equality and breaking down cultural/religious boundaries.

In line with other research (Abrams and Rutland 2008; Killen and Stangor 2001), Geiling et al. (2010) found that older adolescents were less tolerant of Muslim beliefs and practices across all contexts showing more concern for group norms and social expectations given the public debate in the Netherlands about the role of the Muslim minority in Dutch society. This is consistent with recent findings in a sample of American non-Arab adolescents (Hitti and Killen 2015) which found that 16-year-olds reported more stereotypes regarding Arab American peers than did their 12-year-old counterparts and expected their in-group to be less inclusive toward an Arab American peer. Inclusive group norms of preferring "others who are different," however, mitigated the effects of stereotypes on adolescents' cultural exclusivity. Research examining cultural and religious acceptance informs social exclusion research in that it helps identify the relational boundaries that adolescents negotiate when reasoning about exclusion. Further research

on embracing differences in adolescents living in countries and regions exposed to wars and violent conflicts underlying cultural differences will help identify exclusionary attitudes in contexts where out-group threat is extremely salient. Such research will bring conflict resolution intervention a step closer to finding long-lasting strategies that would mitigate these group tensions.

Conclusion

Adolescents' evaluations of exclusion have revealed the complexity of the phenomenon. While there are times that exclusion is viewed as wrong (using moral reasons of unfairness), there are times when exclusion is justified (using conventional reasons of group functioning). Adolescent encounters with exclusion are frequent due to the heavy focus, particularly in early and middle adolescence, on the dynamics of crowds and cliques. While adolescent exclusion is receiving increased research focus, there are still significant gaps in the knowledge about how adolescents experience exclusion and why some adolescents justify exclusionary practices.

Specifically, research on exclusion has focused on sampling majority children and adolescents. Research that has sampled minority populations has revealed significant differences regarding how minority and majority adolescents reason about exclusion (Crystal et al. 2008; Hitti et al. 2016; Killen et al. 2007a). In addition, studying adolescents enrolled in homogenous and heterogeneous schools as was done by Crystal et al. (2008) has revealed a significant effect for intergroup contact for adolescents. Moreover, Verkuyten's (2003) findings on negative attitudes toward perpetrators of ethnic victimization indicate that individuals who are exposed to multicultural education benefit. Thus, research has relevance for programs, interventions, and curricula designed to reduce exclusion based on prejudice and discrimination. Research that relies upon the rich, authentic experiences of adolescents with exclusion in realistic intergroup contexts is important. Future research should continue to assess reasoning and different contexts for reasoning, as it is clear that

adolescents reason differently about exclusion based on the context of that exclusion. Since it has been shown that group functioning plays an increasing role in adolescent reasoning (Horn 2003), research should also continue to investigate the role of group dynamics in exclusion decisions. Research that measures skill with groups and social perspective taking ability (Theory of Social Mind) reveals that increased skill with understanding groups can lead to more differential inclusion and exclusion behaviors (Abrams et al. 2009). This new line of research, which has only examined minimal groups up to age 11, should be expanded to older age groups and to intergroup contexts. In addition, online peer relationships are increasingly relevant for adolescents, and exclusion from peer networks is an understudied area; therefore, future research should examine adolescents' judgments and reasoning about social exclusion in the context of online relationships.

In conclusion, adolescent experiences with exclusion constitute a central aspect of adolescent social development. Continued rigorous research will lead to deeper understanding of the dynamics of adolescent intergroup relations. Studying exclusion in adolescence will also lead to effective programs designed to reduce prejudicial and biased attitudes and behaviors and to foster positive adolescent relationships, attitudes, and social justice.

References

- Abrams, D., & Rutland, A. (2008). The development of subjective group dynamics. In S. R. Levy & M. Killen (Eds.), *Intergroup relations and attitudes in childhood through adulthood* (pp. 47–65). Oxford: Oxford University Press.
- Abrams, D., Rutland, A., Pelletier, J., & Ferrell, J. M. (2009). Children's group nous: Understanding and applying peer exclusion within and between groups. *Child Development, 80*, 224–243. <https://doi.org/10.1111/j.1467-8624.2008.01256.x>
- Allport, G. W. (1954). *The nature of prejudice*. Reading: Addison Wesley.
- Arnett, J. J. (2002). Adolescents in western countries in the 21st century: Vast opportunities – for all? In B. B. Brown, R. W. Larson, & T. S. Saraswathi (Eds.), *The world's youth: Adolescence in eight regions*

- of the globe (pp. 307–343). New York: Cambridge University Press.
- Bierman, K. L. (2004). *Peer rejection: Developmental processes and intervention strategies*. New York: The Guilford.
- Brown, B. (2004). Adolescents' relationships with peers. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (2nd ed., pp. 363–394). New York: Wiley.
- Brown, B., & Larson, R. (2002). *Kaleidoscope of adolescence: Experience of the world youth at the beginning of the 21st century*. New York: Cambridge University Press.
- Connolly, J., Furman, W., & Konarski, R. (2000). The role of peers in the emergence of heterosexual romantic relationships in adolescence. *Child Development, 71*(5), 1395–1408. <https://doi.org/10.1111/1467-8624.00235>.
- Crystal, D., Killen, M., & Ruck, M. (2008). It's who you know that counts: Intergroup contact and judgments about race-based exclusion. *British Journal of Developmental Psychology, 26*, 51–70. <https://doi.org/10.1348/026151007X198910>.
- D'Augelli, A. (1998). Developmental implications of victimization of lesbian, gay and bisexual youths. In G. Herek (Ed.), *Stigma and sexual orientation: Understanding prejudice against lesbians, gay men, and bisexuals* (pp. 187–210). Thousand Oaks: Sage.
- Dovidio, J. F. (2001). On the nature of contemporary prejudice: The third wave. *Journal of Social Issues, 57*, 829–849. <https://doi.org/10.1111/0022-4537.00244>.
- Enesco, I., Guerrero, S., Callejas, C., & Solbes, I. (2008). Intergroup attitudes and reasoning about social exclusion in majority and minority children in Spain. In S. Levy & M. Killen (Eds.), *Intergroup attitudes and relations in childhood through adulthood* (pp. 105–125). Oxford: Oxford University Press.
- Feddes, A. R., Noack, P., & Rutland, A. (2009). Direct and extended friendship effects on minority and majority children's interethnic attitudes: A longitudinal study. *Child Development, 80*, 377–390. <https://doi.org/10.1111/j.1467-8624.2009.01266.x>.
- Feigenberg, L. F., King, M. S., Barr, D. J., & Selman, R. L. (2008). Belonging to and exclusion from the peer group in schools: Influences on adolescents moral choices. *Journal of Moral Education, 37*, 165–184.
- Fuligni, A. J. (1998). Authority, autonomy, and parent-adolescent conflict and cohesion: A study of adolescents from Mexican, Chinese, Filipino, and European backgrounds. *Developmental Psychology, 34*, 782–792. <https://doi.org/10.1037/0012-1649.34.4.782>.
- Geiling, M., Thijs, J., & Verkuyten, M. (2010). Tolerance of practices by Muslim actors: An integrative social-developmental perspective. *Child Development, 81*, 1384–1399. <https://doi.org/10.1111/j.1467-8624.2010.01480.x>.
- Haslam, N., & Levy, S. (2006). Essentialist beliefs about homosexuality: Structure and implications for prejudice. *Personality and Social Psychology Bulletin, 32*, 471–485. <https://doi.org/10.1177/0146167205276516>.
- Heinze, J. E., & Horn, S. S. (2014). Do adolescents' evaluations of exclusion differ based on gender expression and sexual orientation? *Journal of Social Issues, 70*, 63–80. <https://doi.org/10.1111/josi.12047>.
- Herek, G. (1994). Assessing heterosexuals' attitudes toward lesbians and gay men: A review of empirical research with the ATLG scale. In B. Greene & G. Herek (Eds.), *Lesbian and gay psychology: Theory, research and clinical applications* (pp. 206–228). Thousand Oaks: Sage.
- Hitti, A., & Killen, M. (2015). Expectations about ethnic peer group inclusivity: The role of shared interests, group norms, and stereotypes. *Child Development, 86*, 1522–1537. <https://doi.org/10.1111/cdev.12393>.
- Hitti, A., Mulvey, K. L., Rutland, A., Abrams, D., & Killen, M. (2014). When is it okay to exclude a member of the ingroup? Children's and adolescents' social reasoning. *Social Development, 23*, 451–469. <https://doi.org/10.1111/sode.12047>.
- Hitti, A., Mulvey, K. L., & Killen, M. (2016). Minority and majority children's evaluations of social exclusion in intergroup contexts. In N. Cabrera & B. Leyendecker (Eds.), *Handbook of positive development of minority children*. Dordrecht: Springer. https://doi.org/10.1007/978-3-319-43645-6_17.
- Horn, S. S. (2003). Adolescents' reasoning about exclusion from social groups. *Developmental Psychology, 39*, 71–84. <https://doi.org/10.1037/0012-1649.39.1.71>.
- Horn, S. S. (2006). Group status, group bias, and adolescents' reasoning about treatment of others in school contexts. *International Journal of Behavioral Development, 30*, 208–218. <https://doi.org/10.1177/0165025406066721>.
- Horn, S. S. (2008). The multifaceted nature of sexual prejudice: How adolescents reason about sexual orientation and sexual prejudice. In S. Levy & M. Killen (Eds.), *Intergroup attitudes and relations in childhood through adulthood* (pp. 173–190). Oxford: Oxford University Press.
- Horn, S. S., & Heinze, J. (2011). "She cant help it, she was born that way": Adolescents' beliefs about the origins of homosexuality and sexual prejudice. *Anales de Psicología, 27*, 688–697.
- Horn, S. S., & Sinno, S. M. (2014). Gender, sexual orientation, and discrimination based on gender and sexual orientation. In M. Killen, J. G. Smetana, M. (Ed) Killen, & J. G. (Ed) Smetana (Eds.), *Handbook of moral development* (2nd ed., pp. 317–339). New York: Psychology Press.
- Juvonen, J. (2013). Peer rejection among children and adolescents: Antecedents, reactions, and maladaptive pathways. In C. N. DeWall (Ed.), *The Oxford handbook of social exclusion* (pp. 101–110). New York: Oxford University Press.
- Killen, M., & Stangor, C. (2001). Children's social reasoning about inclusion and exclusion in gender and race peer group contexts. *Child Development, 72*, 174–186.
- Killen, M., Crystal, D. S., & Watanabe, H. (2002a). The individual and the group: Japanese and American children's evaluations of peer exclusion, tolerance of

- difference, and prescriptions for conformity. *Child Development*, 73, 1788–1802.
- Killen, M., Lee-Kim, J., McGlothlin, H., & Stangor, C. (2002b). How children and adolescents evaluate gender and racial exclusion. *Monographs for the Society for Research in Child Development*. (Serial No. 271, Vol. 67, No. 4). Oxford, UK: Blackwell Publishers.
- Killen, M., Henning, A., Kelly, M. C., Crystal, D., & Ruck, M. (2007a). Evaluations of interracial peer encounters by majority and minority U.S. children and adolescents. *International Journal of Behavioral Development*, 31, 491–500. <https://doi.org/10.1177/0165025407081478>.
- Killen, M., Sinno, S., & Margie, N. G. (2007b). Children's experiences and judgments about group exclusion and inclusion. In R. V. Kail (Ed.), *Advances in child development and behavior* (pp. 173–218). New York: Elsevier.
- Killen, M., Mulvey, K. L., & Hitti, A. (2013). Social exclusion in childhood: A developmental intergroup perspective. *Child Development*, 84, 772–790. <https://doi.org/10.1111/cdev.12012>.
- Kinney, D. A. (1993). From nerds to normals: The recovery of identity among adolescents from middle school to high school. *Sociology of Education*, 66, 21–40. <https://doi.org/10.2307/2112783>.
- Leary, M. R., Twenge, J. M., & Quinlivan, E. (2006). Interpersonal rejection as a determinant of anger and aggression. *Personality and Social Psychology Review*, 10, 111–132. https://doi.org/10.1207/s15327957pspr1002_2.
- Leets, L., & Sunwolf. (2005). Adolescent rules for social exclusion: When is it fair to exclude someone else? *Journal of Moral Education*, 34, 343–362. <https://doi.org/10.1080/03057240500211618>.
- Levy, S. R., & Killen, M. (2008). Intergroup attitudes and relations in childhood through adulthood: An introduction. In S. R. Levy & M. Killen (Eds.), *Intergroup attitudes and relations in childhood through adulthood* (pp. 3–15). Oxford: Oxford University Press.
- Levy, S. R., Karafantis, D. M., & Ramirez, L. (2008). A social-developmental perspective on lay theories and intergroup relations. In S. Levy & M. Killen (Eds.), *Intergroup attitudes and relations in childhood through adulthood* (pp. 146–156). Oxford: Oxford University Press.
- Malti, T., Strohmeier, D., & Killen, M. (2015). The impact of onlooking and including bystander behaviour on judgments and emotions regarding peer exclusion. *British Journal of Developmental Psychology*, 33, 295–311. <https://doi.org/10.1111/bjdp.12090>.
- McGlothlin, H., Edmonds, C., & Killen, M. (2008). Children's and adolescents' decision-making about intergroup peer relationships. In S. M. Quintana, C. McKown, S. M. Quintana, C. McKown (Eds.), *Handbook of race, racism, and the developing child* (pp. 424–451). US: John Wiley & Sons Inc.
- Mulvey, K. L., & Killen, M. (2015). Challenging gender stereotypes: Resistance and exclusion. *Child Development*, 86, 681–694. <https://doi.org/10.1111/cdev.12317>.
- Mulvey, K. L., Palmer, S. B., & Abrams, D. (2016). Race-based humor and peer group dynamics in adolescence: Bystander intervention and social exclusion. *Child Development*, 87, 1379–1391. <https://doi.org/10.1111/cdev.12600>.
- Nesdale, D. (2004). Social identity processes and children's ethnic prejudice. In M. Bennett & F. Sani (Eds.), *The development of the social self* (pp. 219–245). New York: Psychology.
- Newman, B., & Newman, P. (2001). Group identity and alienation: Giving the we its due. *Journal of Youth and Adolescence*, 30, 515–538. <https://doi.org/10.1023/A:1010480003929>.
- Opatow, S. (1990). Moral exclusion and injustice: An introduction. *Journal of Social Issues*, 46, 1–20. <https://doi.org/10.1111/j.1540-4560.1990.tb00268.x>
- Park, Y., Killen, M., Crystal, D., & Watanabe, H. (2003). Korean, Japanese, and American children's evaluations of peer exclusion: Evidence for diversity. *International Journal of Behavioral Development*, 27, 555–565. <https://doi.org/10.1080/01650250344000217>.
- Poteat, V. P., & Anderson, C. J. (2012). Developmental changes in sexual prejudice from early to late adolescence: The effects of gender, race, and ideology on different patterns of change. *Developmental Psychology*, 48(5), 1403–1415. <https://doi.org/10.1037/a0026906>.
- Poteat, V. P., DiGiovanni, C., & Scheer, J. (2013). Predicting homophobic behavior among heterosexual youth: Domain general and sexual orientation-specific factors at the individual and contextual level. *Journal of Youth & Adolescence*, 42(3), 351–362. <https://doi.org/10.1007/s10964-012-9813-4>.
- Recchia, H. E., Brehl, B. A., & Wainryb, C. (2012). Children's and adolescents' reasons for socially excluding others. *Cognitive Development*, 27(2), 195–203. <https://doi.org/10.1016/j.cogdev.2012.02.005>.
- Rubin, K., Bukowski, W., & Parker, J. (2006). Peers, relationships, and interactions. In W. Damon & R. Lerner (Eds.), *Handbook of child psychology* (pp. 571–645). New York: Wiley.
- Ruck, M. D., Park, H., Killen, M., & Crystal, D. S. (2011). Intergroup contact and evaluations of race-based exclusion in urban minority children and adolescents. *Journal of Youth and Adolescence*, 40, 633–643. <https://doi.org/10.1007/s10964-010-9600-z>.
- Ruck, M. D., Park, H., Crystal, D. S., & Killen, M. (2015). Intergroup contact is related to evaluations of interracial peer exclusion in African American students. *Journal of Youth and Adolescence*, 44, 1226–1240. <https://doi.org/10.1007/s10964-014-0227-3>.
- Russell, S. T., Sinclair, K. O., Poteat, V. P., & Koenig, B. W. (2012). Adolescent health and harassment based on discriminatory bias. *American Journal of Public Health*, 102(3), 493–495. <https://doi.org/10.2105/AJPH.2011.300430>.
- Rutland, A., Cameron, L., Milne, A., & McGeorge, P. (2005). Social norms and self-presentation: Children's implicit and explicit intergroup attitudes. *Child*

- Development*, 76, 451–466. <https://doi.org/10.1111/j.1467-8624.2005.00856.x>
- Rutland, A., Abrams, D., & Levy, S. (2007). Introduction: extending the conversation: transdisciplinary approaches to social identity and intergroup attitudes in children and adolescents. *International Journal Of Behavioral Development*, 31(5), 417–418. <https://doi.org/10.1177/0165025407083669>.
- Smetana, J. G. (1988). Adolescents' and parents' conceptions of parental authority. *Child Development*, 59, 321–335. <https://doi.org/10.2307/1130313>.
- Smetana, J. G. (1997). Parenting and the development of social knowledge reconceptualized: A social domain analysis. In J. E. Grusec & L. Kuczynski (Eds.), *Parenting and the internalization of values* (pp. 162–192). New York: Wiley.
- Sunwolf, & Leets, L. (2003). Communication paralysis during peer-group exclusion: Social dynamics that prevent children and adolescents from expressing disagreement. *Journal of Language and Social Psychology*, 22, 355–384. <https://doi.org/10.1177/0261927X03258085>.
- Sunwolf, & Leets, L. (2004). Being left out: Rejecting outsiders and communicating group boundaries in childhood and adolescent peer groups. *Journal of Applied Communication Research*, 32, 195–223. <https://doi.org/10.1080/0090988042000240149>.
- Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33–47). Monterey: Brooks-Cole.
- Tropp, L. R., & Prenovost, M. A. (2008). The role of intergroup contact in predicting children's inter-ethnic attitudes: Evidence from meta-analytic and field studies. In S. Levy & M. Killen (Eds.), *Intergroup attitudes and relations in childhood through adulthood* (pp. 236–248). Oxford: Oxford University Press.
- Turiel, E. (1983). *The development of social knowledge: Morality and convention*. Cambridge, UK: Cambridge University Press.
- Verkuyten, M. (2003). Ethnic in-group bias among minority and majority early adolescents: The perception of negative peer behaviour. *British Journal of Developmental Psychology*, 21, 543–564. <https://doi.org/10.1348/026151003322535219>.

Social Inoculation

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The concept of social inoculation refers to a type of risk prevention model derived from the expanding fields of health psychology and

behavioral medicine. The concept has been used to address a variety of social issues, including many that relate directly to adolescents. For example, the model now figures prominently in programs seeking to prevent adolescents' risky health-related behaviors, especially their potential drug and alcohol use (see Midford 2000). As with medical inoculation that exposes individuals to weakened viruses so that they can produce antibodies and resist the effects of later exposure to the virus, social inoculation operates similarly as it deals with attitudes instead of antibodies. Social inoculation involves the inoculations of attitudes as individuals are exposed to counter arguments against what later can become persuasive messages. Providing individuals with arguments against actions enables individuals to resist later stronger messages (see McGuire 1961, 1968). That resistance then enables them to avoid engaging in risk behaviors conducive to harm.

The development of social inoculation approaches reveals a fundamental shift in prevention efforts. Early prevention programs assumed that education and fear were sufficient to motivate adolescents to change health-risking behaviors. Researchers, however, had long noted otherwise (see Evans 1989; Midford 2000). These documented failures led to the development and expanded use of social inoculation. As it relates to adolescents and risk behavior, social inoculation focuses on sources of social pressure, mechanisms of social influence, and states or traits that influence susceptibility to those pressures. As a result, for example, drug prevention programs adopting this model assume that a variety of social pressures push adolescents to use drugs, with those pressures coming from a variety of sources, ranging from the mass media and peers to even idealized images of themselves. To resist these pressures, prevention programs inoculate youth by exposing them to arguments against the use of drugs and training them in the skills necessary to implement nonuse choices.

Social inoculation developed from an outgrowth of social learning theory and informational-processing theory (Bandura 1977; Evans 1989; McGuire 1961, 1968). While the

attention to social influences is taken from social learning theory, information-processing theory adds an important component in the manner that messages are accepted and best addressed. For example, an individual's attitude toward the source of information influences their acceptance of the material. Such insights lead to, for example, the use of more trusted sources in the implementation of programs, such as peers instead of authority figures. As a result, several prevention efforts now involve peers (see, e.g., Weisz and Black 2010). These efforts seek to benefit from the manner peers are attuned to peer cultures, reach other adolescents successfully, and lead programs into meaningful directions (see Backett-Milburn and Wilson 2000). Despite important successes, it is important to note that these programs also can fail, especially when they lack clear objectives, fail to consider environmental constraints, do not adequately train and support peer educators, and fail to secure multi-agency support (see Walker and Avis 1999). These common themes not only reveal how social inoculation works but also highlight the challenges facing the translation of theory into practice.

The social inoculation model increasingly plays an important role in efforts to foster healthy adolescent development. Given the remarkable extent to which research shows how the adolescent period is distinguished by social concerns and responds to social influences, it is not surprising to find an important role for a model that centers on social influences. The model takes advantage of that focus and seeks to benefit from beliefs and attitudes that can be made vulnerable to persuasive attack by opposing arguments. Effective social inoculation models "inoculate" adolescents with both social skills and the knowledge necessary to resist a variety of social pressures urging them to engage in risky behaviors. Social inoculation models have been shown to be grounded in research-based theory and demonstrate positive results. The application of theory into applied practice, however, faces important challenges, and those challenges are precisely the types that this model shows can be surmounted by carefully crafted theory-based programs.

Cross-References

► Prevention Programs

References

- Backett-Milburn, K., & Wilson, S. (2000). Understanding peer education: Insights from a process evaluation. *Health Education Research, 15*, 85–96.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs: Prentice-Hall.
- Evans, R. I. (1989). The evolution of challenges to researchers in health psychology. *Health Psychology, 8*, 631–639.
- McGuire, W. J. (1961). The effectiveness of supportive refutational defenses in immunizing and restoring beliefs against persuasion. *Sociometry, 24*, 184–197.
- McGuire, W. J. (1968). The nature of attitudes and attitude change. In G. Lindzey & E. Aronson (Eds.), *Handbook of social psychology* (pp. 136–314). Reading: Addison-Wesley.
- Midford, R. (2000). Does drug education work. *Drug and Alcohol Review, 19*, 441–446.
- Walker, S. A., & Avis, M. (1999). Common reasons why peer education fails. *Journal of Adolescence, 22*, 573–577.
- Weisz, A. N., & Black, B. M. (2010). Peer education and leadership in dating violence prevention: Strengths and challenges. *Journal of Aggression, Maltreatment & Trauma, 19*, 641–660.

Social Intelligence

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Adolescence involves dramatic changes in social and emotional functioning (Spear 2000). During adolescence, youth focus more on social relationships and bonds with their peers as they gradually detach from their parents (Kloep 1999). Social and emotional development are accelerated during adolescence, and this phase is believed to be especially important in the emergence of social and emotional intelligence (William et al. 2007).

Social intelligence is a multidimensional mental ability distinct from other forms of intelligence (Weis and Süß 2007). The concept of social intelligence, first introduced by Thorndike (1920), refers to the field of social understanding, action,

and interaction. Social life demands not only active but also reactive individuals in the construction of knowledge; it requires the ability to recognize other individuals' mental states in order to respond in ways appropriate for the interpreted situations. This ability to form representative thought that allows one to put oneself in the position of others, and then the ability to respond to that thought, serves as the foundation of social intelligence.

There exists no generally accepted definition of social intelligence, but a few components are well accepted. A key aspect of social intelligence is social understanding, the ability of a person to properly understand and interpret social stimuli that is communicated by various means (Weis and Süß 2007). Social memory also necessarily is involved in social intelligence; it allows for storing and recalling social information. This type of memory typically is (operationalized) as a memory for name and faces but may cover a broader range of contents (Kosmitzki and John 1993). Social intelligence also involves social knowledge, which involves the "procedural" social memory associated with memory and understanding (Weis and Süß 2007). Added to these aspects of social memory would be the ability to deal with people and use appropriate social techniques in interactions with others. These more developed definitions continue to address Thorndike's (1920) differentiation between a cognitive component (involving understanding social relationships) and behavioral component (involving the management of relationships) of social intelligence.

Despite the significance of social intelligence to social functioning, research in this area has not developed considerably. Nor has this area of study focused much on the period of adolescence or considered fully the developmental components of what would constitute social intelligence. Rather than focus on social intelligence itself, the study of adolescence has focused more on related areas such as social skills, self-regulation, and interactions with peers and family members. These areas of research are all related closely to social intelligence, but they do not address it directly to develop, for example, measures that would assess social intelligence in a way that intelligence is assessed, which is what the field

of social intelligence has attempted to do but mainly with adults. This area of research remains a potentially fruitful one if it would specifically focus on adolescents and youth to understand better the developmental roots, changes, and nature of social intelligence.

Cross-References

► [Emotional Intelligence](#)

References

- Kloep, M. (1999). Love is all you need? Focusing on adolescents' life concerns from an ecological point of view. *Journal of Adolescence*, 22, 49–63.
- Kosmitzki, C., & John, O. (1993). The implicit use of explicit conceptions of social intelligence. *Personality and Individual Differences*, 15, 11–23.
- Spear, L. P. (2000). The adolescent brain and age-related behavioral manifestations. *Neuroscience and Biobehavioral Reviews*, 24, 417–463.
- Thorndike, E. (1920). Intelligence and its uses. *Harper's Magazine*, 140, 227–235.
- Weis, S., & Süß, H. (2007). Reviving the search for social intelligence-A multitrait-multimethod study of its structure and construct validity. *Personality and Individual Differences*, 42, 3–14.
- William, D., Killgore, S., & Yurgelun-Todd, D. A. (2007). Neural correlates of emotional intelligence in adolescent children. *Cognitive, Affective & Behavioral Neuroscience*, 7, 140–151.

Social Justice Theory

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Overview

The intent of this essay is to provide a concise overview of the relevance and implications of social justice theory to adolescence. To begin, a description of what is meant by the term "social justice" is presented. Next, the relevance of social justice theory to adolescence is described, and

relevant research addressing critical social justice issues in adolescent populations is explicated. Finally, future research directions and the implications of a social justice approach to work with adolescents are discussed.

Introduction

For several reasons, social justice theory is important to consider in the context of adolescence. Research has shown that the effects of social injustice are deleterious in the adolescent population. Poverty and family dysfunction serve as risk factors for a number of setbacks in adolescence, including mental, emotional, and behavioral disorders, delayed cognitive development, and poor physical well-being (O'Connell et al. 2009). Furthermore, these negative effects disproportionately affect the lives of children and adolescents. The rate of children and youth living in poverty in America has been consistently higher than that of adults for decades, more than 1½ times higher, and this rate continues to increase. For example, the percentage of adolescent children (ages 12–17) living in low-income families increased from 33% in 2000 to 36% in 2008 (Wight and Chau 2009).

Furthermore, it is children and adolescents within communities of color, who are often among those most negatively impacted by situations of inequality and injustice. For example, ethnic minority children and those in low-income households are more likely to experience heightened rates of violence and less likely to live in neighborhoods that offer resources such as parks, museums, and libraries (O'Connell et al. 2009). Neighborhoods without such features are less able to promote the positive development and well-being of young people (O'Connell et al. 2009). Before delving into this research, it is important to provide a clear definition of the term “social justice.”

Defining Social Justice

Social justice is generally defined as the fair and equitable distribution of power, resources, and

obligations in society to all people, regardless of race or ethnicity, age, gender, ability status, sexual orientation, and religious or spiritual background (Van den Bos 2003). Fundamental principles underlying this definition include values of inclusion, collaboration, cooperation, equal access, and equal opportunity. Such values are also the foundation of a democratic and egalitarian society (Sue 2001). In addition, a crucial link exists between social justice and overall health and well-being. For individuals, the absence of justice often represents increased physical and emotional suffering as well as greater vulnerability to illness. Furthermore, social justice issues and access to resources are also inexorably tied to collective well-being (e.g., relationships and political welfare) of families, communities, and society (Hage 2005; Kenny and Hage 2009; Prilleltensky and Nelson 2002).

Effects of Inequality on Adolescents

Much research documents the adverse effects of poverty and inequality on the physical, psychological, and social development of adolescents (e.g., Evans and Kim 2007; Hay et al. 2007; Wadsworth et al. 2008; Young et al. 2001). For example, Abernathy et al. (2002) noted that adverse health outcomes start in infancy, as poverty is associated with higher rates of infant mortality. In their study, they assessed how the home environment and family income level affect adolescents' physical well-being. Results showed that negative health-related behaviors were associated with lower levels of income. Specifically, adolescents living in lower-income families were more likely to live in a smoking household, more likely to smoke cigarettes themselves, and were less physically active. Adolescents in lower-income families were also less likely to have a regular physician (Abernathy et al. 2002).

Elgar et al. (2005) also found evidence of a relationship between negative health behaviors and socioeconomic status. These authors investigate the effects of national-level income inequality – that is, income disparities between the rich and poor – on negative health behaviors,

such as drinking and smoking. Elgar et al. (2005) assessed the relationship between living in a country with higher levels of income inequality and alcohol consumption among 11, 13, and 15-year-olds. They found that the 11- and 13-year-olds living in countries with more income inequality were significantly more likely to drink alcohol. They were also more likely to drink more often, and the 11-year-olds were more likely to drink until a state of drunkenness was achieved (Elgar et al. 2005).

Much literature confirms the link between poverty in adolescence and adverse health risks and conditions (e.g., Evans and Kim 2007). These negative health factors may contribute to a shortened lifespan for adolescents living in poverty, and likely contribute to higher rates of chronic health problems among adults living in poverty. For example, Miech et al. (2006) found that rates of obesity were higher among poor adolescents, with adolescents in their sample also less likely to be physically active. Vieweg et al. (2007) found a similar link between poverty and obesity. They found that receiving public health insurance (and lack of private health insurance) was positively correlated with unhealthy weight levels in adolescents. In addition, the incidence of unhealthy weight was highest in Hispanic adolescents, followed by Black adolescents (Vieweg et al. 2007).

The psychological effects of living in poverty have been shown to be equally problematic during adolescence. Adolescents living in poverty often cope with stressful life situations, such as domestic disputes and neighborhood violence, at a higher rate than youth from families with adequate income (Center for Disease Control 2007). In addition, adolescents of color are more likely than White adolescents to live in the poorest, crime-ridden neighborhoods, which place racial minority adolescents at greater risk of exposure to violence and the effects of negative environments (Douglas-Hall et al. 2006; Schiavone 2009).

Schiavone (2009) interviewed adolescents living in impoverished communities about their encounters with violence. All 14 racial minority youths interviewed indicated that they frequently

witnessed violence in their communities. Participants described these experiences as emotionally distressing, leading to feelings of helplessness and fear, which caused them to be distrustful (Schiavone 2009). Furthermore, living under conditions of poverty also tends to demand adult role-taking earlier among adolescence (Dashiff et al. 2009). Dashiff et al. (2009) found that adolescents' awareness of the financial difficulties their parents face appeared to cause negative mood effects, a sense of helplessness, and shame. Adolescents living in poverty are also more at risk for depression, substance abuse, and early sexual activity. Despite these increased mental health risks, the authors found that impoverished communities often lacked adequate mental healthcare (Dashiff et al. 2009).

Simultaneously, school environments often serve to perpetuate and institutionalize systems of injustice for adolescents (Kozol 1991, 2005). Public school districts in the most impoverished communities have fewer resources and opportunities for their youth. For example, in 2003, New York City spent \$11,627 on the education of each child, while in Nassau County on Long Island, New York, the town of Manhasset spent \$22,311 (Kozol 2005). Too often, classrooms in poorer communities are overcrowded, understaffed, and lacking basic equipment and textbooks needed for teaching (Kozol 1991). In addition, such schools are comprised of mostly Black and Hispanic students, often accounting for a majority of the student body. Following his tour of 60 American public schools, Kozol (1991) found that conditions had actually grown worse for urban children in the 50 years since the Supreme Court landmark ruling of *Brown versus the Board of Education*, in which the policy of segregated schools was dismantled. As described by Kozol (2005), "What is happening right now in the poorest communities of America – which are largely black communities... is the worst situation black America has faced since slavery" (p. 313).

Schools and family environments also may be unsafe environments for gay, lesbian, bisexual, and transgender youth. Perceived sexuality has been noted to be a primary reason for harassment in schools (Matthews et al. 2009). Lesbian, gay,

and bisexual youth who have experienced rejection during adolescence were also recently found to be 8.4 times more likely to report having attempted suicide, 5.9 times more likely to report high levels of depression, 3.4 times more likely to use illegal drugs, and 3.4 times more likely to report having engaged in unprotected sexual intercourse compared with peers from families that reported no or low levels of rejection (Ryan et al. 2009). These results mirrored other studies, which found that harassment or rejection in the school environment due to individual differences was harmful to adolescent development, putting such youth at greater risk for substance use, poorer grades, lower self-esteem, and poorer mental health (Descamps et al. 2000; Gay, Lesbian and Straight Education Network 2005; Hodges and Perry 1999).

One of the primary avenues for promoting social justice and reducing inequality for adolescents is through the implementation of preventive interventions. The following section will describe examples of preventive interventions with youth, and guidelines and principles for their implementation.

Preventive Interventions and Social Justice

Preventive interventions may function best by targeting risk factors and strengthening protective factors in young people (Kenny et al. 2009; Wolf 2005). Protective and risk factors occur both on an individual and societal level, thus affecting adolescents within multiple communities and systems. Protective factors include the abilities that at-risk individuals have to develop strengths in spite of negative environmental circumstances (e.g., poverty, prejudice, and discrimination) (Walsh et al. 2009). Such factors can include resilience, self-efficacy, community involvement, and academic achievement. Although these components do not prevent at-risk adolescents from facing social injustice, they increase the likelihood of positive outcomes for youth who face barriers related to their community, school, or home environment.

Preventive interventions that promote social justice are best designed as systemic interventions that reduce inequality in a variety of settings such as schools and communities (Kenny et al. 2009; Wolf 2005). These prevention programs work to simultaneously increase competencies and decrease problems in young people in order to empower them (Wolf 2005). They strive to give youth the knowledge and skills needed to more effectively deal with situations of unequal social power, as well as work to change social policies that may serve as barriers in the promotion of social justice (Wolf 2005). Successful interventions provide adolescents, families, and communities with the tools and motivation needed to create change on both an individual and systemic level and to promote social justice (Conyne 2004).

Contextual Factors for Adolescents

Well-designed preventive interventions take account of social and contextual factors (e.g., poverty and discrimination), and promote community-wide involvement (Hage and Kenny 2009; Kenny et al. 2009). Ecological theory is one useful model that is frequently utilized in developing effective preventive interventions, as it requires an awareness of many interacting contexts that create adolescents' life circumstances (Bronfenbrenner 1979). These systems include the social, familial, school, and community context of adolescents' lives, all of which need to be considered in creating, designing, and implementing effective preventive interventions.

Guidelines for Effective Preventive Interventions

Prevention scholars have begun to identify a set of guidelines for effective social justice-oriented preventive interventions that are relevant to work with adolescents (Hage et al. 2007; Walsh et al. 2009). First, it is imperative that prevention programs be designed with an understanding of the social context specific to adolescents (Walsh et al. 2009). More specifically, programs should

address both risk and protective factors within each setting relevant to the lives of adolescents, including the social, familial, school, governmental, and community levels. Secondly, programs should be created with the ultimate goal of social justice and structural change, recognizing that genuine change must go beyond an individual level (Hage and Kenny 2009; Kenny et al. 2009). Thirdly, effective preventive interventions are also geared toward the appropriate developmental level of the target population. For example, adolescence is characterized by a transition from elementary school to high school and into adulthood. With this transition come decisions pertaining to work, school, family, and increasing levels of responsibility both for oneself and for one's community. By recognizing adolescents' unique developmental needs, preventive interventions will more effectively support the transition from adolescence into adulthood (Walsh et al. 2009).

In addition to attention to the unique developmental needs of adolescents, preventive interventions should take the cultural context of adolescents into account in designing, implementing, and evaluating prevention programs (Walsh et al. 2009). Multiple factors shape the beliefs and behaviors of an individual adolescent, including racial-cultural identity, ethnic background, family traditions, peer behaviors, and acculturation levels. These cultural influences create an identity that is consistently changing and evolving. Preventive programs that consider the cultural context of adolescence attend to the norms, attitudes, beliefs, and experiences of the target group of adolescents, in their program development, implementation, and evaluation efforts. Not attending to the context may result in programs that inappropriately impose their own values on the target population (Hage et al. 2007).

It is also important to note that collaboration across a variety of disciplines, such as counseling, social work, community psychology, and other related fields, strengthens such programs so that individuals are able to work toward structural change on multiple levels (Hage et al. 2007; Walsh et al. 2009). This collaboration is crucial because it reduces the potential for

miscommunication and allows for greater consideration of the specific context of the target community, thereby enhancing program relevance and likelihood of a successful outcome. In addition, it is also imperative that leaders evaluate the extent to which the program meets their specific social justice goals (Walsh et al. 2009), such as a decrease in social inequities. Finally, professionals need to carry out these programs over time in order to reach as many individuals as possible and sustain smaller, short-term changes that have been made (Walsh et al. 2009).

In sum, these principles can be used to implement prevention programs and can help program leaders reach social justice goals by working to eliminate social inequalities. A number of programs that work with adolescents have used these factors to promote social justice, and have shown promising results, as well as the potential to create and maintain structural change. Some examples of these programs are discussed in the next section.

Examples of Preventive Interventions that Promote Social Justice

The number of preventive interventions for adolescents that target social justice has grown tremendously in the past few years (Wolf 2005). One such program, known as The Boston Connects Program, takes a multilevel approach to promoting social justice by targeting students, peers, families, schools, and communities (Walsh et al. 2008). Students and families in the program are provided with resources to improve academic performance, social competencies, school and community involvement, and support on the individual, peer, and familial levels. The program involves a large-scale intervention targeting both neighborhoods and schools to address risk (e.g., violence, aggression) and protective factors (e.g., mentorship and service opportunities). Evaluations of this program revealed increased support services for students, more community involvement in schools, and improved academic success. More specifically, data suggested that at-risk students in the program progressed academically at

the same rate as (if not faster than) students who were not in the program because they were not at risk (Kenny et al. 2009).

An additional example is the Communities That Care program based in Pennsylvania, which uses prevention strategies to address problem behaviors of at-risk adolescents in over 100 communities (Feinberg et al. 2005). One of the most important features of this program is a prevention board made up of community members that create an individualized risk assessment for each community. Preventive interventions are then implemented for each community, targeting problem behaviors such as teen pregnancy, substance use, school dropout, and acts of violence. Leaders from each community serve as the bridge for program and community involvement, ultimately creating a collaborative partnership in which all parties work to establish social justice at the community level. Program evaluations have shown multiple benefits, including increased community involvement and collaboration in programs, as well as improvements in school performance, school safety, parenting, practices and family and community relations (Hawkins et al. 2002; Jensen et al. 1997; Office of Juvenile Justice and Delinquency Prevention [OJJDP] 1996). Evaluations have also shown decreased problems in school (e.g., detention, failure, truancy, suspension, fighting) and decreases in weapons charges, burglaries, and drug offenses (Jensen et al. 1997; OJJDP 1996).

A third preventive program that works with adolescents who face multiple societal barriers, such as poverty and racism, is Tools For Tomorrow, which works with urban youth in public high schools in Boston, Massachusetts (Kenny et al. 2007). The focus of Tools For Tomorrow is on a pivotal point in adolescence, high school graduation. This program educates students about further educational and career opportunities available post-graduation, while also informing them of structural barriers that they will inevitably face due to the social stratification of society (e.g., racism, classism). The program's ultimate goal is to promote social justice for urban youth by addressing barriers and giving students access to the tools needed to prevent negative consequences of school dropout

(e.g., lifelong poverty). Initial findings demonstrate that teachers who worked with students in the program observed improvements in decision-making skills (Solberg et al. 2002). Early evaluations also suggest positive results pertaining to binge drinking, delinquent behavior, and other targeted risk factors (O'Connell et al. 2009). Finally, the program has also formed a strong collaborative relationship between an area university (i.e., Boston College) and the public school system (i.e., Boston high schools), allowing the intervention to initiate change from more than one level.

The above preventive interventions provide examples of effective programs that have worked to increase awareness of social barriers and decrease social inequities on multiple levels. By following the principles and guidelines outlined above that speak to effective preventive interventions (Walsh et al. 2009), professionals in the helping profession can effectively design, implement, and evaluate programs that promote social justice and target risk and protective factors for adolescents.

Conclusion

This essay provides an overview of critical issues related to a social justice theory of adolescence. Researchers interested in promoting social justice with adolescent populations can contribute to existing work by identifying the causes and effects of oppression in the larger society, and by exploring how oppression and its consequences can be prevented. Examples include studies on preventing dating violence (Cornelius and Resseguie 2007), preventing bias against gay and lesbian youth (Fisher et al. 2008; Morsillo and Prilleltensky 2007) and promoting career development for adolescent girls (O'Brien et al. 2000). In sum, in order to impact issues relevant to social justice in adolescents, researchers need to work toward developing effective preventive interventions that address societal issues of discrimination, and exploitation, such as bias against people based on their race, ethnicity, sexual orientation, age, religion, and gender (APA 2003; Perry and Albee 1994).

The examples of social justice prevention practice contained in this essay are meant to provide direction to practitioners, researchers, and theorists in mitigating the harmful effects of poverty and other inequities on youth, and in empowering youth to use their skills and knowledge to engage in creating social change. A primary avenue for cultivating adolescents' skills and awareness is through education about the social and historical context of social injustice and about factors that contribute to the well-being of all adolescents. Roaten and Schmidt (2009) propose beginning such education as early as elementary school by integrating experiential activities and self-awareness exercises into classroom meetings and curricula. Such activities aim at expanding children's knowledge of social inequality and sense of cultural empathy. They note that such activities not only increase self-awareness but also lead students to confront their biases and ethnocentricity (Roaten and Schmidt 2009).

Furthermore, in addition to education about oppression and to designing preventative interventions aimed at reducing or eliminating the negative effects of social injustice on adolescents, scholars and youth leaders need to engage in substantial policy change to adequately address pressing social concerns facing adolescents. For example, professionals can engage in training of school personnel (e.g., teachers, psychologists) to assist them with developing skills and knowledge about implementing prevention projects that target adolescents (Romano 1997). Youth leaders might also become actively involved in political initiatives that lend their expertise as it relates to health promotion and the prevention of psychological and physical distress among adolescents. Examples include public advocacy initiatives and legislation to reduce community and school violence, to reduce adolescent drug use, and support for cigarette smoking bans in schools and other places frequented by youth. Professionals can further advocate for the support of federal funding priorities that address adolescent health promotion through agencies such as the National Institute of Mental Health, Substance Abuse and Mental Health Services Administration, and the Office of Juvenile Justice and Delinquency. These

efforts will work toward ensuring that *all* youth are provided with resources and opportunities to become successful leaders for the next generation.

References

- Abernathy, T. J., Webster, G., & Vermeulen, M. (2002). Relationship between poverty and health among adolescents. *Adolescence, 37*, 55–67.
- APA. (2003). Guidelines on multicultural education, training, research, practice, and organizational change for psychologists. *American Psychologist, 58*, 377–402.
- Brofenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.
- Center for Disease Control. (2007). Youth risk behavior survey, 2001–2007. Retrieved 15 Feb 2010, from <http://www.cdc.gov/yrbss>.
- Conyne, R. K. (2004). *Preventive counseling: Helping people to become empowered in systems and settings* (2nd ed.). New York: Brunner-Routledge.
- Cornelius, T. L., & Resseguie, N. (2007). Primary and secondary prevention programs for dating violence: A review of the literature. *Aggression and Violent Behavior, 12*, 364–375.
- Dashiff, C., DiMicco, W., Myers, B., & Sheppard, K. (2009). Poverty and adolescent mental health. *Journal of Child and Adolescent Psychiatric Nursing, 22*, 23–32.
- Descamps, M. J., Rothblum, E., Bradford, J., & Ryan, C. (2000). Mental health impact of child sexual abuse, rape, intimate partner violence, and hate crimes in the National Lesbian Health Care survey. *Journal of Gay & Lesbian Social Services, 11*, 27–55.
- Douglas-Hall, A., Chau, M., & Koball, H. (2006). *Basic facts about low-income children: Birth to age 18*. New York: National Center for Children in Poverty, Columbia University Mailman School of Public Health.
- Elgar, F. J., Roberts, C., Parry-Langdon, N., & Boyce, W. (2005). Income inequality and alcohol use: A multilevel analysis of drinking and drunkenness in adolescents in 34 countries. *European Journal of Public Health, 15*, 245–250.
- Evans, G. W., & Kim, P. (2007). Childhood poverty and health: Cumulative risk exposure and stress dysregulation. *Psychological Science, 18*, 953–957.
- Feinberg, M. E., Riggs, N. R., & Greenberg, M. T. (2005). Social networks and community prevention coalitions. *The Journal of Primary Prevention, 26*, 279–298.
- Fisher, E., Komosa-Hawkins, K., Saldana, E., Thomas, G., Hsiao, C., Rauld, M., et al. (2008). Promoting school success for lesbian, gay, bisexual, transgendered, and questioning students: Primary, secondary, and tertiary prevention and intervention strategies. *California School Psychologist, 13*, 79–91.

- Gay, Lesbian, and Straight Education Network. (2005). *From teasing to torment: School climate in America. A survey of students and teachers*. New York: Gay, Lesbian and Straight Education Network.
- Hage, S. M. (2005). Future considerations for fostering multicultural competence in mental health and educational settings: Social justice implications. In M. G. Constantine & D. W. Sue (Eds.), *Strategies for building multicultural competence in mental health and educational settings*. Hoboken: Wiley.
- Hage, S. M., & Kenny, M. (2009). Promoting a social justice approach to prevention: Future directions for training, practice, and research. *Journal of Primary Prevention, 30*, 75–87.
- Hage, S. M., Romano, J. L., Conyne, R. K., Kenny, M., Matthews, C., Schwartz, J. P., et al. (2007). Best practice guidelines on prevention practice, research, training, and social advocacy for psychologists. *The Counseling Psychologist, 35*, 493–566.
- Hawkins, J. D., Catalano, R. F., & Arthur, M. W. (2002). Promoting science-based prevention in communities. *Addictive Behaviors, 27*, 951–976.
- Hay, C., Forston, E. N., Hollist, D. R., Alzheimer, I., & Schaible, L. M. (2007). Compounded risk: The implications for delinquency of coming from a poor family that lives in a poor community. *Journal of Youth and Adolescence, 36*, 593–605.
- Hodges, E. V. E., & Perry, D. G. (1999). Psychological sequelae of hate-crime victimization among lesbian, gay, and bisexual adults. *Journal of Consulting and Clinical Psychology, 67*, 945–951.
- Jensen, J. M., Hartman, J. C., Smith, J. R., Draayer, D., & Schurtz, R. (1997, January). *An evaluation of Iowa's Juvenile Crime Prevention Community Grant Fund Program* (Report submitted to the State of Iowa Division of Criminal and Juvenile Justice Planning). Iowa: University of Iowa, School of Social Work.
- Kenny, M., & Hage, S. M. (2009). The next frontier: Prevention as an instrument of social justice. *Journal of Primary Prevention, 30*, 1–10.
- Kenny, M. E., Sparks, E., & Jackson, J. (2007). Striving for social justice through interprofessional university school collaboration. In E. Aldarondo (Ed.), *Advancing social justice through clinical practice* (pp. 313–335). Mahwah: Erlbaum.
- Kenny, M. E., Horne, A. M., Orpinas, P., & Reese, L. E. (2009). *Realizing social justice: The challenge of preventive interventions*. Washington, DC: American Psychological Association.
- Kozol, J. (1991). *Savage inequalities: Children in America's schools*. New York: HarperCollins Publishers.
- Kozol, J. (2005). *The shame of the nation: The restoration of apartheid schooling in America*. New York: Crown Publishers.
- Matthews, C. R., Pepper, S., & Lorah, P. (2009). Fostering a healthy climate for diversity. In M. E. Kenny, A. M. Horne, P. Orpinas, & L. E. Reese (Eds.), *Realizing social justice: The challenge of preventive interventions* (pp. 165–184). Washington, DC: American Psychological Association.
- Miech, R. A., Kumanyika, S. K., Stettler, N., Link, B. G., Phelan, J. C., & Chang, V. W. (2006). Trends in the association of poverty with overweight among U.S. adolescents, 1971–2004. *Journal of the American Medical Association, 295*, 2385–2393.
- Morsillo, J., & Prilleltensky, I. (2007). Social action with youth: Interventions, evaluation, and psychopolitical validity. *Journal of Community Psychology, 35*, 725–740.
- O'Brien, K. M., Bikos, L. H., Epstein, K. L., Flores, L. Y., Dukstein, R. D., & Kamatuka, N. A. (2000). Enhancing the career decision-making self-efficacy of upward bound students. *Journal of Career Development, 26*, 277–293.
- O'Connell, M. E., Boat, T., & Warner, K. E. (Eds.). (2009). *Preventing mental, emotional, and behavioral disorders among young people: Progress and possibilities*. Washington, DC: National Academies Press.
- Office of Juvenile Justice and Delinquency Prevention (OJJDP). (1996). *1996 report to Congress: Title V incentive grants for local delinquency prevention programs* (Department of Justice Publication No. NCJ 165694). Washington, DC: Office of Juvenile Justice and Delinquency Prevention (OJJDP).
- Perry, M., & Albee, G. W. (1994). On "The science of prevention". *American Psychologist, 49*, 1087–1088.
- Prilleltensky, I., & Nelson, G. (2002). *Doing psychology critically: Making a difference in diverse settings*. New York: Palgrave Macmillan.
- Roaten, G., & Schmidt, E. (2009). Using experiential activities with adolescents to promote respect for diversity. *Professional School Counseling, 12*, 309–314.
- Romano, J. L. (1997). School personnel training for the prevention of tobacco, alcohol, and other drug use: Issues and outcomes. *Journal of Drug Education, 27*, 245–258.
- Ryan, C., Huebner, D., Diaz, R. M., & Sanchez, J. (2009). Family rejection as a predictor of negative health outcomes in white and Latino lesbian, gay, and bisexual young adults. *Pediatrics, 123*, 346–352.
- Schiavone, D. B. (2009). The effects of exposure to community violence on aspects of adolescent identity development. *Journal of Child and Adolescent Psychiatric Nursing, 22*, 99–105.
- Solberg, S. S., Howard, K. A., Blustein, D. L., & Close, W. (2002). Career development in the schools: Connecting school-to-work-to-life. *The Counseling Psychologist, 30*, 705–725.
- Sue, D. W. (2001). Multidimensional facets of cultural competence. *The Counseling Psychologist, 29*, 790–821.
- Van den Bos, K. (2003). On the subjective quality of social justice: The role of affect as information in the psychology of justice judgments. *Journal of Personality and Social Psychology, 85*, 482–498.
- Vieweg, V. R., Johnston, C. H., Lanier, J. O., Fernandez, A., & Pandurangi, A. K. (2007). Correlation between high risk obesity groups and low socioeconomic status

- in school children. *Southern Medical Journal*, *100*, 8–13.
- Wadsworth, M. E., Raviv, T., Reinhard, C., Wolff, B., Santiago, C. D., & Einhorn, L. (2008). An indirect effects model of the association between poverty and child functioning: The role of children's poverty-related stress. *Journal of Loss and Trauma*, *13*, 156–185.
- Walsh, M. E., Kenny, M. E., Wieneke, K. M., & Harrington, K. R. (2008). The Boston connects program: Promoting learning and healthy development. *Professional School Counseling*, *12*, 166–169.
- Walsh, M. E., DePaul, J., & Park-Taylor, J. (2009). Prevention as a mechanism for promoting positive development in the context of risk: Principles of best practice. In M. E. Kenny, A. M. Horne, P. Orpinas, & L. E. Reese (Eds.), *Realizing social justice: The challenge of preventive interventions* (pp. 57–78). Washington, DC: American Psychological Association.
- Wight, V. R., & Chau, M. (2009). *Basic facts about low-income children, 2008*. New York: National Center for Children in Poverty, Columbia University.
- Wolf, J. L. (2005). *A meta-analysis of primary preventive interventions targeting the mental health of children and adolescents: A review spanning 1992–2003*. Unpublished doctoral dissertation, Loyola University Chicago, Chicago.
- Young, T. M., Martin, S. S., Young, M. E., & Ting, L. (2001). Internal poverty and teen pregnancy. *Adolescence*, *36*, 289–304.

Social Learning Theory

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Social learning theory emphasizes the importance of observing and modeling the behaviors, attitudes, and emotional reactions of others and focuses on the reciprocal action between individuals and their environment to determine some aspects of behavior. It is one of the most popular theories in psychological science and criminology. In psychological science, Bandura (1969, 1973) proposed a social learning model that spans both cognitive and behavioral frameworks by encompassing attention, retention, reproduction, and motivation. His model has been applied extensively to the understanding of aggression

and psychological disorders, especially in the context of behavior modification. In criminology, Akers (1973, 1990, 1998) proposed a social learning theory composed of four major concepts – differential association, reinforcement, imitation/modeling, and definitions. Akers' theory proposes that individuals learn criminal behaviors as they do noncriminal ones and seeks to specify how they learn these criminal and noncriminal behaviors and behavioral cues through reinforcement. Akers' theory suggests that individuals learn to anticipate rewards and punishments for criminal behaviors within intimate associations to the extent that these behaviors were previously reinforced, either directly or vicariously. Once behavioral consequences are anticipated, the theory assumes that reinforcement will increase the chances of the behavior since individuals are deemed to maximize rewards and minimize punishments. Social learning theory, regardless of whether it seeks to explain aggression (Bandura 1977) or delinquent behavior (Akers), importantly incorporates protective and preventive factors in addition to factors that facilitate the problem behavior under investigation. The focus is on the balance of influences that make for the probability of problem or conforming behavior, and those influences are not only from one's learning history but also from those operating within given situations and those that are predictive of future behavior.

References

- Akers, R. L. (1973). *Deviant behavior: A social learning approach*. Belmont: Wadsworth.
- Akers, R. L. (1990). Rational choice, deterrence, and social learning theory in criminology: The path not taken. *The Journal of Criminal Law and Criminology*, *81*, 653–676.
- Akers, R. L. (1998). *Social learning and social structure: A general theory of crime and deviance*. Boston: Northeastern University Press.
- Bandura, A. (1969). *Principles of behavior modification*. New York: Holt, Rinehart & Winston.
- Bandura, A. (1973). *Aggression: A social learning analysis*. Englewood Cliffs: Prentice-Hall.
- Bandura, A. (1977). *Social learning theory*. New York: General Learning Press.

Social Networking in Online and Offline Contexts

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Overview

Adolescence is a developmental period in which social networks (cohesive groupings of peers to which the youth belongs) become increasingly important for identity, adjustment, and future relationships. This essay provides an overview of what is known about the characterization, formation, and maintenance of social networks during adolescence. Given the recent explosion of online social networks, such as the Web site Facebook, discussion of adolescents' involvement in these online social networks is included in the essay. Online and offline social networks are compared, taking into account their function, composition, and impact on the adolescent's behavioral adjustment. Directions for future research on these topics are discussed.

Relevance of Social Networking to the Adolescent Developmental Period

Adolescence is the developmental period during which youth are optimally attuned to their peer group (Collins 1997; Gifford-Smith and Brownell 2003). The proportion of each day spent with the peer group and the intimacy and closeness in relationships with peers all rise dramatically during this time (Berndt 1999; Furman and Buhrmester 1992). The amount to which youth are influenced by the behaviors of their peer group is similarly suggested to peak in adolescence (Dishion and Tipsord 2011; Gardner and Steinberg 2005). In sum, it is during adolescence when social networks (groups of peers to which the youth belongs) first become increasingly

important for, and influential on, healthy adjustment.

The emphasis in adolescence on the peer group is developmentally appropriate. Adolescents are theorized to be differentiating themselves from their family of origin and to be using the reactions of their peers to assist them in creating their own identity (Adler and Adler 1998; Brown 2004; Brown et al. 1986). Moreover, the templates that peer relationships establish in adolescence may set the stage for healthy socializing in adulthood (Sullivan 1953). In fact, longitudinal work suggests that qualities of peer interactions in early adolescence are repeated in young adult relationships with romantic partners and friends (Allen et al. 2014; Boisvert and Poulin 2016; Hafen et al. 2015; Rauer et al. 2013). Collectively, these findings underscore the particular importance of peer social networks during the adolescent period.

Social Network Theory

Adolescents' peer interactions may be characterized in multiple ways, but this essay focuses on a particular aspect of the relationship with the peer group known as the social network. Social networks are cohesive groups of youth who interact more with one another than with other youth (Cotterell 2013; Urberg et al. 1995). Social networks may be organized around participation in common activities, such as studying or skateboarding, or may simply be defined by common friendships. Most importantly, however, these networks typically provide a social setting in which adolescents spend time together, form close ties, and learn interpersonal skills that are important in both adolescence and adulthood (Brown 2004).

Adolescents' social networks are structurally different from the crowds that frequently typify high schools. Whereas social networks are comprised of adolescents who actually hang out together, crowds are reputation-based groups, whose members may or may not consider each other friends, such as "the brains, the jocks, the geeks, the popular crowd" (Gest et al. 2007a).

Thus, crowds often define the social structure of schools, sometimes helping adolescents to classify hierarchies within the peer group (Brown 2004). However, because crowd membership is not necessarily based on actual interactions or affiliations among peers, these groups are likely to contribute more to the adolescents' sense of identity than the development of their social skills (Steinberg 2005).

Social networks are also different from dyadic friendships (close, mutual relationships between two youth) in that networks may provide adolescents with group support and a sense of a collective identity as a group member, which dyadic friendships may not offer (Gifford-Smith and Brownell 2003). Social networks can also be distinguished from sociometric status (being globally regarded as liked by the peer group at large) because social networks assess adolescents' actual interactions and affiliations with peers, whereas sociometric status measures perceptions of liking (Gifford-Smith and Brownell 2003). For instance, an adolescent could have a strong, tight-knit social network of a few close peers, while being broadly considered as unpopular by the rest of the school. That said, past research has found positive correlations between the likelihood that someone is a member of a social network and the presence of dyadic friendship and high sociometric popularity (Gest et al. 2001; Wentzel and Caldwell 1997). Nonetheless, correlations are modest, underscoring the need to assess social networks as a distinct construct from dyadic friendships and sociometric status (Gest et al. 2001).

In the field of psychology, social networks are typically assessed using sociometric nomination measures where, for example, adolescents are asked to name the "people they hang out with" from their grade at school (Cotterell 2013; Gest et al. 2007b). Social networks can then be identified by comparing the nominations for everyone at that grade level to find the presence of consistent groupings. Adolescents may also be asked to list "the people they hang out with together," in addition to listing the people with whom they associate personally, which is a way to compensate for having missing participants in a sample (Gest 2007). Computerized software such as

Kliquefinder (Frank 1995, 1996) may be used to process the sociometric nomination information using a clustering algorithm in order to group participants into social networks. Observational studies suggest that the social networks determined from sociometric nominations do correlate with visible patterns of interaction; for example, members of the same social network were recorded by independent observers to interact with one another four times more often than with other same-sex adolescents not found to be in their social network (Gest et al. 2003).

Importantly, although sociometrics are considered the standard procedure in the field for assessing social networks, limitations to this methodology do exist. One key limitation is that this method only maps social networks that an individual has within a set context such as school. This is because this procedure requires a majority of individuals in a single context to report on everyone's networks (e.g., all the students in one grade at a single high school report on the social networks in that grade level). However, unlike among children for whom their primary peer relationships are in the classroom, in adolescence many important and influential relationships are formed with individuals who do not attend the same school (Poulin and Pedersen 2007; Witkow and Fuligni 2010). Thus, although sociometric procedures provide information about social networks within a particular context, they do not consider adolescents' broader affiliations with peers. For instance, an adolescent could have a strong social network of a few peers outside school (e.g., in the neighborhood or church), while being isolated in his or her school.

Social networks vary in size, cohesiveness, stability, and centrality (Gest et al. 2007a). First, most face-to-face social networks are thought to have about four to five members, but variability exists with some being significantly larger or smaller (Gest et al. 2007b). Second, social networks can vary on how tight knit and exclusive they are, sometimes referred to as the density of the social network or whether the network is diffuse in boundaries. Third, just as in friendships, some social networks are highly stable whereas in others, members come and go. Finally, centrality

is a term used to describe whether the social network is perceived to be influential and socially dominant in the organization at large, with members who are well connected with many other groups versus whether the social network is a marginalized group.

Research about what causes adolescents to form the social networks they do has generally suggested homophily as a guiding principle (McPherson et al. 2001). That is, adolescents are drawn to form social networks with peers who are similar to themselves. Importantly, homophily in social network membership exists for a broad range of constructs, including demographics, interests, attitudes, status, and also in regard to drug and alcohol use, externalizing problems, and internalizing problems (Cairns et al. 1988; Goodreau et al. 2009; Hogue and Steinberg 1995; McDonald et al. 2013). Recent research also suggests that attending the same extracurricular activities promotes the formation of social networks, after accounting for homophily in adolescents' original characteristics (Schaefer et al. 2011). Interestingly, higher homophily may also increase the stability of the social network (McDonald et al. 2013).

Online Social Networks

Although traditional investigations of social networking have relied upon networks representing face-to-face relationships among adolescents in a single school, explosive growth has occurred in recent years in online social communication (Pew Internet and American Life Project 2014, 2015). Adolescents are the age group disproportionately affected by this new technology (Pew Internet and American Life Project 2015). While Internet use is now common among all age groups, it is adolescents who predominately use the social communication functions of the Internet, that is, to make and maintain relationships with peers online (Spies Shapiro and Margolin 2014).

Social networking Web sites exemplify online social communication. The most popular of these Web sites is Facebook (Pew Internet and American Life Project 2015), which is used by

approximately 90% of American adolescents (Pew Internet and American Life Project 2014). However, other Web sites such as Instagram are on the rise in this age group (Pew Internet and American Life Project 2014). Facebook users tend to be quite involved with the Web site; most users are on daily (Pew Internet and American Life Project 2014) and studies suggest college students check their Facebook page on average 13 times a day (Dahlstrom et al. 2011).

The purpose of Facebook is to enhance communication and the sharing of social information between members of the same social network as well as to recognize the ways in which social networks of friends overlap (Spies Shapiro and Margolin 2014). On Facebook, users maintain their own page where they typically include their name, photos, and information about themselves. Users are linked to friends in a social network, and friends post comments and pictures on each others' pages that are viewed by all network members. This may be a unique function of Facebook relative to face-to-face interactions; that is, Facebook encourages many network members (some of which do not know one another) to join in the same conversation on the users' page, and this would be unusual or logistically impossible in face-to-face interactions. Another potential unique quality of Facebook is that it encourages users to revisit their past social interactions; for instance, when a user logs in they are prompted to view these interactions via their News Feed or through Notifications (including the Memories feature). Past interactions are kept on the users' page as a permanent record (unless the user deletes them).

Because social networking Web sites represent a fairly new technology, relatively little is known about adolescents' patterns of communication and friendship in this online sphere and how these patterns may compare to those in the adolescents' offline social networks. Nonetheless, although preliminary, growing evidence suggests continuity between both types of social networks. First, there are findings that adolescents report communicating with the same individuals on their Facebook pages as they do in real life, suggesting considerable overlap in the members of online and

offline social networks (Subrahmanyam et al. 2008). In fact, most adolescents use online and offline methods with nearly equal frequency to communicate with their existing friends (Reich et al. 2012). Second, positive correlations have been found among college students between their sociability on campus and the number of friends they have on their Facebook Web site (Ellison et al. 2007). This relationship held after statistical control of total Internet use, suggesting a unique function of Facebook in relation to social communication (Ellison et al. 2007).

Mikami et al. (2010) have conducted a series of studies in a sample of youth, followed from ages 13–14 through ages 20–22, where participants' Facebook pages were observationally coded. Results have suggested considerable continuity between patterns of communication and quality of friendship in face-to-face relationships with the same behaviors online on social networking Web sites. For example, youths' number of friends on their Web page and indicators of connection and support with friends as coded from posts left on their Web page were positively predicted by early adolescent sociometric popularity and observations of support and relatedness in an interaction with a close friend (Mikami et al. 2010). Early adolescent behavior problems (self-reported and mother reported) also predicted the presence of hostility in youths' description of themselves on the Web page and inappropriate pictures posted on the Web page (Mikami et al. 2010). In addition, problems in early adolescents' relationships with their mothers predicted poorer later peer interactions on youths' social networking Web pages (Szwedo et al. 2011). Early relationship difficulties also predicted youth having fewer observed peers in photos posted to their Web page (Szwedo et al. 2011), again suggesting that offline relationship problems may be manifested online.

Interestingly, similar results were found by Mikami et al. (2015) in a different sample of females ages 17–24 (mean age 19.6) with and without histories of attention-deficit/hyperactivity disorder (ADHD) when they were children. Females who had histories of childhood ADHD, compared to those without histories of ADHD, were observed to have fewer friends on Facebook

and less connection with and support from those friends, in late adolescence/emerging adulthood. In addition, females with histories of childhood ADHD reported a preference for online communication over face-to-face communication and reported interacting with more strangers online, relative to those without histories of ADHD. Crucially, mediation analyses suggested that children with ADHD were more likely to experience rejection from face-to-face peers (teacher- and peer-reported) in childhood and mid adolescence, and these face-to-face peer problems explained the greater likelihood for them to have poorer online social relationships in late adolescence/emerging adulthood. Therefore, results are consistent with the idea that social problems offline may set up adolescents for subsequent social problems online.

It is important to note that the nature of adolescents' interactions on social networking Web sites may differ from their interactions on other types of online media such as chat rooms, instant messaging, and Internet gaming. The non-anonymous nature of social networking Web sites may encourage youth to use these Web sites to communicate in a similar way as they would in face-to-face relationships. In addition, the fact that these Web sites have very high prevalence rates of usage among adolescents may make the interactions on them more reflective of the interactions that are occurring face-to-face. For these reasons, newer results may differ from previous research using different Internet media which found Internet interactions to be superficial and to occur predominantly among maladjusted youth (see summaries in Spies Shapiro and Margolin 2014; Valkenburg and Peter 2009).

Relationships Between Social Networking and Adjustment

Consistent with the findings that collectively suggest good peer relationships promote positive adjustment, it is theorized that being part of a social network may also be beneficial for adolescents. Being in a social network may provide adolescents with a sense of group support and belongingness as well as with opportunities to

negotiate conflicts and take the perspective of other group members (Rubin et al. 2006). In support of these hypotheses, investigators using cross-sectional designs with sixth- and seventh-grade students have found that members of social networks showed higher levels of academic achievement (Henrich et al. 2000; Wentzel and Caldwell 1997) and fewer teacher-reported internalizing problems (Henrich et al. 2000) than youth isolated from social networks.

However, these findings cannot rule out the possibility that better-adjusted youth are included in social networks, as opposed to that social networks contribute to good adjustment.

Although members of social networks may, on average, show lower levels of psychopathology than do individuals who are not part of social networks, research on the predictive value of social network membership to subsequent adjustment has yielded more differentiated results. Crucially, the adjustment and behavior of the other members in the adolescents' social network may influence the adolescent's own adjustment and behavior over time, after statistical control of early levels of behavior (Harris 1995). The presence of homophily (McPherson et al. 2001; Shalizi and Thomas 2011) suggests that adolescents tend to affiliate with peers who have similar levels of adjustment and, further, that the peer group will influence the adolescent to become more similar to the group over time.

This process has been best studied among adolescents with externalizing and delinquent behaviors, who tend to affiliate with peers who display similar problems (e.g., Burk et al. 2012; Knecht et al. 2010). It is thought that a delinquent peer group will encourage an adolescent's own delinquency through peer pressure and conformity, a process known as peer contagion effects. For example, the extent to which peers reinforce an adolescent's own talk about deviant actions (by joking, laughing, or saying "right on") has been shown to predict subsequent increases in that adolescent's own delinquent behavior (Dishion et al. 1999; Dishion and Owen 2002; Patterson et al. 2000). There is also a small body of evidence indicating that homophily and peer influence in social networks may also occur for

internalizing behaviors (Hogue and Steinberg 1995; Oh et al. 2008). Specifically, adolescents with internalizing problems tend to heighten the levels of internalizing problems in their friends by engaging in collective rumination or moping, processes which are known to exacerbate internalizing distress (Prinstein 2007; Stevens and Prinstein 2007). Peers may also influence internalizing behaviors indirectly by creating a context for such behavior. For example, risk for intense internalizing behavior such as nonsuicidal self-injury may be increased by peers' levels of depression or impulsivity (Giletta et al. 2013). By contrast, adolescents who are in a social network low in internalizing problems are likely to suggest (or initiate) distraction techniques that are known to be effective in reducing internalizing distress over time (Prinstein 2007; Stevens and Prinstein 2007). Homophily and influence in a social network can also happen around things other than problem behavior. For instance, having a peer group with a strong affiliation toward academic motivation and achievement (Shin and Ryan 2014) can lead an adolescent to engage in these positive practices.

Similar processes may occur in social networking Web sites. As is found in the research on contagion effects in face-to-face social networks, one study reported that the presence of deviancy talk comments on youth's Facebook Web pages as well as pictures on their Web pages of deviant behavior predicted increases in externalizing behaviors over a 1-year period, after statistical control of baseline levels of externalizing behaviors (Szwedo et al. 2012). Similar results were obtained in a different sample of students followed over their first year at university (mean age 18). In this sample, observations of Facebook friends' deviant content predicted students' having a lower first year university grade point average, after statistical control of their high school grade point average and their face-to-face peer acceptance with new university peers (Mikami and Szwedo 2016).

However, the relationship between Web site use and adjustment may be more complicated than originally thought. Some research supports a leveling effect: online social networking

involvement may benefit those with poor face-to-face relationships, but be neutral or possibly detrimental for those with good face-to-face relationships (see Spies Shapiro and Margolin 2014). Several studies find Facebook use and social support from Facebook friends benefits college students with social anxiety or low self-esteem in regard to greater self-reported well-being, but this is not the case for non-anxious students or those with high self-esteem (Steinfeld et al. 2008; Indian and Grieve 2014). In one sample, having many friends in youths' online social network and having interactions with more friends online predicted reductions in internalizing problems over the 1-year period, but only for youth who felt less connected in face-to-face relationships at the beginning of the study. By contrast, these same online factors predicted increases in internalizing difficulties for youth who felt more connected in face-to-face relationships at the start of the study (Szwedo et al. 2012). Perhaps online social networks may help youth who otherwise have difficulty in peer relationships feel connected to peers and reduce feelings of depression or anxiety as a result. For youth who do well in peer relationships, on the other hand, online communication through social networking Web sites may be a less rich form of social interaction than they are accustomed to, leading to an increase in internalizing symptoms if face-to-face relationships are neglected in favor of online socialization.

Other research instead suggests that individuals with weak face-to-face relationships may be hurt by online socializing, while those with good face-to-face relationships are helped, such that the rich get richer and the poor get poorer (see Spies Shapiro and Margolin 2014). One study found that only adolescents with good self-reported face-to-face friendships at earlier ages benefited from self-reported online socializing in regard to self-reported cohesive friendships and connection to school in a 5-year longitudinal design; these results were obtained after statistical control of earlier functioning (Lee 2009). This was also the pattern obtained recently in a sample of students followed over their first year at university. Facebook friends' deviant content and verbal aggression (directed toward the participant) had

detrimental effects on students' adjustment to university (grade point average, psychopathology symptoms, and attachment to university) only if they were disliked by face-to-face university peers, but not if they were liked (Mikami and Szwedo 2016).

Review and Future Directions

This essay has provided a summary of social networking in adolescence, how it is assessed, and the potential for such networks to influence adjustment. The importance of social networks in both offline and online contexts was discussed. Although results to date are intriguing, there are several limitations in the current research. Future work may expand on the existing state of knowledge.

First, social networks have been established as overlapping with but still conceptually distinct from dyadic friendship and peer sociometric status, as summarized above. However, research about the consequences of social network participation on youths' adjustment has not well differentiated between the contributions of social network membership, friendship, and sociometric status. Missing in the empirical literature are studies that assess all three of these constructs within the same sample and examine the independent contribution of social network membership after statistical control of friendship and sociometric status. One exception is the study by Wentzel and Caldwell (1997) who found that social network membership, over friendship and sociometric status, had the strongest influence on sixth graders' academic achievement. Similarly, another study using behavioral genetic methodology found that the influence of a best friend on adolescents' alcohol use could be explained by the adolescent's own genetic tendency to both use alcohol and also to select an alcohol-using best friend, but the influence of a deviant social network remained an independent predictor of increased alcohol use using this behavioral genetic framework (Hill et al. 2008).

Another limitation is that the magnitude of peer contagion effects may theoretically differ

depending on the cohesiveness of the social network. That is, close-knit and cohesive social networks may have greater socialization influences on their members relative to more diffuse or unstable social networks. In the dyadic friendship literature, the influence of a best friend on an adolescent's own behavior is suggested to be strongest when the friendship is high in quality (Berndt et al. 1999; Berndt and Keefe 1995). A similar process may occur for the influence of social networks, as is suggested by a recent study (Kwon and Lease 2009). This type of differentiated investigation of peer contagion effects should be investigated in future work.

Online social networking Web sites are a recent phenomenon, so relatively little is known about adolescents' patterns of interaction in this medium. However, preliminary work overall suggests that youth's social networks online using these Web sites may show continuity with their face-to-face social networks (Mikami et al. 2010, 2015; Szwedo et al. 2011). In fact, deviancy talk online may predict increases in deviant behavior similar to the contagion effects suggested to occur in face-to-face social networks (Mikami and Szwedo 2016; Szwedo et al. 2012). The online medium will continue to be important for social networking. Therefore, future studies might examine characteristics of youths' social networks online, as well as consider both online and offline social networks and social networks assessed outside of school, as predictors of adjustment.

In summary, social networks are highly important for adolescents, and this emphasis on the peer group during the adolescent period is developmentally appropriate. Membership in a social network, or a cohesive group of peers to which the adolescent belongs, is conceptually distinct from participation in a dyadic friendship or the attainment of high sociometric status. Social network membership may provide youth with key negotiation skills as well as a sense of collective identity that may importantly contribute to good adjustment. At the same time, the attitudes, values, and the behaviors of the social network may also influence the youth to become more similar to that network over time, which can potentially exacerbate behavior problems if the social

network members are high in problem behaviors. Online social networks may have similar properties to the face-to-face social networks traditionally studied. Future studies might continue to examine youths' social networks, both in online and offline contexts.

References

- Adler, P. A., & Adler, P. (1998). *Peer power: Preadolescent culture and identity*. New Brunswick: Rutgers University Press.
- Allen, J. P., Chango, J. M., & Szwedo, D. E. (2014). The adolescent relational dialectic and the peer roots of adult social functioning. *Child Development, 85*(1), 192–204.
- Berndt, T. J. (1999). Friends' influence on students' adjustment to school. *Educational Psychologist, 34*, 15–28.
- Berndt, T. J., & Keefe, K. (1995). Friends' influence on adolescents' adjustment to school. *Child Development, 66*, 1312–1329.
- Berndt, T. J., Hawkins, J. A., & Ziao, J. (1999). Influences of friends and friendships on adjustment to junior high school. *Merrill-Palmer Quarterly, 45*, 13–41.
- Boisvert, S., & Poulin, F. (2016). Romantic relationship patterns from adolescence to emerging adulthood: Associations with family and peer experiences in early adolescence. *Journal of Youth and Adolescence, 45*(5), 945–958. <https://doi.org/10.1007/s10964-016-0435-0>.
- Brown, B. (2004). Adolescents' relationships with peers. In R. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology*. New York: Wiley.
- Brown, B., Clasen, D., & Eicher, S. (1986). Perceptions of peer pressure, peer conformity dispositions, and self-reported behavior among adolescents. *Developmental Psychology, 22*, 521–530.
- Burk, W. J., Van Der Vorst, H., Kerr, M., & Stattin, H. (2012). Alcohol use and friendship dynamics: Selection and socialization in early-, middle-, and late-adolescent peer networks. *Journal of Studies on Alcohol and Drugs, 73*(1), 89–98.
- Cairns, R. B., Cairns, B. D., Neckerman, H. J., Gest, S. D., & Garipey, J. (1988). Social networks and aggressive behavior: Peer support or peer rejection? *Developmental Psychology, 24*, 815–823.
- Collins, W. A. (1997). Relationships and development during adolescence: Interpersonal adaptation to individual change. *Personal Relationships, 4*(1), 1–14.
- Cotterell, J. (2013). *Social networks in youth and adolescence*. New York: Routledge.
- Dahlstrom, E., Grunwald, P., de Boer, T., & Vockley, M. (2011). *ECAR national study of students and information technology in higher education: Key findings*. Boulder, CO: EDUCAUSE Center for Applied Research.

- Dishion, T. J., & Owen, L. D. (2002). A longitudinal analysis of friendships and substance use: Bidirectional influence from adolescence to adulthood. *Developmental Psychology, 38*(4), 480–491. <https://doi.org/10.1037/0012-1649.38.4.480>.
- Dishion, T. J., & Tipsord, J. M. (2011). Peer contagion in child and adolescent social and emotional development. *Annual Review of Psychology, 62*, 189–214. <https://doi.org/10.1146/annurev.psych.093008.100412>.
- Dishion, T. J., McCord, J., & Poulin, F. (1999). When interventions harm: Peer groups and problem behavior. *The American Psychologist, 54*, 755–764.
- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook “friends”: Social capital and college students’ use of online social network sites. *Journal of Computer-Mediated Communication, 12*, Article 1.
- Frank, K. A. (1995). Identifying cohesive subgroups. *Social Networks, 17*, 27–56.
- Frank, K. A. (1996). Mapping interactions within and between cohesive subgroups. *Social Networks, 18*, 93–119.
- Furman, W., & Buhrmester, D. (1992). Age and sex differences in perceptions of networks of personal relationships. *Child Development, 63*, 103–115.
- Gardner, M., & Steinberg, L. (2005). Peer influence on risk taking, risk preference, and risky decision making in adolescence and adulthood: An experimental study. *Developmental Psychology, 41*(4), 625.
- Gest, S. D. (2007). The social cognitive map procedure for identifying peer groups and cliques. In W. A. Darity (Ed.), *International encyclopedia of the social sciences* (2nd ed.). Detroit: MacMillan Reference USA/Thomson Gale.
- Gest, S. D., Graham-Bermann, S. A., & Hartup, W. W. (2001). Peer experience: Common and unique features of friendships, network centrality, and sociometric status. *Social Development, 10*, 23–40.
- Gest, S. D., Farmer, T. W., Cairns, B. D., & Xie, H. (2003). Identifying children’s peer social networks in school classrooms. Links between peer reports and observed interactions. *Social Development, 12*, 513–529.
- Gest, S. D., Davidson, A. J., Ruilson, K. L., Moody, J., & Welsh, J. A. (2007a). Features of groups and status hierarchies in girls’ and boys’ early adolescent peer networks. In P. Rodkin & L. Hanish (Eds.), *New directions for child and adolescent development, special issue: Social network analysis and children’s peer relationships*. San Francisco: Jossey-Bass.
- Gest, S. D., Moody, J., & Rulison, K. L. (2007b). Density or distinction? The roles of data structure and group detection methods in describing adolescent peer groups. *Journal of Social Structure, 4*, 1–27. <http://www.cmu.edu/joss/content/articles/volume8/GestMoody/>.
- Gifford-Smith, M. E., & Brownell, C. A. (2003). Childhood peer relationships: Social acceptance, friendships, and peer networks. *Journal of School Psychology, 41*, 235–284.
- Gilletta, M., Burk, W. J., Scholte, R. H., Engels, R. C., & Prinstein, M. J. (2013). Direct and indirect peer socialization of adolescent nonsuicidal self-injury. *Journal of Research on Adolescence, 23*(3), 450–463.
- Goodreau, S. M., Kitts, J. A., & Morris, M. (2009). Birds of a feather, or friend of a friend? Using exponential random graph models to investigate adolescent social networks. *Demography, 46*(1), 103–125. <https://doi.org/10.1353/dem.0.0045>.
- Hafen, C. A., Allen, J. P., Schad, M. M., & Hessel, E. T. (2015). Conflicts with friends, relationship blindness, and the pathway to adult disagreeableness. *Personality and Individual Differences, 81*, 7–12.
- Harris, J. R. (1995). Where is the child’s environment? A group socialization theory of development. *Psychological Review, 102*(3), 458–489. <https://doi.org/10.1037/0033-295x.102.3.458>.
- Henrich, C. C., Kuperminc, G. P., Sack, A., Blatt, S. J., & Leadbeater, B. J. (2000). Characteristics and homogeneity of early adolescent friendship groups: A comparison of male and female clique and nonclique members. *Applied Developmental Science, 4*, 15–26.
- Hill, J., Emery, R. E., Harden, K. P., Mendle, J., & Turkheimer, E. (2008). Alcohol use in adolescent twins and affiliation with substance using peers. *Journal of Abnormal Child Psychology, 36*, 81–94.
- Hogue, A., & Steinberg, L. (1995). Homophily of internalized distress in adolescent peer groups. *Developmental Psychology, 31*, 897–906.
- Indian, M., & Grieve, R. (2014). When Facebook is easier than face-to-face: Social support derived from Facebook in socially anxious individuals. *Personality and Individual Differences, 59*, 102–106. <https://doi.org/10.1016/j.paid.2013.11.016>.
- Knecht, A., Snijders, T. A., Baerveldt, C., Steglich, C. E., & Raub, W. (2010). Friendship and delinquency: Selection and influence processes in early adolescence. *Social Development, 19*(3), 494–514.
- Kwon, K., & Lease, A. M. (2009). Examination of the contribution of clique characteristics to children’s adjustment: Clique type and perceived cohesion. *International Journal of Behavioral Development, 33*, 230–242.
- Lee, S. J. (2009). Online communication and adolescent social ties: Who benefits more from Internet use? *Journal of Computer-Mediated Communication, 14*(3), 509–531. <https://doi.org/10.1111/j.1083-6101.2009.01451.x>.
- McDonald, K. L., Dashiell-Aje, E., Menzer, M. M., Rubin, K. H., Oh, W., & Bowker, J. C. (2013). Contributions of racial and sociobehavioral homophily to friendship stability and quality among same-race and cross-race friends. *The Journal of Early Adolescence, 33*(7), 897–919. <https://doi.org/10.1177/0272431612472259>.
- McPherson, M., Smith-Lovin, L., & Cook, J. (2001). Birds of a feather: Homophily in social networks. *Annual Review of Sociology, 27*, 415–444.
- Mikami, A. Y., & Szewedo, D. E. (2016). *Facebook and in person interactions predict students’ successful transition to university*. San Diego, CA: Paper presented as part of a symposium (Susan Holtzman, chair) at the

- Society for Personality and Social Psychology annual meeting.
- Mikami, A. Y., Szwedlo, D. E., Allen, J. P., Evans, M. A., & Hare, A. L. (2010). Adolescent peer relationships and behavior problems predict young adults' communication on social networking websites. *Developmental Psychology, 46*, 46–56.
- Mikami, A. Y., Szwedlo, D. E., Ahmad, S. I., Samuels, A. S., & Hinshaw, S. P. (2015). Online social communication patterns among emerging adult women with histories of childhood attention-deficit/hyperactivity disorder. *Journal of Abnormal Psychology, 124*(3), 576–588. <https://doi.org/10.1037/abn0000053>.
- Oh, W., Rubin, K. H., Bowker, J. C., Booth-LaForce, C., Rose-Krasnor, L., & Laursen, B. (2008). Trajectories of social withdrawal from middle childhood to early adolescence. *Journal of Abnormal Child Psychology, 36*, 553–566.
- Patterson, G. R., Dishion, T. J., & Yoerger, K. (2000). Adolescent growth in new forms of problem behavior: Macro- and micro- peer dynamics. *Prevention Science, 1*, 3–13.
- Pew Internet and American Life Project. (2014). Social media update 2014. Retrieved October 24, 2015, from <http://www.pewinternet.org/2015/01/09/social-media-update-2014>
- Pew Internet and American Life Project. (2015). Social media usage: 2005–2015. Retrieved October 24, 2015, from <http://www.pewinternet.org/2015/10/08/social-networking-usage-2005-2015/>
- Poulin, F., & Pedersen, S. (2007). Developmental changes in gender composition of friendship networks in adolescent girls and boys. *Developmental Psychology, 43*, 1484–1496.
- Prinstein, M. J. (2007). Moderators of peer contagion: A longitudinal examination of depression socialization between adolescents and their best friends. *Journal of Clinical Child and Adolescent Psychology, 36*, 159–170.
- Rauer, A. J., Pettit, G. S., Lansford, J. E., Bates, J. E., & Dodge, K. A. (2013). Romantic relationship patterns in young adulthood and their developmental antecedents. *Developmental Psychology, 49*(11), 2159.
- Reich, S. M., Subrahmanyam, K., & Espinoza, G. (2012). Friending, IMing, and hanging out face-to-face: Overlap in adolescents' online and offline social networks. *Developmental Psychology, 48*(2), 356.
- Rubin, K. H., Bukowski, W. M., & Parker, J. G. (2006). Peer interactions, relationships, and groups. In N. Eisenberg (Ed.), *Handbook of child psychology* (Social, emotional, and personality development, Vol. 3, pp. 571–645). Hoboken: Wiley.
- Schaefer, D. R., Simpkins, S. D., Vest, A. E., & Price, C. D. (2011). The contribution of extracurricular activities to adolescent friendships: New insights through social network analysis. *Developmental Psychology, 47*(4), 1141–1152. <https://doi.org/10.1037/a0024091>.
- Shalizi, C. R., & Thomas, A. C. (2011). Homophily and contagion are generically confounded in observational social network studies. *Sociological Methods & Research, 40*(2), 211–239. <https://doi.org/10.1177/0049124111404820>.
- Shin, H., & Ryan, A. M. (2014). Early adolescent friendships and academic adjustment: Examining selection and influence processes with longitudinal social network analysis. *Developmental Psychology, 50*(11), 2462–2472. <https://doi.org/10.1037/a0037922>.
- Spies Shapiro, L. A., & Margolin, G. (2014). Growing up wired: Social networking sites and adolescent psychosocial development. *Clinical Child and Family Psychology Review, 17*(1), 1–18. <https://doi.org/10.1007/s10567-013-0135-1>.
- Steinberg, L. (2005). Peer groups. In L. Steinberg (Ed.), *Adolescence* (pp. 165–197). New York: McGraw Hill.
- Steinfeld, C., Ellison, N. B., & Lampe, C. (2008). Social capital, self-esteem, and use of online social network sites: A longitudinal analysis. *Journal of Applied Developmental Psychology, 29*(6), 434–445. <https://doi.org/10.1016/j.appdev.2008.07.002>.
- Stevens, E. A., & Prinstein, M. J. (2007). Peer contagion of depressogenic attributional styles among adolescents: A longitudinal study. *Journal of Abnormal Child Psychology, 33*, 25–37.
- Subrahmanyam, K., Reich, S. M., Waechter, N., & Espinoza, G. (2008). Online and offline social networks: Use of social networking sites by emerging adults. *Journal of Applied Developmental Psychology, 29*, 420–433.
- Sullivan, H. S. (1953). *The interpersonal theory of psychiatry*. New York: Norton.
- Szwedlo, D. E., Mikami, A. Y., & Allen, J. P. (2011). Qualities of peer relations on social networking websites: Predictions from negative mother-teen interactions. *Journal of Research on Adolescence, 21*(3), 595–607. <https://doi.org/10.1111/j.1532-7795.2010.00692.x>.
- Szwedlo, D. E., Mikami, A. Y., & Allen, J. P. (2012). Social networking site use predicts changes in young adults psychological adjustment. *Journal of Research on Adolescence, 22*(3), 453–466. <https://doi.org/10.1111/j.1532-7795.2012.00788.x>.
- Urberg, K. A., Degirmencioglu, S. M., Tolson, J. M., & Hallidayscher, K. (1995). The structure of adolescent peer networks. *Developmental Psychology, 31*, 540–547.
- Valkenburg, P. M., & Peter, J. (2009). Social consequences of the internet for adolescents: A decade of research. *Current Directions in Psychological Science, 18*, 1–5.
- Wentzel, K. R., & Caldwell, K. (1997). Friendships, peer acceptance, and group membership: Relations to academic achievement in middle school. *Child Development, 68*, 1198–1209.
- Witkow, M. R., & Fuligni, A. J. (2010). In-school versus out-of-school friendships and academic achievement among an ethnically diverse sample of adolescents. *Journal of Research on Adolescence, 20*(3), 631–650. <https://doi.org/10.1111/j.1532-7795.2010.00653.x>.

Social Reasoning

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Social reasoning involves the ability to draw inferences about others' intentions, dispositions, and actions, in order to regulate one's own behaviors. The leading conceptualization in this area was presented by Turiel (1983) who presented a domain model of social reasoning that underpins many other efforts relating to it, such as social information processing or what has become known as social cognition. Turiel's model originally posited three distinct conceptual domains that individuals evaluate when they engage in social understanding and reasoning. The personal domain mainly relates to an individual's interpretation of situations in terms of how they would impact the self. The social conventional domain involves an individual's understanding of a situation in terms of social expectations and social norms. The moral domain involves an individual's understanding of situations in terms of broader issues like human rights, welfare, and fairness. Since then, Tisak and Turiel (1984) identified what has become known as a prudential domain, which involves understanding issues in terms of personal safety. Other researchers continue to elaborate on and examine these domains, but Turiel's model remains the foundation of much of that research.

The development of each domain of social reasoning rests on individuals' prior social interactions and experiences and each domain emerges along its own separate developmental framework and trajectory (Helwig et al. 1990). Although the domains are theorized to develop separately, individuals are deemed to access and integrate knowledge across various domains when they make social judgments. Final judgments will depend on an individual's prior experiences and the current social situation that is interpreted in light of individual and situational biases implicit in events (Guerra et al. 1994).

Studies of social reasoning have gained increasing significance in the study of adolescence. Research in this area has examined topics as diverse as delinquency, social exclusion, authority, discrimination, perceptions of authenticity within relationships, and depressive vulnerability (see, e.g., Killen et al. 2002; Ruck and Wortley 2002; Crane-Ross et al. 1998; Tisak and Jankowski 1996). These studies also have been complemented by other research examining decision making; all of which has become a major thrust of research relating to adolescent development.

Cross-References

► [Social Cognition](#)

References

- Crane-Ross, D., Tisak, M. S., & Tisak, J. (1998). Aggression and conventional rule violation among adolescents: Social-reasoning predictors of social behavior. *Aggressive Behavior, 24*, 347–365.
- Guerra, N. G., Nucci, L., & Huesmann, L. R. (1994). Moral cognition and childhood aggression. In L. R. Huesmann (Ed.), *Aggressive behavior: Current perspectives* (pp. 13–33). New York: Plenum Press.
- Helwig, C., Tisak, M., & Turiel, E. (1990). Children's social reasoning in context. *Child Development, 61*, 2068–2078.
- Killen, M., Lee-Kim, J., & McGlothlin, H. (2002). How children and adolescents evaluate gender and racial exclusion. *Monographs of the Society for Research in Child Development, 67*, 1–119.
- Ruck, M. D., & Wortley, S. (2002). Racial and ethnic minority high school students' perceptions of school disciplinary practices: A look at some Canadian findings. *Journal of Youth and Adolescence, 31*, 185–195.
- Tisak, M. S., & Jankowski, A. (1996). Societal rule evaluations: Adolescent offenders' reasoning about moral, conventional and personal rules. *Aggressive Behavior, 22*, 195–207.
- Tisak, M., & Turiel, E. (1984). Children's conceptions of moral and prudential rules. *Child Development, 55*, 1030–1039.
- Turiel, E. (1983). *The development of social knowledge: Morality and convention*. Cambridge: Cambridge University Press.

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Used in clinical, counseling, and educational psychology, social skills training has been widely accepted as an effective means to teach individuals needed interpersonal skills. Through social skills training, individuals learn how to navigate social situations better as well as meet their own needs more effectively. At its core, this method of training breaks down social interaction into manageable parts, including nonverbal skills, paralinguistic skills, paralinguistic features, verbal content, and interactive balance (Mueser and Bellack 2007). Learning then occurs in small, incremental steps as it proceeds on the assumption that improving social skills or changing selected behaviors raises people's self-esteem and increases the likelihood that others will respond favorably to them. These small steps are what eventually can transform relationship skills and lead to more positive development.

Social skills training is based in social learning theory and operant conditioning (see, most notably, Bandura 1969). From social learning theory, social skills training draws upon the notion that individuals learn from observing and imitating. Operant conditioning, on the other hand, focuses on increasing a desired behavior by reinforcing that behavior. Shaping occurs when reinforcement is given as a subject accomplishes one of many sub-behavioral goals, which eventually leads them to accomplish the overarching behavioral goal. All of these principles are applied in social skills training.

Trainers generally follow predictable steps in programs aimed to assist individuals in their efforts to acquire more effective social skills (see, e.g., Bloomquist 2005; Mueser and Bellack 2007). The first is allowing the client to understand the significance of the targeted skill in the overall behavioral goal. Next, the behavioral goal

is distilled into manageable parts. Third, the skill is modeled for the client. Reviewing the demonstration with the client is the fourth step. After that, it is necessary for the client to practice the skill themselves. Sixth, feedback about their performance is given, and then suggestions are provided in the seventh step. The next step provides the client with another opportunity to practice the skill, and step nine repeats steps six through eight one to three times. Finally, the tenth step is to assign homework for the client to practice their skill. Retention and generalizability to the client's life can be enhanced by practicing the skill in session, assigning meaningful homework, and using the client's support system in natural situations. Additionally, guided trips into the community with the trainer can prove useful. Social skills training, then, involves a long process that includes assessing skill deficit, instructing about specific needed skills, modeling, role-playing, shaping, providing frequent feedback, practicing, and reinforcing positive interactions.

While social skills training is often done in groups, it also can be done on an individual basis. In clinical trials, social skills training has benefitted individuals from numerous populations and age groups: those with intellectual disabilities, social phobias, addiction, severe mental illness, and children with behavioral problems (Cook et al. 2008; Maag 2006). Social skills training also can be used in nonclinical settings, such as with couples, families, community outreach programs, and work-based social skills programs. As has been demonstrated, social skills training is a powerful method to catalyze change in a broad range of clients' lives.

As social skills training continues to gain empirical support, it is important to note that many clients who could benefit from training programs lack access to them. The lack of access comes from not only the lack of programs but also the lack of clinical training that would include teaching social skills. Reviews note that increasing social skills remains one of the most potent interventions for helping individuals develop more rewarding and meaningful relationships

(Mueser and Bellack 2007). The extent to which social skills training can help build relationships is of considerable significance given how relationships are important to an individual's quality of life and how relationships also are important in promoting social integration into communities.

References

- Bandura, A. (1969). *Principles of behavior modification*. New York: Holt, Rinehart and Winston.
- Bloomquist, M. L. (2005). Skills training for children with behavior problems: A parent and practitioner guidebook (rev.). New York: Guilford.
- Cook, C. R., Gresham, F. M., Kern, L., Barreras, R. B., Thornton, S., & Crews, S. D. (2008). Social skills training for secondary students with emotional and/or behavioral disorders: A review and analysis of the meta-analytic literature. *Journal of Emotional and Behavioral Disorders, 16*, 131–144.
- Maag, J. (2006). Social skills training for students with emotional and behavioral disorders: A review of reviews. *Behavioral Disorders, 32*, 5–17.
- Mueser, K. T., & Bellack, A. S. (2007). Social skills training: Alive and well? *Journal of Mental Health, 16*, 549–552.

Social Support

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Overview

Social support is aid and caring received from others. It can come from different sources and meet a variety of needs. Social support is a complex, multidimensional construct. Some research suggests social support promotes adolescent development and adjustment while other research suggests that it makes youth more vulnerable to behavioral problems. Knowledge of how social support can affect adolescent development can assist the development of programs for youth or provide suggestions for one-on-one interactions with adolescents.

There are differences by demographic variables in the effects of social support. Understanding the diversity of adolescents' experiences with social support is important in that it increases the likelihood of sensitive interventions for youth and more precise research design. This also would allow adults to tailor their responses depending on the needs of specific adolescents and design research that is more refined. This essay examines some of these factors.

Definitions of Social Support

Social support includes the belief that others like, value, care for, and want to do things with you (Harter 1985). Another definition of social support is relationships, beliefs, and interactions that foster mastery of emotional distress, sharing of tasks, advice, skill development, and material assistance (Pierce et al. 1996). Both significant others and global networks have been differentiated in past research (Milardo 1992). Significant others are people with whom a child has an intimate relationship, frequently a family member or close friend. A global network, however, is comprised of all of the people a child knows. These sources provide different resources, and both are important (Milardo 1992).

According to Robert Weiss (1974), there are six dimensions of "relational provisions" that social support can provide: attachment, obtaining of guidance, opportunity for nurturance, reassurance of worth, a sense of reliable alliance, and social integration. Attachment is the aspect of social support that results in feelings of comfort, security, and belonging. Obtaining of guidance includes receiving support and information in regard to dilemmas. Opportunity for nurturance is the degree to which a relationship provides the person with occasions to care for others. Reassurance of worth provides the individual with feelings of self-confidence and being valued. Reliable alliance is the belief that support from a relationship will persist. Social integration includes relationships or networks where one can share interests, activities, ideas, and such.

Major Theorists and Researchers

Several researchers have examined the nature and significance of social support as it relates to adolescents. Duane Buhrmester, coauthor of the Network of Relationships Inventory (Furman and Buhrmester 1985), has published numerous articles and chapters on social support in children, adolescents, and young adults. His work has included research on youth's perceptions of sibling and peer relationships, including the development of interpersonal competence and relationships of youth with attention-deficit/hyperactivity disorder (ADHD). He also has studied gender and cultural differences in friendships. Michelle Kilpatrick Demaray, coauthor of the Child and Adolescent Social Support Scale (Malecki et al. 2000), has authored several articles and chapters on social support in youth. Her research includes gender and nationality differences, importance of supports, aggression and victimization, social support and adjustment, and experiences of social support by youth with ADH-D. Wyndol Furman, coauthor of the Network of Relationships Inventory (Furman and Buhrmester 1985), has published many articles, chapters, and a book on social support. His research focus has included romantic relationships, friendships, sibling relationships, effects of parental attachment on subsequent relationships, peer interactions, and treatment of interpersonal difficulties in youth. Susan Harter, author of the Social Support Scale for Children (Harter 1985), is well known for her contribution to the assessment of social support in youth as well as youth self-perception. Her research includes articles and chapters on authenticity in adult couples, interactions between self and social support, impact of lack of support, emotion, and motivation. Christine Kerres Malecki, coauthor of the Child and Adolescent Social Support Scale (Malecki et al. 2000), has published articles and chapters regarding gender and nationality differences in social support, importance of support, assessment of support, social support and aggression/victimization, social support and adjustment, and impact of social support on academic achievement. Lastly, Robert S. Weiss has published

extensively, including the topics of grief and loss, attachment, marriage and divorce, and work and retirement. His contribution to social-support research is the conceptualization of different social-support provisions that relationships can supply. As even a brief examination of their work reveals, this area of study is quite robust and growing in important directions.

Sources of Social Support

Adolescents frequently receive support from parents, non-parental adults, and peers. The effects of support from these different sources also interact with each other. Parental support is associated with adaptive outcomes. For example, parental social support is associated with optimism, which then is associated with better mental physical health in adolescents (Piko et al. 2013).

Social support also can come from adults outside of the home, including mental health professionals, teachers, and neighbors. The majority of adolescents receiving services from a therapist or school counselor following parental separation indicated that these individuals were one of the most important sources of support (Halpenny et al. 2008). Among adolescents at risk for school failure, teacher support predicted physical health and psychological well-being and neighborhood support predicted psychological well-being and adjustment after controlling for demographic variables, including neighborhood danger (Bowen and Chapman 1996).

Peers are a frequent and powerful source of support for adolescents. Peer support predicted psychological well-being in a group of middle-school students (Buchanan and Bowen 2008). Peer support can come from classmates or close friends, and the effects vary. Sometimes peer support can have a negative influence.

Support from different sources can interact in several ways. There are three major theories about how sources of social support interact: continuity, compensatory, and alternation. The continuity theory of relationships states that peer relationships recapitulate relationships with adult and have an additive impact on well-being.

A number of studies are consistent with this theory. Peer and adult support interacted such that adult support had a greater impact on well-being at higher levels of peer support than at lower (Buchanan and Bowen 2008). Hence, positive peer relations tend to add to the positive influence of positive parental relations. Poor support from parents is repeated in peer relationships as evidenced by experiencing or witnessing violence in the home being associated with perpetrating or experiencing teen dating violence (World Health Organization 2010).

Another method of interaction is a compensatory model, whereby support from one source can alleviate the effects of an absence of support in other relationships. There is some support for this theory also. A study of Israeli adolescents found that social support from friends was influential only when support from mothers was absent, and that father support had little influence on self-esteem after controlling for support from mother and friends (Hoffman et al. 1988). In this case, the sources of support interact so that if one is deficient, the other sources become more influential. Similarly, parental social support and social support in the neighborhood is associated with a decreased likelihood of dating violence (Banyard and Cross 2008).

An alternation model of interaction occurs when adolescents tend to turn to different sources for support. For example, parents are a common source of sense of reliable aid (belief that the person will consistently be there for you), affection, instrumental help (material assistance), and enhancement of worth, as well as being rated by young adolescents as the most important source of support. Relationships with mothers were characterized as high on intimacy the most satisfactory. Grandparents were a significant source of affection and enhancement of worth. Teachers provided instrumental support. Relations with friends were described by companionship, intimacy, and equal power. Sibling relationships were full of conflict (Furman and Buhrmester 1985). Each relationship provided unique supports, and youth turned to those people accordingly.

Social Support and Development

Social support is important to adolescent social and emotional development. Young adolescents without a close friend were less prosocial (e.g., helpful, polite), more emotionally distressed, and had lower grades. They continued to be more emotionally distressed 2 years later (Wentzel et al. 2004).

Social support has an impact on adolescent functioning, but adolescent functioning also can affect social support. Youth with behavior problems tend to experience negative relationship with others. For example, youth with ADHD frequently have disrupted peer, parent, and teacher relationships. This lack of support then can lead to depression, creating a cycle of poor relationships and emotional and behavioral problems (Sifers and Mallela 2009).

Past research generally supports the notion that significant other social support may serve as a protective factor by moderating the negative effects of stressful life events through provision of emotional support, information, or resources need to deal with stressors effectively (Garnezy 1985). Many studies are consistent with this; however, some research also has found circumstances in which social support is a vulnerability. A number of studies have indicated that high levels of peer support are associated with negative behaviors in adolescents. For example, when peer support increased and family stress was high, expectations for success were lower and sense of alienation was higher than for youth experiencing increased family stress but not an increase in peer support. Friend support was associated with higher levels of lying and disobedience. Furthermore, reciprocal conflict-ridden relationships were associated with higher levels of lying and disobedience than unilateral conflictual relationships or reciprocal, low-conflict friendships (Cairano et al. 2007). Relatedly close peer relationships increase vulnerability to harm from bullying (Vassallo et al. 2014). Additionally, association with a delinquent peer group, including gang affiliation, can meet the need for social support, but also increases illegal and antisocial behavior (Lachman et al. 2013).

Group Differences in Social Support

Research suggests differences in the effects of social support by group membership. Differences have been found by gender, ethnicity, nationality, age, socioeconomic status (SES), and disability status. Perhaps, the most frequently found group differences in social support occur by gender. Girls seem to be more likely to benefit from close-friend and parent support than boys, but also more likely to suffer from the effects of a lack of support. Specifically, social support moderated the impact of bullying on internalizing distress for both boys and girls, but the relationship was significant for only teacher, classmate, and school support for boys and parent support for girls. There was not an interaction between victimization and externalizing behavior for boys, but for girls the two variables interacted such that girls experiencing low levels of bullying and high levels of friend support had lower levels of externalizing behavior than those with limited friend support, and the opposite was true at high levels of bullying (Davids and Demaray 2007).

Young adolescent girls perceived higher rates of support from close friends and classmates than boys. Girls reported more support from close friends than other sources, and boys reported less support from classmates than other sources. Furthermore, social support was not associated with externalizing, internalizing, or adaptive behavior for boys, but it was for girls. In particular, low levels of parent support were associated with higher levels of aggression and conduct problems. Low levels of classmate support were associated with high levels of hyperactivity and depression and low levels of leadership and social skills. Low levels of close-friend support were associated with low levels of conduct problems and social skills (Rueger et al. 2008).

There also are gender differences in developmental changes in social support. Sixth-grade girls reported higher levels of schoolmate and teacher support than boys but experienced a steeper decline in classmate support as they became eighth graders (Way et al. 2007). This finding is particularly important in light of research suggesting that girls are particularly vulnerable to deficits in their social-support networks.

Group differences also exist by ethnicity. Social support at school was associated with early initiation of drinking for non-Latino Caucasian youth, but not Latino or African-American youth (Bossarte and Swahn 2008). African-American adolescents reported higher levels of support from family, but not friends or non-familial adults compared to non-Latino Caucasian adolescents (Barone et al. 1998).

Some research has identified differences in social support by nationality. Youth in the United States reported higher rates of support from parents, teachers, classmates, close friends, and school, as well as higher rates of emotional, information, appraisal, and instrumental support than youth in Finland (Davidson et al. 2008). Hence, there appear to be international differences in sources and types of support.

The experience of social support varies with development. In a study of youth who had undergone hematopoietic progenitor cell transplant, children reported higher social support from teachers than adolescents, whereas adolescents reported higher social support from peers than children (Barrera et al. 2007). Declines in perception of teacher and schoolmate support occurred over the middle-school years (Way et al. 2007). These findings are consistent with a tendency of adolescents to seek more support from peers than adults, and more from close friends than acquaintances.

Socioeconomic status also has been associated with differences in subjective social support. Lower SES sixth graders reported more teacher support and less schoolmate support than higher SES youth. There were no significant differences in close-friend or family support (Way et al. 2007).

Disability status can affect perceptions of social support. Adolescents receiving special education services reported more support from non-familial adults than youth not receiving such services, but there were no significant differences in reports of friend or family support (Barone et al. 1998). This could be because youth in special education have more regular and close contact with school staff.

While there is much research on social support, there still are some controversies. Some are long standing, such as whether actual or perceived

social support is most important, and others are newer such as the impact of technology on social support. The question of whether perceived or received social support is pivotal in adolescent development has been debated. While some claim that it is important to study actual support received, much of the research has tended to focus on subjective reports of support (e.g., Barrera et al. 2007; Rueger et al. 2008). This research suggests that perceived support has a significant impact on adolescent functioning, regardless of objective measures. However, others claim that the actual support received is what is crucial to positive outcomes.

There is a controversy about the impact of social networking sites and other forms of electronic communication on adolescents' social support. In a survey of adolescents and adults, using the internet to communicate with close friends and family was associated with lower depression scores 6 months subsequent to the report of Internet use. Using the Internet to meet people was not associated with a change in depression scores over 6 months for people who initially reported low levels of social support; however, it was associated with an increase in depression scores for those who initially reported moderate or high levels of social support (Bessière et al. 2008). This suggests that use of the internet for socializing appears to augment the benefits of social support for those who use it to contact face-to-face supports or create new supports. The increase in depression scores for people who had reported moderate to high levels of support but then were looking to meet new people online may be due to a breakdown in social-support networks necessitating looking for new sources of support. Social media might provide the setting for building such supports as youth report having more friends because of social media (Common Sense Media 2012).

Measures of Social Support

There are several commonly used measures of social support, which vary by format, whether they assess global (support across people) or

significant other (support from specific individuals) social support and whether they differentiate social support by source or type. The Social Support Scale for Children (SSSC; Harter 1985) measures children's perceptions of social support from parents, teachers, classmates, and close friends. The measure consists of 24 items that result in parent, teacher, classmate, and close-friend support scales. Items are presented in a structured alternative format to decrease the effects of social desirability by legitimizing either option and not requiring the child to endorse an "I" statement. Scores can be averaged across the four subscales to derive a composite global social-support score. The internal consistency for the subscales ranges from $\alpha = 0.72$ to $\alpha = 0.88$. The close-friend support scale was found to correlate $r = 0.46$ with a measure of personal disclosure to friends. The classmate support scale was found to correlate $r = 0.62$ with a measure of social acceptance and popularity among peers (Harter 1985).

The Network of Relationships Inventory (NRI; Furman and Buhrmester 1985) is a 33-item self-report measure that asks the youth about his or her relationship with his or her mother, father, siblings, another relative, teacher, best friend, and boyfriend/girlfriend (if applicable). It is designed to assess children's perceptions of their relationships with significant others. The child responds to questions about 11 characteristics of each relationship using a 5-point scale. The characteristics assessed include: importance of the relationship, relative power of the child and the other, conflict, satisfaction with the relationship, intimacy, companionship, affection, guidance, enhancement of worth, punishment, and reliable alliance. Several studies have used the NRI to assess significant relationships and have found it to be valid and reliable as a measure of children's social networks (Furman and Buhrmester 1992). The internal consistency of the NRI was found to be $\alpha = 0.80$ in a sample of fifth- and sixth-grade children (Furman and Buhrmester 1985).

The Child and Adolescent Social Support Scale (CASSS; Malecki et al. 2000) is a 60-item self-report measure of global social support for youth in grades 3 through 12. The CASSS is based on Tardy's multidimensional model of

social support and is made of five 12-item subscales (classmates, close friend, parents, teachers, and school). It assesses appraisal, emotional, informational, and instrumental support on a 6-point scale. The CASSS provides scores by source of support or a total support scale. It has good internal consistency ($\alpha = 0.89\text{--}0.97$) and test-retest reliability (0.58–0.78 over 8–10 weeks). Factor analysis supports the five-factor structure, and there is evidence of convergent validity (Malecki et al. 2004).

The multidimensional scale of perceived global social support (MSPSS; Zimet et al. 1988) was developed with college students but is frequently used with adolescents. It is a 12-item measure of perceived support from family, friends, and a significant other. It assesses respect, social popularity, and social support on a seven-point scale. This three-factor structure is supported by factor analysis. The measure also yields a total support scale. Scores range from 12 to 84. The scale has strong internal reliability ($\alpha = 0.85\text{--}0.91$) and test-retest reliability is good (0.72–0.85; Zimet et al. 1988).

The Inventory of Socially Supportive Behaviors (ISSB; Barrera 1981) is a 40-item measure of the types of support a person has received over the past month. It consists of a 5-point scale on three factors, advice/information, nondirective assistance, and tangible assets, as well as a total score.

The Arizona Social Support Interview Schedule (ASSIS; Barrera 1981) is a 56-item, 5-point scale that assesses significant other support by source (mothers, fathers, boyfriends, teachers, best friends, grandparents, sisters, brothers) and type (sharing private feelings, money, advice, positive feedback, physical assistance, social participation, and interpersonal conflict). It also assesses changes in support over the past 2 years.

The Perceived Social Support scale (PSS; Procidano and Heller 1983) has family and friend forms that assess perceived support from those sources. It also was originally developed with college students but is sometimes used with adolescents. It is based on the idea that perception of social support is an important part of appraising one's ability to cope with stress and that perceived support reflects the interaction of available support

and individual-level factors that influence the belief that such support is available. It also differentiates support from family and friends as people may perceive sufficient support from one source and not another. It has good internal ($\alpha = 0.88\text{--}0.90$) and external (convergent and divergent) validity.

Conclusions

This essay examined definitions of social support as well as key factors that relate to it. As was seen, social support constitutes an important aspect of study relating to adolescence. This area of study continues to grow as new measures are being created and researchers are making important steps in understanding the nature of social support and its potential significance.

References

- Banyard, V. L., & Cross, C. (2008). Consequences of teen dating violence understanding intervening variables in ecological context. *Violence Against Women, 14*, 998–1013.
- Barone, C., Iscoe, E., Trickett, E. J., & Schmid, K. D. (1998). An ecologically differentiated, multifactor model of adolescent network orientation. *American Journal of Community Psychology, 26*, 403–423.
- Barrera, M., Jr. (1981). Social support in the adjustment of pregnant adolescents, assessment issues. In B. Gottlieb (Ed.), *Social networks and social support* (pp. 69–96). Beverly Hills: Sage.
- Barrera, M., Andrews, G. S., Burnes, D., & Atenafu, E. (2007). Age differences in perceived social support by paediatric haematopoietic progenitor cell transplant patients: A longitudinal study. *Child: Care, Health and Development, 34*, 19–24.
- Bessière, K., Kiesler, S., Kraut, R., & Boneva, B. S. (2008). Effects of internet use and social resources on changes in depression. *Information, Communication and Society, 11*, 47–70.
- Bossarte, R. M., & Swahn, M. H. (2008). Interactions between race/ethnicity and psychosocial correlates of preteen alcohol use initiation among seventh grade students in an urban setting. *Journal of Studies on Alcohol and Drugs, 69*, 660–665.
- Bowen, G. L., & Chapman, M. V. (1996). Poverty, neighborhood danger, social support, and the individual adaptation among at-risk youth in urban areas. *Journal of Family Issues, 17*, 641–666.
- Buchanan, R. L., & Bowen, G. L. (2008). In the context of adult support: The influence of peer support on the psychological well-being of middle-school students.

- Child and Adolescent Social Work Journal*, 25, 397–407.
- Ciairano, S., Rabaglietti, E., Roggero, A., Bonion, S., & Beyers, W. (2007). Patterns of adolescent friendships, psychological adjustment and antisocial behavior: The moderating role of family stress and friendship reciprocity. *International Journal of Behavioral Development*, 31, 539–548.
- Common Sense Media (2012). Social media, social life: How teens view their digital lives. Retrieved from <https://www.commonsensemedia.org/research/social-media-social-life-how-teens-view-their-digital-lives>
- Davids, L. M., & Demaray, M. K. (2007). Social support as a moderator between victimization and internalizing-externalizing distress from bullying. *School Psychology Review*, 36, 383–405.
- Davidson, L. M., Demaray, M. K., Malecki, C. K., Ellonen, N., & Korkiamäki, R. (2008). United States and Finnish adolescents' perceptions of social support: A cross-cultural analysis. *School Psychology International*, 29, 363–375.
- Furman, W., & Buhrmester, D. (1985). Children's perceptions of the personal relationships in their social networks. *Developmental Psychology*, 21, 1016–1024.
- Furman, W., & Buhrmester, D. (1992). Age and sex differences in perceptions of networks of personal relationships. *Child Development*, 63, 103–115.
- Garmezy, N. (1985). Stress-resistant children: The search for protective factors. In J. E. Stevenson (Ed.), *Recent research in developmental psychopathology* (pp. 213–233). Oxford: Pergamon.
- Halpenny, A. M., Greene, S., & Hogan, D. (2008). Children's perspectives on coping and support following parental separation. *Child Care in Practice*, 14, 311–325.
- Harter, S. (1985). *The social support scale for children and adolescents*. Denver: University of Denver, Department of Psychology.
- Hoffman, M. A., Upshiz, V., & Levy-Shiff, R. (1988). Social support and self-esteem in adolescence. *Journal of Youth and Adolescence*, 17, 307–316.
- Lachman, P., Roman, C. G., & Cahill, M. (2013). Assessing youth motivations for joining a peer group as risk factors for delinquent and gang behavior. *Youth Violence and Juvenile Justice*, 11, 212–229.
- Malecki, C. K., Demaray, M. K., & Elliott, S. N. (2000). *The child and adolescent social support scale*. DeKalb: Northern Illinois University.
- Malecki, C. K., Demaray, M. K., & Elliott, S. N. (2004). *A working manual on the development of the child and adolescent social support scale*. DeKalb: Author.
- Milardo, R. M. (1992). Comparative methods for delineating social networks. *Journal of Social and Personal Relationships*, 9, 447–461.
- Pierce, G. R., Sarason, B. R., Sarason, I. G., Joseph, H. J., & Henderson, C. A. (1996). Conceptualizing and assessing social support in the context of the family. In G. R. Pierce, B. R. Sarason, & I. G. Sarason (Eds.), *Handbook of social support and the family* (pp. 3–23). New York: Plenum.
- Piko, B. F., Luszczynska, A., & Fitzpatrick, K. M. (2013). Social inequalities in adolescent depression: The role of parental social support and optimism. *International Journal of Social Psychiatry*, 59, 474–481.
- Procidano, M. E., & Heller, K. (1983). Measures of perceived social support from friends and from family: Three validation studies. *American Journal of Community Psychology*, 11(1), 1–24.
- Rueger, S. Y., Malecki, C. K., & Demaray, M. K. (2008). Gender differences in the relationship between perceived social support and student adjustment during early adolescence. *School Psychology Quarterly*, 23, 496–514.
- Sifers, S. K., & Mallela, S. R. (2009). Relationship difficulties as a conduit from ADHD to depression. Unpublished manuscript, Minnesota State University, Mankato.
- Vassallo, S., Edwards, B., Renda, J., & Olsson, C. A. (2014). Bullying in early adolescence and antisocial behavior and depression six years later: What are the protective factors? *Journal of School Violence*, 13, 100–124.
- Way, N., Reddy, R., & Rhodes, J. (2007). Students' perceptions of school climate during the middle school years: Associations with trajectories of psychological and behavioral adjustment. *American Journal of Community Psychology*, 40, 194–213.
- Weiss, R. S. (1974). The provisions of social relationships. In Z. Rubin (Ed.), *Doing unto others: Joining, molding, conforming, helping, loving* (pp. 17–26). Englewood Cliffs: Prentice-Hall.
- Wentzel, K. R., Barry, C. M., & Caldwell, K. A. (2004). Friendships in middle school: Influences on motivation and school adjustment. *Journal of Educational Psychology*, 96, 195–203.
- World Health Organization [WHO] (2010). *Preventing intimate partner and sexual violence against women: Taking action and generating evidence*. Retrieved from http://apps.who.int/iris/bitstream/10665/44350/1/9789241564007_eng.pdf?ua=1&ua=1.
- Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment*, 52, 30–41.

Social Trust

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Overview

Social trust is the disposition people have toward people they do not know. Unlike trust in people who are familiar to us, such as parents, having

social trust means feeling comfortable with taking a leap of faith that it is important to treat others the way that we would wish to be treated. Individuals with social trust are willing to accept their vulnerability to be treated unfairly and dishonestly. Individuals develop that sense of trust in childhood and adolescence. Although trust and its development has mainly been studied in families, the broader social trust has been the subject of increasingly inquiry. The importance of that research comes from the notion that the belief that people are generally fair and trustworthy is a disposition critical for democratic governance.

The Nature and Significance of Social Trust

One of the key developmental tasks of adolescence involves discerning how to engage with others and one's general social community (see, e.g., Flanagan 2003). Although there are many ways to study this discernment and the extent of actual engagement, the concept of social trust has emerged as one of the most important ways to understand it. Researchers and commentators conceptualize social trust as the extent to which an individual holds a positive belief in humanity, particularly the extent to which individuals trust that people usually will treat others fairly and not take advantage of another for personal gain (Kelly 2009). This orientation is not only of significance to particular individuals but also to society in general. It can result in important contributions to society given that individuals who have high levels of social trust tend also to be more cooperative, be more tolerant, volunteer, give to charity, and participate in civic and political activities.

Researchers who focus on the study of adolescence have studied well how people trust familiar others. Yet, that sense of trust is believed to move beyond familiar relationships and taps into beliefs about people in general, particularly the perception of whether people can be assumed to be fair and benevolent. That has been the leading conceptualization of trust presented by Uslander (2002), although others have noted many ways to approach trust and sought to clarify nuances

(Robbins 2016). Uslander usefully highlighted the difference between strategic trust, which is the confidence had in people familiar to us, and moralistic trust, the decision to treat others well on the belief that they will act benevolently toward us. The extent to which an individual has social trust, then, is the extent to which others are given the benefit of the doubt that they are trustworthy, fair, honest, and the type to let into our moral community.

The significance of social trust also is highlighted when it is missing. Youth who lack social trust are more likely to engage in juvenile delinquency and other problematic activities. They do so because they experience overt exclusion from prosocial community activities (Pan et al. 2005; Kelly 2009). Large longitudinal studies support these claims, as they find that aggression during middle childhood predicts not only how adolescents trust others but also how they are trustworthy (Malti et al. 2013). Lack of social trust has the potential to influence the very fabric of society; individuals with high social trust are more likely to view members of out-groups as part of their moral community and feel responsibility for their welfare. Given the potential centrality of social trust to relationships and community life, it is no surprise to find that considerable concern emerges when indicators suggest a general decrease in social trust among youth as compared to prior cohorts (see Smith 2005).

The Developmental Understanding of Social Trust

Despite its significance, research on social trust tends to focus on adults and ignore its developmental roots beyond broad group comparisons. Yet, while researchers have not examined, for example, the developmental correlates of social trust in great detail, it may be assumed that social trust is established before adulthood. In fact, studies do point out that social trust is relatively stable but tends to crystallize in early adulthood after instability in social trust between 13 and 15 years of age (see Abdelzadeh and Lundberg 2016). Such research supports the conclusion that

the impressionable years of adolescence are highly relevant to the development of social trust.

The years of adolescence may be relevant, but research has not clearly identified how so. Still, several important studies are suggestive. For example, studies of perceptions of humanity in early adolescents have shown that those who view people as able to change are less likely to judge others or stereotype out-groups; they also are able to see similarities between themselves and members of a disadvantaged group and to have a history of volunteering to help others (Levy and Dweck 1999; Karafantis and Levy 2004). While these correlates of perceptions of humanity also may well be correlates of social trust, researchers still have yet to test directly the factors that contribute to the development of social trust, nor do they know how they relate to its relative stability emerging in adulthood.

Despite many unknowns, adolescence presents an ideal point to study the development of social trust. For example, the period involves individuals' questioning of their own authenticity and trustworthiness. With increasing exposure to a variety of social experiences and an expansion of socio-cognitive competences, it would be expected that individuals struggle with social trust. Indeed, as adolescents age and given what is known about peer group formation and identity development, it could be expected that social trust would decrease in part due to the challenge of finding others with similar interests and norms. But that tendency may be countered by other developmental abilities. Trust requires social intelligence, being informed through experience, and is tempered by skepticism. Older adolescents' ability to think about others also means that they can be better able to conceptualize a generalized other (i.e., "humanity") and to distinguish between many aspects of their social world, including the ability to distinguish between their social circumstance and those of a generalized other. These examples reveal how the understanding of social trust can be informed by key developmental changes occurring during the adolescent period; they also show that it is not clear how social trust can develop in positive or negative directions.

Although the study of social trust itself has not developed as much as might be expected (see

Bernath and Feshbach 1995), some studies have examined the nature of trust in other domains and how they may relate directly to social trust. There has been important research relating to parent-adolescent trust and its socialization (see, e.g., Rotenberg 1995), but the bulk of it focuses on parents' trust of adolescents (Kerr et al. 1999). Recently, that research has been expanded to examinations of family processes and how they might influence the development of social trust. Particularly worth noting are studies that examine the messages of compassion and responsibility for others that adolescents hear from their parents. That research finds that parents who encourage compassion for others boost their adolescents' sense of social trust, while parents who are cautious about others taking advantage of them diminish social trust (Wray-Lake and Flanagan 2012). That line of research suggests that parental modeling influences the dispositions of social trust.

Related to research on parenting is a considerable amount of research centered on the place of trust in friendships (see Rotenberg 1991; Betts and Rotenberg 2008). That research has tended to focus on young children rather than adolescents (Rotenberg et al. 2012). Still, that research gains relevance given that developmental scientists have long stressed the role of early trust in children's psychosocial development and developmental outcomes. Erikson's (1963) highly influential conceptualization of life-span developmental stages proposed that negotiating the crisis between basic trust and mistrust is a critical stage of development that influences other ones. Building on that conceptualization, it has found that being viewed as trustworthy and trusting others is an important component of one's social reputation, with clear links between the frequency of children's aggressive behavior and the maintenance of negative peer reputations.

In some ways, the findings relating to friendships are not surprising as research has long shown that one's social reputation is an important determinant of attributions about a peer's aggressive behavior and behaviors toward that peer (Malti et al. 2013). That area of research becomes relevant in that, since many aspects of friendships are negotiated, broader social trust may reflect these negotiations. Although it may be that these types of trust

generalize to broader contexts and other relationships, whether and how they do so remains to be seen given that, as seen above, the objects of trust likely are quite different. It may be reasonable to assume that relationships with parents, friends, and other significant others influence an individual's general view of society, but how those relationships do so still remains an area open for research.

Conclusion

The study of social trust is scattered in different areas of study. Gaining an understanding of social trust means examining research on parenting and identity development, on antisocial behavior and prosocial development, as well as on what is central to social trust: beliefs about broader society and actions relating to civic engagement. Each of those areas of study makes clear that social trust is an important concept to explore. Each also reveals that its importance has long been established and that research still has much to uncover to understand the nuances that lead to social trust and shape the outcomes associated with it.

References

- Abdelzadeh, A., & Lundberg, E. (2016). Solid or flexible? Social trust from early adolescence to young adulthood. *Scandinavian Political Studies*. <https://doi.org/10.1111/1467-9477.12080>.
- Bernath, M. S., & Feshbach, N. D. (1995). Children's trust: Theory, assessment development and research directions. *Applied and Preventive Psychology*, 4, 1–19.
- Betts, L. R., & Rotenberg, K. J. (2008). A social relations analysis of children's trust in their peers across the early years of school. *Social Development*, 17, 1039–1055.
- Erikson, E. H. (1963). *Childhood and society*. New York: Norton.
- Flanagan, C. A. (2003). Trust, identity, and civic hope. *Applied Developmental Science*, 7, 165–171.
- Karafantis, D. M., & Levy, S. R. (2004). The role of children's lay theories about the malleability of human attributes in beliefs about and volunteering for disadvantaged groups. *Child Development*, 75, 236–250.
- Kelly, D. C. (2009). In preparation for adulthood: Exploring civic participation and social trust among young minorities. *Youth & Society*, 40, 526–540.
- Kerr, M., Stattin, H., & Trost, K. (1999). To know you is to trust you: Parents' trust is rooted in child disclosure of information. *Journal of Adolescence*, 22, 737–752.
- Levy, S. R., & Dweck, C. S. (1999). The impact of children's static vs. dynamic conceptions of people on stereotype formation. *Child Development*, 70, 1163–1180.
- Malti, T., Averdijk, M., Ribeaud, D., Rotenberg, K. J., & Eisner, M. P. (2013). "Do you trust him?" Children's trust beliefs and developmental trajectories of aggressive behavior in an ethnically diverse sample. *Journal of Abnormal Child Psychology*, 41(3), 445–456.
- Pan, R. J., Littlefield, D., Valladolid, S. G., Tapping, P. J., & West, D. C. (2005). Building healthier communities for children and families: Applying asset-based community development to community pediatrics. *Pediatrics*, 115, 1185–1187.
- Robbins, B. G. (2016). What is trust? A multidisciplinary review, critique, and synthesis. *Sociology Compass*, 10(10), 972–986.
- Rotenberg, K. J. (1991). The trust-value basis of children's friendships. In K. J. Rotenberg (Ed.), *Children's interpersonal trust: Sensitivity to lying, deception, and promise violations* (pp. 160–172). New York: Springer.
- Rotenberg, K. J. (1995). The socialisation of trust: Parents' and children's interpersonal trust. *International Journal of Behavioral Development*, 18, 713–726.
- Rotenberg, K. J., Betts, L. R., Eisner, M., & Ribeaud, D. (2012). Social antecedents of children's trustworthiness. *Infant and Child Development*, 21(3), 310–322.
- Smith, T. (2005). The transition to adulthood and the generation gap from the 1970's to the 1990's. In R. A. Settersten Jr., F. F. Furstenberg Jr., & R. G. Rumbaut (Eds.), *On the frontier of adulthood: Theory, research, and public policy* (pp. 177–244). Chicago: University of Chicago Press.
- Uslaner, E. M. (2002). *The moral foundations of trust*. New York: Cambridge University Press.
- Wray-Lake, L., & Flanagan, C. A. (2012). Parenting practices and the development of adolescents' social trust. *Journal of Adolescence*, 35(3), 549–560.

Social Withdrawal

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Introduction

Adolescence is generally considered to be a time of *moving away* from parents and *moving toward* peers (Collins and Steinberg 2006). It is well established

that peers provide an important and unique context for children's socio-emotional, social-cognitive, and academic development (Rubin et al. 2015). However, peer experiences, including those involving friends, peer networks, and burgeoning romantic relationships, become increasingly influential on well-being and adjustment during the adolescent years (i.e., ages 10–19). Moreover, time spent with peers increases steadily from middle childhood to late adolescence (Lam et al. 2014) and is accompanied by increased pressures and expectations to socialize with friends and engage in social activities. Compared to their typical peers, *socially withdrawn* adolescents by definition spend a larger proportion of their time alone and on the periphery of the social scene. Accordingly, such individuals may not only be viewed negatively by their peers due to their atypical behavior but may also *miss out* on the positive developmental opportunities afforded by peer interaction.

Somewhat paradoxically, adolescence is also an age period during which the potential benefits of certain types of solitude first come to be appreciated. For example, adolescents report more positive affect following periods of self-imposed solitude as compared to preadolescents (e.g., Larson 1997). Indeed, it has been argued that it is during adolescence that (self-initiated) solitude emerges as a constructive domain of expertise, as time spent alone becomes increasingly critical for developmental tasks such as individuation and identity formation (Goossens 2014). Adolescence is also marked by an increase in the uses of privacy, as well as a greater ability and need to be alone. Among adults, solitude has been described as an important context for religious experiences, creativity, and insights, as well as the simple enjoyment of leisure activities (Long et al. 2003).

Given the unique social features of the adolescent developmental period, it is perhaps somewhat surprising that compared to relevant research during early and middle childhood, and even adulthood, relatively little is known about the experience of being socially withdrawn during adolescence. Nevertheless, the findings thus far offer important insights into the development and continuity of withdrawn behavior from

childhood into adolescence and the negative adjustment concomitants of adolescent social withdrawal.

Overview

In this entry we review existing theory and research on social withdrawal during early, middle, and late adolescence (approximately 10–19 years of age). We first consider definitions of social withdrawal and related constructs, relevant theory, and issues pertaining to measurement and assessment. Next, we review the empirical literature on the contributions of biology and genetics to the development of social withdrawal and the ways in which parents contribute to social withdrawal during childhood and adolescence. Thereafter, the peer relations and psychological correlates and consequences of social withdrawal during adolescence are described. This section is followed by a review of research that focuses specifically on gender and cultural differences in the outcomes of social withdrawal. This entry concludes with a discussion of future research directions.

Defining Social Withdrawal and Related Terms

Social withdrawal refers to the consistent (across situations and over time) display of solitary behavior *when encountering familiar and/or unfamiliar peers* (Rubin et al. 2009). Compared to their more sociable age-mates, socially withdrawn adolescents less frequently take advantage of available opportunities for social interaction and thus are observed to spend comparatively more time alone. Conceptually, it is important to distinguish *social withdrawal*, during which an adolescent chooses to be alone when in the company of others, from *active isolation*, during which an adolescent might spend more time by themselves (in the presence of peers) because they are actively excluded, rejected, and/or isolated by peers (Rubin and Mills 1988).

Researchers have focused on several broad *reasons* why it is that individuals might remove

themselves from opportunities for social interaction. For example, some adolescents refrain from peer interactions because they are wary and anxious. In this regard, several related constructs have emerged in the literature. In young children, the temperamental characteristic *behavioral inhibition (BI)* denotes biologically based wariness during exposure to unfamiliar people, things, and places (Kagan 1997). In older children and adolescents, *shyness* refers to a personality trait that contributes toward feelings of wariness in the face of social novelty and/or self-consciousness in situations of perceived social evaluation (Crozier 1995). The term *anxious solitude* is also used to describe socially wary and withdrawn behaviors displayed specifically in familiar peer contexts (Gazelle and Ladd 2003). Researchers who have studied the etiology of anxiously withdrawn behavior have discovered that BI in infancy and toddlerhood is a strong predictor of shyness and anxious withdrawal during the middle and later years of childhood (e.g., Perez-Edgar et al. 2010). Furthermore, researchers have found that early BI predicts anxiety disorders (and especially social anxiety) during adolescence (e.g., Chronis-Tuscano et al. 2009).

In general, adolescents tend to be more susceptible than children to feelings of self-consciousness and embarrassment, particularly in dealing with peers, members of the other sex, and authority figures. Moreover, the adolescent developmental period marks the more frequent emergence of clinically diagnosed *social anxiety disorder* (Rapee et al. 2009). This debilitating disorder is characterized by an intense and persistent fear/anxiety of one or more social situations in which a person is exposed to unfamiliar people or possible scrutiny by others (American Psychiatric Association 2013).

Some children and adolescents may also best be described as *unsociable* (or *socially disinterested*) and they prefer to play alone (Coplan and Weeks 2010). This non-fearful preference for solitude has been described as an affinity for aloneness during adolescence (Goossens 2014) and a *solitropic* orientation among adults (Leary et al. 2003).

Unsociability is considered to be a comparatively benign form of social withdrawal,

particularly in early childhood, when solitary activities are quite normative (Rubin 1982). It has been postulated that unsociability might become increasingly associated with negative outcomes in later childhood and adolescence as expectations are raised regarding norms for social interactions (Rubin and Asendorpf 1993). Socially withdrawn behavioral tendencies also tend to be relatively stable across childhood and into adolescence (and also across contexts; Schneider et al. 1998), which has led to suggestions that the *costs* of being withdrawn, for whatever reason, may accumulate over time (Rubin et al. 2009). In support of these notions, the display of all forms of solitary behaviors (during opportunities for peer interaction) at school appears to become increasingly associated with indices of socio-emotional difficulties in later childhood and early adolescence (Coplan et al. 2013, 2015b). However, results from the few studies of self-reported unsociability in adolescence and emerging adulthood (18–25 years) suggest that this specific subtype of social withdrawal remains largely unassociated with significant negative outcomes during these developmental periods (e.g., Bowker and Raja 2011; Nelson 2013; for an exception that focused on preference for solitude, see Wang et al. 2013).

Finally, it has been previously suggested that *socially avoidant* children and adolescents both desire solitude and actively seek to avoid social interaction (Asendorpf 1990). We are only just beginning to examine the origins and underpinnings of social avoidance in childhood (Coplan et al. 2015a). However, there is at least some preliminary empirical evidence to suggest that this subtype of social withdrawal may be particularly maladaptive and problematic in later childhood (Coplan et al. 2013), adolescence (Bowker and Raja 2011), and early adulthood (Nelson 2013).

Relevant Theories

Theories that emphasize the importance of peer interactions and relationships for the development of normal social relationships and social skills

have provided the theoretical foundation for the study of those adolescents (and also children) who interact rarely with and avoid their peers (see Rubin et al. 2015 for a more thorough review). For instance, Piaget (1932) argued that peer relationships provide unique developmental contexts in which children could experience opportunities to examine conflicting ideas and explanations, to negotiate and discuss multiple perspectives, and to decide to compromise with or to reject the notions held by peers. Piaget (1932) further postulated that from such interactions, children came to develop the capacity for sensitive perspective-taking or the ability to understand the thoughts, feelings, and viewpoints of others. In turn, this ability to view and understand the perspective of others was thought to lay the basis for socially competent behavior and the development of meaningful and rich social relationships.

According to learning and social learning theory (Bandura 1977), children and adolescents acquire information about their social worlds, and how to behave within them, through direct peer tutelage and by observing each other. In this regard, youth punish or ignore nonnormative social behavior and reward or reinforce positively those behaviors viewed as culturally appropriate and competent. In his interpersonal theory of psychiatry, Sullivan (1953) first argued that all children and adolescents have social needs, including needs for acceptance and intimacy (within the context of friendships and later romantic relationships), and that those youth whose social needs are *not* met, for whatever reason (but perhaps due to social avoidance and withdrawal), will suffer psychologically. Finally, ethological theory (Hinde 1987) postulates that there is a relation between biology and the ability to initiate, maintain, or disassemble social relationships. It is a central tenet of ethological theory that social behavior and organizational structure are limited by biological constraints and that they serve an adaptive evolutionary function.

Taken together, these theories and the data supportive of them have led psychologists to conclude that peer interaction and relationships are significant experiences for positive socio-emotional, social-cognitive, and psychological

adjustment and well-being during childhood and adolescence. There is no single developmental theory that explicitly predicts how children and adolescents who rarely interact with their peers will develop. However, the assumption in the aforementioned theories is that children who are not involved with their peers may *miss out* on important opportunities to grow, learn, and develop. Many researchers studying social withdrawal have been focused on testing this assumption.

Measurement of Social Withdrawal

A wide range of assessments and methodological approaches have been used to measure social withdrawal and related constructs. Among studies of younger children, the most common techniques include parent/teacher ratings and behavioral observations (such as the *Play Observation Scale* (Rubin 2001, *The Play Observation Scale* (POS), Unpublished instrument, University of Maryland)). However, in research with adolescent samples, peer- and self-report assessments are most often employed because adolescents are thought to be the best reporters of their own and others' social behaviors (which oftentimes occur away from adults) and the most knowledgeable about their internal states and how and why they spend their time (Kazdin 1986).

In terms of peer reports, peer nomination protocols such as the *Revised Class Play* (Masten et al. 1985) involve adolescents nominating peers who fit various behavioral descriptors, such as *someone who is very shy* and *someone who gets nervous about participating in group discussions* (Rubin et al. 2006). Such methodologies have been commonly used to identify socially withdrawn children and adolescents who are shy and anxious (e.g., Boivin et al. 1995; Burgess et al. 2006; Chen et al. 1992; Oh et al. 2008). Most recently, peer nomination assessments have also been used to identify subgroups of socially withdrawn children and adolescents. For example, several researchers have employed peer nomination techniques to successfully distinguish between shy (or anxious-solitary) and unsociable

school-aged children and young adolescents (Ladd et al. 2011; Liu et al. 2015; Spangler and Gazelle 2009).

In most studies of young and older adolescents, however, self-report measures are used to assess different reasons or motivations for social withdrawal (and related constructs such as *preference for solitude* and *affinity for aloneness*; Bowker and Raja 2011; Coplan et al. 2013; Maes et al. 2015; Nelson 2013; Wang et al. 2013). If the focus of the study is on shyness, oft-utilized self-report measures include the *Revised Cheek and Buss Shyness Scale* (Cheek and Buss 1981) and the *Children's Shyness Questionnaire* (Crozier 1995). Finally, to explore experiences of solitude, adolescents have been asked to keep diaries of their social activities and time spent alone over a period of several days (e.g., Larson 1997). More recently, van Roekel et al. (2014, 2015) have used experiential sampling methodologies to conduct momentary assessments (via smartphones) of adolescents' affect, appraisals, and attitudes toward solitude when adolescents were alone or in the company of others.

Biological Underpinnings

Why are some adolescents (and also children) more socially withdrawn than others? There is considerable evidence that social withdrawal has a *dispositional* basis. For example, several researchers have shown that behavioral inhibition (*BI*) in infancy and toddlerhood predicts socially reticent and anxious behavior in the peer group throughout the years of childhood and into adolescence (e.g., Fox et al. 2001; Perez-Edgar et al. 2010). Socially reticent behavior, in turn, predicts social anxiety among adolescents (e.g., Chronis-Tuscano et al. 2009). This continuity is particularly marked by extremely inhibited young children who demonstrate particular physiological characteristics. Specifically, the route from *BI* in infancy/toddlerhood to social reticence and anxious solitude in early and middle childhood and thereafter to social anxiety in adolescence appears to have as its basis in elevated levels of cortisol, higher and more stable heart rate (lower

vagal tone or heart rate variability), right frontal EEG asymmetry, heightened autonomic reactivity, and an enhanced startle response (e.g., Degnan and Fox 2007; Fox et al. 2001; Henderson et al. 2004; McManis et al. 2002).

Furthermore, the link between *BI* in early childhood and social anxiety during adolescence is moderated by heightened attention monitoring (as assessed by evoked response potential, ERP) such that the relation between *BI* in early childhood and social anxiety in adolescence is significant only for those who evidence hypervigilance as assessed by ERP (McDermott et al. 2013). Also, in adolescence, researchers have found associations between both early childhood and adolescent *BI* and high reactivity of the amygdala (as assessed by fMRI) to the display of unfamiliar or emotional faces (Perez-Edgar et al. 2007). Thus, highly inhibited and socially wary youth appear to have more reactive (or easily excitable) physiology (that includes the amygdala and its projections to the cortex, hypothalamus, sympathetic nervous system, corpus striatum, and central gray) relative to non-inhibited youth. However, it is important to note that there is also some evidence of a genetic predisposition to *BI*, withdrawal, and social anxiety. For example, one study showed that *BI* has an estimated heritability of 0.50–0.70, with higher heritability for children who are extremely inhibited (e.g., Hariri et al. 2002).

The Role of Parents

In addition to biology and genes, several aspects of the parent-child relationship appear to contribute to the development of social withdrawal, including (1) the quality of the attachment relationship, (2) parenting beliefs about their children's needs, and (3) parenting beliefs and practices characterized as intrusive, negative, and insensitive. To begin with attachment, there is consistent evidence that *BI* and socially reticent behavior in childhood is predicted by an insecure attachment relationship (e.g., Booth-LaForce and Oxford 2008). Given the stability of these behaviors, this link to insecure attachment in infancy is

not inconsequential. Additionally, it is well established that the parents of socially withdrawn children view their children as vulnerable and in need of protection (e.g., Mills and Rubin 1990). These parenting beliefs likely contribute to an inappropriately warm, intrusive, and insensitive parenting style during the childhood years (McShane and Hastings 2009; Rubin et al. 2002). Although the majority of these parents may feel as if they are doing what is best for their shy, wary child, the preponderance of existing literature indicates that overprotective, intrusive parenting hinders the social and emotional development of *BI* and socially withdrawn children (e.g., Hastings et al. 2014). Beyond the middle childhood years, researchers have found that *increases* in social withdrawal during the early adolescent years are predicted by lower parental autonomy granting and higher parental restrictiveness (Booth-LaForce et al. 2012; Hane et al. 2008; Hastings et al. 2014). Of note, there is growing evidence that the development of children's shy and socially withdrawn behavior can be best predicted by the interaction between parenting (e.g., overcontrolling and intrusive parenting) and physiology (e.g., vagal tone; Hastings et al. 2014). Thus, withdrawn behavioral tendencies can be thought of as emanating from both the child *and* the environment. Significantly, and relevant to discussions of adolescent development, it has been reported that the interaction between infant and child indices of *BI* and social withdrawal *and* infant insecure attachment predict subsequent adolescent social anxiety symptoms (e.g., Lewis-Morrarty et al. 2015). In the next sections, we describe how negative *peer* environments or experiences are also causes as well as consequences of socially withdrawn behavior during childhood and adolescence. The negative psychological concomitants of social withdrawal are also described.

Correlates and Consequences of Social Withdrawal

Peer rejection, exclusion, and victimization. There is empirical evidence that social withdrawal

is both a correlate and consequence of *peer rejection*, or active dislike by the peer group, during early adolescence (10–14 years; Boivin et al. 1995; Dill et al. 2004; Parkhurst and Asher 1992). These findings are similar to what is found in studies of social withdrawal during early and middle childhood (e.g., Gazelle and Ladd 2003). Withdrawn children and adolescents are likely rejected by their peers because their shy, timid behaviors are viewed as atypical and are not valued by the peer group. The associations between social withdrawal and peer rejection appear to become stronger as children transition into early adolescence, likely because it is during the early adolescent developmental period that there is increased emphasis on positive social interactions and relationship and group involvement (Ladd 2006).

Several studies have also linked social withdrawal to decreased peer acceptance (which refers to liking by the peer group) and increased peer exclusion (which occurs when an adolescent is actively left out of group activities and conversations by their peers; Gazelle and Rudolph 2004) and physical victimization (e.g., Rubin et al. 2006). But, much of this research involved samples of withdrawn youth during early and middle childhood and early adolescence. It is possible that as solitude becomes viewed as more acceptable and as more of a personal choice during middle and late adolescence (Larson 1997), some of withdrawn youth's peer difficulties diminish.

It is also worth mentioning that most of the aforementioned work focused exclusively on how socially withdrawn adolescents who are *shy* and anxious fare with the larger peer group. As a result, little is known about the extent to which unsociable and socially avoidant youth encounter such negative peer experiences as peer rejection, exclusion, and victimization. Preliminary evidence suggests that unsociable adolescents may experience fewer problems with peers relative to shy and avoidant adolescents (Bowker et al. 2012; Bowker and Raja 2011; Coplan et al. 2013; Ladd et al. 2011), perhaps because they do not appear to actively avoid their peers or turn down social invitations, but additional research in this area is clearly needed.

Friendship. The studies described above clearly demonstrate that many socially withdrawn young adolescents struggle at the *group* level of social complexity. Do they also experience peer difficulties at the *dyadic* level or with friends? To date, few researchers have considered this question. However, initial evidence indicates that socially withdrawn children and adolescents are as likely as their non-withdrawn age-mates to have at least one mutual and stable best friendship. For instance, Rubin and colleagues (Rubin et al. 2006) found that approximately 60% of shy-withdrawn young adolescents had at least one mutual best friendship, a percentage nearly identical to that of their more sociable counterparts. And, similar to the aforementioned findings with regard to group-level peer experiences, Ladd and colleagues (2011) found that unsociable-withdrawn youth were more likely to have a mutual and stable friendship than were shy-withdrawn youth.

There is also evidence that shy-withdrawn young adolescents tend to form friendships with similarly withdrawn and similarly victimized peers (Rubin et al. 2006), a finding consistent with a large body of research indicating that children and adolescents are attracted to and subsequently form friendships with peers who are similar in age, race/ethnicity, and behavior (i.e., aggressive and delinquent behavior; Rubin et al. 2015). Although the similarities in withdrawn behavior and victimization may facilitate friendship formation, such similarity may not always make for the “best” of friendships. Both shy-withdrawn young adolescents and their best friends tend to perceive their friendships as relatively poor in relationship quality (e.g., lacking intimate disclosure and helpfulness; Rubin et al. 2006). And, two observational studies of shy-withdrawn young adolescents interacting with their mutual friends demonstrated that withdrawn adolescents are rather constricted in their verbal communication, tend to be less actively engaged in mutual tasks with their friends, and are less emotionally expressive relative to non-withdrawn adolescents (Schneider 1999, 2009). These behaviors and interactional styles likely interfere with the intimate disclosure and

mutual give-and-take that is needed for high-quality friendships during late childhood and early adolescence. It is also possible that a *misery-loves-company* scenario exists for many shy-withdrawn adolescents and their friends such that their shared misery leads to increased psychological distress, which in turn leads to less than positive friendship experiences. It is unlikely that a similar scenario exists for withdrawn young adolescents who are unsociable because while they do appear to be similar to their friends in victimization and exclusion, they tend to be similarly *low* in victimization and exclusion (Ladd et al. 2011). But, additional research is needed before we can have confidence in this conclusion. As for socially avoidant adolescents, there has not been a single study of their friendship experiences, and thus it is not known whether they struggle to form and maintain mutual, high-quality, and lasting friendships. However, given that strong desires to avoid and withdraw from others likely interfere with important relationship-building processes, such as intimate disclosure and help/guidance, we suspect that socially avoidant adolescents struggle significantly in the friendship domain (Rubin et al. 2015).

Self-perceptions and internalizing difficulties. Given their experiences with peers, it should not be too surprising that many socially withdrawn youth think and feel poorly about their social skills and their peer relationships (Crozier 1995; Hymel et al. 1990). Empirical research also reveals strong concurrent and longitudinal associations between childhood and adolescent social withdrawal and such internalizing problems as loneliness, depression, negative self-regard, feeling of insecurity, and social anxiety (e.g., Rubin et al. 1995). This work focused on socially withdrawn youth who are shy, but similar negative psychological correlates have also been associated with social avoidance (and also preference for solitude) during adolescence and young adulthood (Bowker and Raja 2011; Nelson 2013; Wang et al. 2013). Recent social information processing studies also have revealed that shy-withdrawn young adolescents often blame themselves for hypothetical negative peer events

and select passive or avoidant coping strategies (e.g., Burgess et al. 2006; Kingsbury et al. 2013). Self-blame and avoidant coping have been associated with internalizing difficulties during adolescence and adulthood (Garnefski et al. 2005). And, feelings of and expectations for rejection predict increased social withdrawal during early adolescence (London et al. 2007). Thus, these findings suggest a self-reinforcing cycle of socio-emotional and behavioral difficulties and negative social-cognitive functioning for many socially withdrawn adolescents (Rubin et al. 2009).

It is important to note however that individual differences in the extent to which withdrawn children and adolescents experience problematic peer relations appear to have significant implications for their internalizing difficulties and the continuity of their behavior. For instance, recent studies have shown that shy-withdrawn children and young adolescents who experience peer difficulties, such as peer rejection and exclusion, are the most at risk for internalizing difficulties and are the most likely to be stable in their social withdrawal over time (Gazelle and Rudolph 2004; Oh et al. 2008). Affiliation with shy-withdrawn peer groups has also been shown to increase risk for victimization and depression during early adolescence (Zhao et al. 2015). Most of this work focused on *same-grade* peer experiences (e.g., whether an adolescent is rejected by peers in his or her own school grade), but recent evidence suggests that being rejected by mixed grade (older or younger *same-school* peers) might also increase the psychological costs associated with shyness-withdrawal during early adolescence (Bowker and Etkin 2014). Oh and colleagues (2008) also found that certain friendship factors (e.g., friendlessness, friendship instability, having a withdrawn friend) were related to increased withdrawal over time.

Yet, it is also worth noting that shy-withdrawn young adolescents with friends are viewed as more sociable by their peers compared to withdrawn young adolescents without friends (Rubin et al. 2006). Burgess et al. (2006) found that some of shy-withdrawn young adolescents' negative social-cognitive biases (e.g., tendencies to self-

blame) were diminished when thinking about scenarios involving their mutual good friends. As well, Bowker and Spencer (2010) demonstrated that having mutual mixed-grade friendships (friendships with same-school peers who are in a different grade) protected shy-withdrawn boys from peer victimization during early adolescence. Taken together, findings suggest that such problematic group and dyadic peer relation experiences as rejection, exclusion, and friendlessness represent significant risk factors in the lives of shy-withdrawn youth but that the absence of peer group difficulties and the presence of friendships may be important protective factors. Shy-withdrawn children who display additional behaviors that are not valued by the peer group (such as aggressive or attention-seeking behaviors) appear to be at greatest risk for peer difficulties (Gazelle 2008). The same is also true during adolescence (Bowker et al. 2012). Important next steps will be to examine risk and protective factors in the lives of unsociable and socially avoidant adolescents.

Mitigating Factors

In this final section, we consider some mitigating factors that may impact upon the experiences of social withdrawal during adolescence.

Gender. There is growing interest in possible gender differences in both the meaning and implications of social withdrawal in childhood and adolescence (see Doey et al. 2014 for a recent review). To begin with, there is little evidence to suggest that there are gender differences in the prevalence or frequency of social withdrawal (or related constructs) in early or middle childhood. However, in later childhood and early adolescence, girls tend to self-report higher levels of shyness than boys (Crozier 1995; Findlay et al. 2009; Vervoort et al. 2010). It is possible that the emergence of social anxiety disorder during this age period contributes to this gender difference. As such, gender differences in self-reports of shyness during this age period may reflect adolescent girls' greater social anxiety (Ranta et al. 2007).

Alternately, this gender difference may be a result of a reporting bias in later childhood. Girls may be more likely to report feelings of shyness because of the greater social acceptability of such emotions for girls than for boys. Fear and anxiety, the prominent emotional features of shyness, are considered *feminine* in Western societies (Bosacki 2008; Sadker and Sadker 1994). It has been suggested that shyness is less socially acceptable for boys than for girls because it violates gender norms related to male social assertion and dominance. As they become increasingly aware of such stereotypes, boys may be more likely to underreport feelings of shyness. Boys may also be less likely to report (or identify) shy behaviors in others, which could explain why (same-sex) peer-reported shyness-withdrawal is more stable for girls than boys during early adolescence (Rubin and Barstead 2014).

Evidence for a gender difference in the social acceptability of social withdrawal can be found in how others respond to such behaviors in boys versus girls. For example, results from studies with younger children suggest that shy/withdrawn behaviors in girls are more likely to be rewarded and accepted by parents, whereas the same behaviors in boys are more likely to be discouraged and result in more negative interactions (e.g., Eggum et al. 2009; Kingsbury and Coplan 2012; Rubin and Barstead 2014). Similarly, in early and middle childhood, social withdrawal (in general) and both shyness and social disinterest are more strongly associated with peer exclusion and rejection for boys than for girls (e.g., Coplan et al. 2008; Lease et al. 2002; Nelson et al. 2005; Rubin and Barstead 2014; Spangler and Gazelle 2009).

Less is known about potential gender differences in others' responses to social withdrawal in adolescence. However, results from some studies suggest that in later childhood and adolescence, social withdrawal in boys becomes increasingly more strongly associated with socio-emotional difficulties (e.g., loneliness, anxiety, lower self-esteem) than social withdrawal in girls (e.g., Eisenberg et al. 1998; Gest 1997; Morison and Masten 1991). Results from some older longer-term longitudinal studies suggest that men who were shy-withdrawn as children married and

started families later than their non-shy peers, whereas the same is not true for shy-withdrawn girls (Caspi et al. 1988; Kerr et al. 1996). However, perhaps due to changing gender attitudes, more recent long-term longitudinal studies have reported similar occupational and romantic delays for both withdrawn boys and girls (Asendorpf et al. 2008).

Culture. Although most social withdrawal research and theory have been tested in Western cultures (e.g., the United States, Canada, Western Europe), there is growing interest in studying social withdrawal across cultural contexts. For example, results of recent cross-cultural studies suggest that child and adolescent social withdrawal carries with it similar risks in non-Western and Western societies. In China, for example, researchers originally reported that shy, withdrawn youth were accepted by their peers and suffered few ill consequences into adolescence (Chen et al. 1992, 1995). With increasing industrialization and a stronger focus on individualistic goals and successes, shy-withdrawn and also unsociable Chinese have been found to suffer from many of the same difficulties as their counterparts in the West (Chen et al. 2005); they are more likely to be rejected and excluded by peers, and they think poorly of themselves and experience greater psychological maladjustment (e.g., Liu et al. 2014; Yang et al. 2015). Interestingly, these recent findings appear to reflect the concomitants and consequences of social withdrawal in modern Chinese urban settings; in more traditional rural Chinese settings, shy, withdrawn behavior is viewed as less problematic (and less contrary to cultural goals; Chen et al. 2011). Other researchers have found positive associations between social withdrawal (shyness, social avoidance) and maladjustment (e.g., peer rejection, loneliness) in other non-Western societies, including India (Bowker and Raja 2011).

Conclusions and Future Directions

In this entry is reviewed the extant literature on social withdrawal during adolescence. The empirical research provides some support for the

existence of links between biology, genetics, certain types of parenting (e.g., overprotective parenting), and social withdrawal during childhood and adolescence. It is clear that problematic peer relation experiences (e.g., rejection, exclusion) are both contributors to and consequences of adolescent social withdrawal and that variability in the extent to which socially withdrawn adolescents experience peer difficulties helps to explain variability in their internalizing difficulties and the continuity of their behavior. It appears that the “costs” of being socially withdrawn may be greater for adolescent boys than adolescent girls. Additionally, results from those few studies that have considered the correlates of social withdrawal in both Western and non-Western cultures suggest that socially withdrawn adolescents around the world experience some degree of negative treatment by their peers.

These conclusions about social withdrawal during adolescence are drawn primarily from investigations of social withdrawal during early adolescence. As a result, very little is known about how socially withdrawn adolescents fare during middle and late adolescence. Furthermore, little theoretical and empirical attention has been paid to subtypes of social withdrawal beyond the early and middle childhood years. Yet, if it is true that certain types of solitude, such as unsociability, become more acceptable and beneficial for adjustment during adolescence and young adulthood, researchers may discover that compared to shyness, unsociability is associated with different adjustment correlates (such as creativity) and possibly fewer adjustment difficulties with increased age (such as less psychological distress; see Wang et al. 2013, for initial support of this notion).

A more complete understanding of social withdrawal during adolescence will also require researchers to consider types of relationships and relationship qualities (e.g., romantic relationships), contexts (e.g., places of employment, the Internet), and outcomes (e.g., identity formation, career aspirations, substance use) that are especially relevant during adolescence. For instance, platonic other-sex friendships, romantic relationships, and mixed-sex peer groups, which become

more common and influential on adjustment throughout adolescence, could prove to be influential relationships in the lives of socially withdrawn adolescents. Virtually nothing is known about the romantic relationships of socially withdrawn adolescents, although the research on shy and socially anxious young adults raise the strong possibility that many of them may struggle significantly with the expected intimacy (Baker and McNulty 2010; Rowsell and Coplan 2013). With regard to contexts, a withdrawn adolescent who does not “fit in” at school may find similar peers and friends at their places of employment, or in after-school clubs or “hangouts” (e.g., coffee shops), who help to alleviate feelings of self-consciousness and anxiety. There is some evidence suggesting that the Internet and computer-mediated communication may also offer a “safe space” free of negative evaluation for many socially withdrawn adolescents (e.g., Baker and Oswald 2010). However, it also appears that engaging with the Internet in certain ways (e.g., to disclose negative emotion) and with certain types of media (e.g., violent video games) may actually reinforce withdrawn adolescents’ psychological difficulties as well as their withdrawn behavior tendencies (Laghi et al. 2013; Nelson et al. 2016). Finally, researchers may find that specific parenting behaviors, such as parental monitoring and those related to facilitating healthy autonomy and connectedness, could be especially important for socially withdrawn adolescents who may be struggling with peers and also identity formation. Of course, it will be necessary for investigators to consider these relationship and contextual factors and outcomes during early adolescence, middle adolescence, and late adolescence and in different cultures to ascertain whether certain factors are more influential at different points in development and in different cultures.

References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: American Psychiatric Press.

- Asendorpf, J. B. (1990). Beyond social withdrawal: Shyness, unsociability, and peer avoidance. *Human Development, 33*, 250–259. <https://doi.org/10.1159/000276522>.
- Asendorpf, J. B., Denissen, J. J. A., & van Aken, M. A. G. (2008). Inhibited and aggressive preschool children at 23 years of age: Personality and social transitions into adulthood. *Developmental Psychology, 44*, 997–1011. <https://doi.org/10.1037/0012-1649.44.4.997>.
- Baker, L., & McNulty, J. K. (2010). Shyness and marriage: Does shyness shape even established relationships? *Personality and Social Psychology Bulletin, 36*, 665–676. <https://doi.org/10.1177/0146167210367489>.
- Baker, L. R., & Oswald, D. L. (2010). Shyness and online social networking services. *Journal of Social and Personal Relationships, 27*, 873–889. <https://doi.org/10.1177/0265407510375261>.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*, 191–215. [https://doi.org/10.1016/0146-6402\(78\)90002-4](https://doi.org/10.1016/0146-6402(78)90002-4).
- Boivin, M., Hymel, S., & Bukowski, W. M. (1995). The roles of social withdrawal, peer rejection, and victimization by peers in predicting loneliness and depressed mood in childhood. *Development and Psychopathology, 7*, 765–785. <https://doi.org/10.1017/S0954579400006830>.
- Booth-LaForce, C., & Oxford, M. L. (2008). Trajectories of social withdrawal from grades 1 to 6: Prediction from early parenting, attachment, and temperament. *Developmental Psychology, 44*, 1298–1313. <https://doi.org/10.1037/a0012954>.
- Booth-LaForce, C., Oh, W., Kennedy, A. E., Rubin, K. H., Rose-Krasnor, L., & Laursen, B. (2012). Parent and peer links to trajectories of anxious withdrawal from grades 5–8. *Journal of Clinical Child and Adolescent Psychology, 41*, 138–149. <https://doi.org/10.1080/15374416.2012.651995>.
- Bosacki, S. L. (2008). *Children's emotional lives: Sensitive shadows in the classroom*. New York: Peter Lang.
- Bowker, J. C., & Etkin, R. (2014). Mixed-grade rejection and its association with aggression, anxious-withdrawal, and psychological maladjustment. *Journal of Genetic Psychology, 175*, 35–50.
- Bowker, J. C., & Raja, R. (2011). Social withdrawal subtypes during early adolescence in India. *Journal of Abnormal Child Psychology, 39*, 201–212. <https://doi.org/10.1007/s10802-010-9461-7>.
- Bowker, J. C., & Spencer, S. V. (2010). Friendship and adjustment: A focus on mixed-grade friendship. *Journal of Youth and Adolescence, 39*, 1318–1329. <https://doi.org/10.1007/s10964-009-9474-0>.
- Bowker, J. C., Markovic, A., Cogswell, A., & Raja, R. (2012). Moderating effects of aggression on the associations between social withdrawal subtypes and peer difficulties during early adolescence. *Journal of Youth and Adolescence, 41*, 995–1007. <https://doi.org/10.1007/s10964-001-9712-0>.
- Burgess, K., Wojslawowicz, J. C., Rubin, K. H., Rose-Krasnor, L., & Booth-LaForce, C. L. (2006). Social information processing and coping styles of shy/withdrawn and aggressive children: Does friendship matter? *Child Development, 77*, 371–383. <https://doi.org/10.1111/j.1467-8624.2006.00876.x>.
- Caspi, A., Elder, G., & Bem, D. (1988). Moving away from the world: Life-course patterns of shy children. *Developmental Psychology, 24*, 824–831. <https://doi.org/10.1037//0012-1649.24.6.824>.
- Cheek, J. M., & Buss, A. H. (1981). Shyness and sociability. *Journal of Personality and Social Psychology, 41*, 330–339. <https://doi.org/10.1037/0022-3514.41.2.330>.
- Chen, X., Rubin, K. H., & Sun, Y. (1992). Social reputation and peer relationships in Chinese and Canadian children: A cross-cultural study. *Child Development, 62*, 1336–1343. <https://doi.org/10.1111/j.1467-8624.1992.tb01698.x>.
- Chen, X., Rubin, K. H., & Li, Z.-Y. (1995). Social functioning and adjustment in Chinese children: A longitudinal study. *Developmental Psychology, 31*, 531–539. <https://doi.org/10.1037//0012-1649.31.4.531>.
- Chen, X., Cen, G., Li, D., & He, Y. (2005). Social functioning and adjustment in Chinese children: The imprint of historical time. *Child Development, 76*, 182–195. <https://doi.org/10.1111/j.1467-8624.2005.00838.x>.
- Chen, X., Wang, L., & Cao, R. (2011). Shyness-sensitivity and unsociability in rural Chinese children: Relations with school, social, and psychosocial adjustment. *Child Development, 82*, 1531–1543. <https://doi.org/10.1111/j.1467-8624.2011.01616.x>.
- Chronis-Tuscano, A., Degnan, K. A., Pine, D. S., Perez-Edgar, K., Henderson, H. A., Diaz, Y., Raggi, V. L., & Fox, N. A. (2009). Stable early maternal report of behavioral inhibition predicts lifetime social anxiety disorder in adolescence. *Journal of the American Academy of Child and Adolescent Psychiatry, 48*, 928–935. <https://doi.org/10.1097/CHI.0b013e3181ae09df>.
- Collins, W. A., & Steinberg, L. (2006). Adolescent development in interpersonal context. In W. Damon & N. Eisenberg (Eds.), *Handbook of child psychology* (Socioemotional processes, Vol. 4, pp. 1003–1067). New York: Wiley.
- Coplan, R. J., & Weeks, M. (2010). Unsociability in middle childhood: Conceptualization, assessment, and associations with socio-emotional functioning. *Merrill-Palmer Quarterly, 56*, 105–130. <https://doi.org/10.1353/mpq.2010.0005>.
- Coplan, R. J., Arbeau, K. A., & Armer, M. (2008). Don't fret, be supportive! Maternal characteristics linking child shyness to psychosocial and school adjustment in kindergarten. *Journal of Abnormal Child Psychology, 36*, 359–371. <https://doi.org/10.1007/s10802-007-9183-7>.
- Coplan, R. J., Rose-Krasnor, L., Weeks, M., Kingsbury, A., Kingsbury, M., & Bullock, A. (2013). Alone is a crowd: Social motivations, social withdrawal, and socio-emotional functioning in later childhood. *Developmental Psychology, 49*, 861–875. <https://doi.org/10.1037/a0028861>.
- Coplan, R. J., Ooi, L. L., & Nocita, G. (2015a). When one is company and two is a crowd: Why some children

- prefer solitude. *Child Development Perspectives*, 9, 133–137. <https://doi.org/10.1111/cdep.12131>.
- Coplan, R. J., Ooi, L. L., & Rose-Krasnor, L. (2015b). Naturalistic observations of schoolyard social participation: Marker variables for socio-emotional functioning in early adolescence. *Journal of Early Adolescence*, 35, 628–650. <https://doi.org/10.1177/0272431614523134>.
- Crozier, W. R. (1995). Shyness and self-esteem in middle childhood. *British Journal of Educational Psychology*, 65, 85–95. <https://doi.org/10.1111/j.2044-8279.1995.tb01133.x>.
- Degnan, K. A., & Fox, N. A. (2007). Behavioral inhibition and anxiety disorders: Multiple levels of a resilience process. *Development and Psychopathology*, 19, 729–746. <https://doi.org/10.1017/s0954579407000363>.
- Dill, E. J., Vernberg, E. M., Fonagy, P., Twemlow, S. W., & Gamm, B. K. (2004). Negative affect in victimized children: The roles of social withdrawal, peer rejection, and attitudes toward bullying. *Journal of Abnormal Child Psychology*, 32, 159–173. <https://doi.org/10.1023/B:JACP.0000019768.31348.81>.
- Doey, L., Coplan, R. J., & Kingsbury, M. (2014). Bashful boys and coy girls: A review of gender differences in childhood shyness. *Sex Roles*, 70, 255–266. <https://doi.org/10.1007/s11199-013-0317-9>.
- Eggum, N. D., Eisenberg, N., Spinrad, T. L., Reiser, M., Gaertner, B. M., Sallquist, J., & Smith, C. L. (2009). Development of shyness: Relations with children's fearfulness, sex, and maternal behavior. *Infancy*, 14, 325–345. <https://doi.org/10.1080/1525000902839971>.
- Eisenberg, N., Shepard, S. A., Fabes, R. A., Murphy, B. C., & Guthrie, I. K. (1998). Shyness and children's emotionality, regulation, and coping: Contemporaneous, longitudinal, and across-context relations. *Child Development*, 69, 767–790. <https://doi.org/10.2307/1132203>.
- Findlay, L. C., Coplan, R. J., & Bowker, A. (2009). Keeping it all inside: Shyness, internalizing coping strategies and socio-emotional adjustment in middle childhood. *International Journal of Behavioral Development*, 33, 47–54. <https://doi.org/10.1177/0165025408098017>.
- Fox, N. A., Henderson, H. A., Rubin, K. H., Calkins, S. D., & Schmidt, L. A. (2001). Continuity and discontinuity of behavioral inhibition and exuberance: Psychophysiological and behavioral influences across the first four years of life. *Child Development*, 72, 1–21. <https://doi.org/10.1111/1467-8624.00262>.
- Gamefski, N., Kraaij, V., & van Etten, M. (2005). Specificity of relations between adolescents' cognitive emotion regulation strategies and internalizing and externalizing psychopathology. *Journal of Adolescence*, 28, 619–631. <https://doi.org/10.1016/j.adolescence.2004.12.009>.
- Gazelle, H. (2008). Behavioral profiles of anxious solitary children and heterogeneity in peer relations. *Developmental Psychology*, 44, 1604–1624. <https://doi.org/10.1037/a0013303>.
- Gazelle, H., & Ladd, G. W. (2003). Anxious solitude and peer exclusion: A diathesis-stress model of internalizing trajectories in childhood. *Child Development*, 74, 257–278. <https://doi.org/10.1111/1467-8624.00534>.
- Gazelle, H., & Rudolph, K. (2004). Moving toward and away from the world: Social approach and avoidance trajectories in anxious solitary youth. *Child Development*, 75, 829–849. <https://doi.org/10.1111/j.1467-8624.2004.00709.x>.
- Gest, S. D. (1997). Behavioral inhibition: Stability and associations with adaptation from childhood to early adulthood. *Journal of Personality and Social Psychology*, 72, 467–475. <https://doi.org/10.1037/0022-3514.72.2.467>.
- Goossens, L. (2014). Affinity for aloneness and preference for solitude in childhood: Linking two research traditions. In R. J. Coplan & J. Bowker (Eds.), *The handbook of solitude: Psychological perspectives on social isolation, social withdrawal, and being alone* (pp. 150–166). New York: Wiley-Blackwell.
- Hane, A. A., Cheah, C., Rubin, K. H., & Fox, N. A. (2008). The role of maternal behavior in the relation between shyness and social reticence in early childhood and social withdrawal in middle childhood. *Social Development*, 17, 195–811. <https://doi.org/10.1111/j.1467-9507.2008.00481.x>.
- Hariri, A. R., Mattay, V., Tessitore, A., Kolachana, B., Fera, F., Goldman, D., . . . , & Weinberger, D. R. (2002). Serotonin transporter genetic variation and the response of the human amygdala. *Science*, 297, 400–403. <https://doi.org/10.1126/science.1071829>.
- Hastings, P. D., Kahle, S., & Nuselovici, J. M. (2014). How well socially wary preschoolers fare over time depends on their parasympathetic regulation and socialization. *Child Development*, 85, 1586–1600. <https://doi.org/10.1111/cdev.12228>.
- Henderson, H. A., Marshall, P. J., Fox, N. A., & Rubin, K. H. (2004). Psychophysiological and behavioral evidence for varying forms and functions of nonsocial behavior in preschoolers. *Child Development*, 75, 251–263. <https://doi.org/10.1111/j.1467-8624.2004.00667.x>.
- Hinde, R. A. (1987). *Individuals, relationships and culture: Links between ethology and the social sciences*. New York: Cambridge University Press.
- Hymel, S., Rubin, K. H., Rowden, L., & LeMare, L. (1990). Children's peer relationships: Longitudinal prediction of internalizing and externalizing problems from middle to late childhood. *Child Development*, 61, 2004–2021. <https://doi.org/10.2307/1130854>.
- Kagan, J. (1997). Temperament and the reactions to the unfamiliarity. *Child Development*, 68, 139–143. <https://doi.org/10.2307/1131931>.
- Kazdin, A. E. (1986). Comparative outcome studies of psychotherapy: Methodological issue and strategies. *Journal of Consulting and Clinical Psychology*, 54, 95–105.
- Kerr, M., Lambert, W. W., & Bem, D. J. (1996). Life course sequelae of childhood shyness in Sweden: Comparison with the United States. *Developmental Psychology*, 32, 1100–1105. <https://doi.org/10.1037/0012-1649.32.6.1100>.
- Kingsbury, M., & Coplan, R. J. (2012). Mothers' gender-role attitudes and their responses to young children's hypothetical display of shy and aggressive behaviors.

- Sex Roles*, 66, 506–517. <https://doi.org/10.1007/s11199-012-0120-z>.
- Kingsbury, M., Coplan, R. J., & Rose-Krasnor, L. (2013). Shy but getting by? An examination of the complex links among shyness, coping, and socioemotional functioning in childhood. *Social Development*, 22, 126–145. <https://doi.org/10.1111/sode.12003>.
- Ladd, G. W. (2006). Peer rejection, aggressive or withdrawn behavior, and psychological maladjustment from ages 5 to 12: An examination of four predictive models. *Child Development*, 77, 822–846. <https://doi.org/10.1111/j.1467-8624.2006.00905.x>.
- Ladd, G. W., Kochenderfer-Ladd, B., Eggum, N. D., Kochel, K. P., & McConnell, E. M. (2011). Characterizing and comparing the friendships of anxious-solitary and unsociable preadolescents. *Child Development*, 82, 1434–1453. <https://doi.org/10.1111/j.1467-8624.2011.01632.x>.
- Laghi, F., Schneider, B. H., Vitoroulis, I., Coplan, R. J., Baiocco, R., Amichai-Hamburger, Y., . . . , & Flament, M. (2013). Knowing when not to use the Internet: Shyness and adolescents' on-line and off-line interactions with friends. *Computers in Human Behavior*, 29, 51–57. <https://doi.org/10.1016/j.chb.2012.07.015>
- Lam, C. B., McHale, S. M., & Crouter, A. C. (2014). Time with peers from middle childhood to late adolescence: Developmental course and adjustment correlates. *Child Development*, 85, 1677–1693. <https://doi.org/10.1111/cdev.12235>.
- Larson, R. (1997). The emergence of solitude as a constructive domain of experience in early adolescence. *Child Development*, 68, 80–93. <https://doi.org/10.1111/j.1467-8624.1997.tb01927.x>.
- Leary, M. R., Herbst, K. C., & McCrary, F. (2003). Finding pleasure in solitary activities: Desire for aloneness or disinterest in social contact? *Personality and Individual Differences*, 35, 59–68. [https://doi.org/10.1016/S0191-8869\(02\)00141-1](https://doi.org/10.1016/S0191-8869(02)00141-1).
- Lease, A. M., Kennedy, C. A., & Axelrod, J. L. (2002). Children's social constructions of popularity. *Social Development*, 11, 87–109. <https://doi.org/10.1111/1467-9507.00188>.
- Lewis-Morrarty, E., Degnan, K. A., Chronis-Tuscano, A., Pine, D. S., Henderson, H. A., & Fox, N. A. (2015). Infant attachment security and early childhood behavioral inhibition interact to predict adolescent social anxiety symptoms. *Child Development*, 86, 598–613. <https://doi.org/10.1111/cdev.12336>.
- Liu, M., Coplan, R. J., Chen, X., Li, D., Ding, X., & Zhou, Y. (2014). Unsociability and shyness in Chinese children: Concurrent and predictive relations with indices of adjustment. *Social Development*, 23, 119–136. <https://doi.org/10.1111/sode.12034>.
- Liu, J., Chen, X., Coplan, R. J., Ding, X., Zarbatany, L., & Ellis, W. (2015). Shyness and unsociability and their relations with adjustment in Chinese and Canadian children. *Journal of Cross-Cultural Psychology*, 46, 371–386. <https://doi.org/10.1177/0022022114567537>.
- London, B., Downey, G., Bonica, C., & Paltin, I. (2007). Social causes and consequences of rejection sensitivity. *Journal of Research on Adolescence*, 17, 481–506. <https://doi.org/10.1111/j.1532-7795.2007.00531.x>.
- Long, C. R., Seburn, M., Averill, J. R., & More, T. A. (2003). Solitude experiences: Varieties, settings, and individual differences. *Personality and Social Psychology Bulletin*, 29, 578–583. <https://doi.org/10.1177/0146167203029005003>.
- Maes, M., Vanhalst, J., Spithoven, A., Van Den Noortgate, W., & Goossens, L. (2015). Loneliness and attitudes toward aloneness in adolescence: A person-centered approach. *Journal of Youth and Adolescence*, 45, 547–567. <https://doi.org/10.1007/s10964-015-0354-5>.
- Masten, A., Morison, P., & Pellegrini, D. (1985). A revised class play method of peer assessment. *Developmental Psychology*, 3, 523–533. <https://doi.org/10.1037/0012-1649.21.3.523>.
- McDermott, J. M., Troller-Renfree, S., Vanderwert, R., Nelson, C. A., Zeanah, C. H., & Fox, N. A. (2013). Psychosocial deprivation, executive functions, and the emergence of socio-emotional behavior problems. *Frontiers in Human Neuroscience*, 7, 167–178. <https://doi.org/10.3389/fnhum.2013.00167>.
- McManis, M. H., Kagan, J., Snidman, N. C., & Woodward, S. A. (2002). EEG asymmetry, power, and temperament in children. *Developmental Psychology*, 41, 169–177. <https://doi.org/10.1002/dev.10053>.
- McShane, K. E., & Hastings, P. D. (2009). The new friends vignettes: Measuring parental psychological control that confers risk for anxious adjustment in preschoolers. *International Journal of Behavioral Development*, 33, 481–495. <https://doi.org/10.1177/0165025409103874>.
- Mills, R. S. L., & Rubin, K. H. (1990). Parental beliefs about problematic social behaviors in early childhood. *Child Development*, 61, 138–151. <https://doi.org/10.1111/j.1467-8624.1990.tb02767.x>.
- Morison, P., & Masten, A. S. (1991). Peer reputation in middle childhood as a predictor of adaptation in adolescence: A seven-year follow-up. *Child Development*, 62, 991–1007. <https://doi.org/10.2307/1131148>.
- Nelson, L. J. (2013). Going it alone: Comparing subtypes of withdrawal on indices of adjustment and maladjustment in emerging adulthood. *Social Development*, 22, 522–538. <https://doi.org/10.1111/j.1467-9507.2012.00671.x>.
- Nelson, L. J., Rubin, K. H., & Fox, N. A. (2005). Social withdrawal, observed peer acceptance, and the development of self-perceptions in children ages 4 to 7 years. *Early Childhood Research Quarterly*, 20, 185–200. <https://doi.org/10.1016/j.ecresq.2005.04.007>.
- Nelson, L. J., Coyne, S. M., Howard, E., & Clifford, B. N. (2016). Withdrawing to a virtual world: Associations between subtypes of withdrawal, media use, and maladjustment in emerging adults. *Developmental Psychology*, 52, 933–942. <https://doi.org/10.1037/dev0000128>.

- Oh, W., Rubin, K. H., Bowker, J. C., Booth-LaForce, C. L., Rose-Krasnor, L., & Laursen, B. (2008). Trajectories of social withdrawal middle childhood to early adolescence. *Journal of Abnormal Child Psychology*, *36*, 553–566. <https://doi.org/10.1007/s10802-007-9199-z>.
- Parkhurst, J. T., & Asher, S. R. (1992). Peer rejection in middle school: Subgroup differences in behavior, loneliness, and interpersonal concerns. *Developmental Psychology*, *28*, 231–241. <https://doi.org/10.1037/0012-1649.28.2.231>.
- Perez-Edgar, K., Roberson-Nay, R., Hardin, M. G., Poeth, K., Guyer, A. E., Nelson, E. E., . . . , & Ernst, M. (2007). Attention alters neural responses to evocative faces in behaviorally inhibited adolescents. *Neuroimage*, *35*, 1538–1546. <https://doi.org/10.1016/j.neuroimage.2007.02.006>
- Perez-Edgar, K., Bar-Haim, Y., McDermott, J. M., Chronis-Tuscano, A., Pine, D. S., & Fox, N. A. (2010). Attention biases to threat and behavioral inhibition in early childhood shape adolescent social withdrawal. *Emotion*, *10*, 349–357. <https://doi.org/10.1037/a0018486>.
- Piaget, J. (1932). *The moral judgment of the child*. New York: Harcourt, Brace Jovanovich.
- Ranta, K., Kaltiala-Heino, R., Koivisto, A.-M., Tuomisto, M. T., Pelkonen, M., & Marttunen, M. (2007). Age and gender differences in social anxiety symptoms during adolescence: The Social Phobia Inventory (SPIN) as a measure. *Psychiatry Research*, *153*, 261–270. <https://doi.org/10.1016/j.psychres.2006.12.006>.
- Rapee, R., Schniering, C. A., & Hudson, J. L. (2009). Anxiety disorders during childhood and adolescence: Origins and treatment. *Annual Review of Clinical Psychology*, *5*, 11–41. <https://doi.org/10.1146/annurev.clinpsy.032408.153628>.
- Rowell, H. C., & Coplan, R. J. (2013). Exploring links between shyness, romantic relationship quality, and well-being. *Canadian Journal of Behavioural Science*, *45*, 287–295. <https://doi.org/10.1037/a0029853>.
- Rubin, K. H. (1982). Nonsocial play in preschoolers: Necessarily evil? *Child Development*, *53*, 651–657. <https://doi.org/10.2307/1129376>.
- Rubin, K. H., & Asendorpf, J. B. (1993). Social withdrawal, inhibition, and shyness in childhood: Conceptual and definitional issues. In K. H. Rubin & J. B. Asendorpf (Eds.), *Social withdrawal, inhibition, and shyness in childhood* (pp. 3–17). Hillsdale: Lawrence Erlbaum Associates.
- Rubin, K. H., & Barstead, M. G. (2014). Gender differences in child and adolescent social withdrawal: A commentary. *Sex Roles*, *70*, 274–284. <https://doi.org/10.1007/s11199-014-0357-9>.
- Rubin, K. H., & Mills, R. S. (1988). The many faces of social isolation in childhood. *Journal of Consulting and Clinical Psychology*, *56*, 916–924. <https://doi.org/10.1037/0022-006X.56.6.916>.
- Rubin, K. H., Chen, X., McDougall, P., Bowker, A., & McKinnon, J. (1995). The Waterloo longitudinal project: Predicting adolescent internalizing and externalizing problems from early and mid-childhood. *Development and Psychopathology*, *7*, 751–764. <https://doi.org/10.1017/s0954579400006829>.
- Rubin, K. H., Burgess, K. B., & Hastings, P. D. (2002). Stability and social-behavioral consequences of toddlers' inhibited temperament and parenting behaviors. *Child Development*, *73*, 483–495. <https://doi.org/10.1111/1467-8624.00419>.
- Rubin, K. H., Wojslawowicz, J. C., Rose-Krasnor, L., Booth-LaForce, C., & Burgess, K. B. (2006). The best friendships of shy/withdrawn children: Prevalence, stability, and relationship quality. *Journal of Abnormal Child Psychology*, *34*, 139–153. <https://doi.org/10.1007/s10802-005-9017-4>.
- Rubin, K. H., Coplan, R. J., & Bowker, J. (2009). Social withdrawal in childhood. *Annual Review of Psychology*, *60*, 141–171. <https://doi.org/10.1146/annurev.psych.60.110707.163642>.
- Rubin, K. H., Bukowski, W. M., & Bowker, J. C. (2015). Children in peer groups. In R. Lerner (Series Ed.), M.H. Bornstein & T. Leventhal (Vol. Eds.), *Handbook of child psychology and developmental science, Vol. 4: Ecological settings and processes in developmental systems* (pp. 175–222). Hoboken: Wiley-Blackwell.
- Sadker, M., & Sadker, D. (1994). *Failing at fairness: How our schools cheat girls* (pp. 571–645). New York: Simon & Schuster Publishers.
- Schneider, B. (1999). A multi-method exploration of the friendships of children considered socially withdrawn by their school peers. *Journal of Abnormal Child Psychology*, *27*, 115–123.
- Schneider, B. (2009). An observational study of the interactions of socially withdrawn/anxious early adolescents and their friends. *Journal of Child Psychology and Psychiatry*, *50*, 799–806. <https://doi.org/10.1111/j.1469-7610.2008.02056.x>.
- Schneider, B. H., Younger, A. J., Smith, T., & Freeman, P. (1998). A longitudinal exploration of the cross-contextual stability of social withdrawal in early adolescence. *The Journal of Early Adolescence*, *18*, 374–396. <https://doi.org/10.1177/0272431698018004003>.
- Spangler, T. L., & Gazelle, H. (2009). Anxious solitude, unsociability, and peer exclusion in middle childhood: A multi-trait multi-method matrix. *Social Development*, *18*, 833–856. <https://doi.org/10.1111/j.1467-9507.2008.00517.x>.
- Sullivan, H. S. (1953). *The interpersonal theory of psychiatry*. New York: Norton.
- Van Roekel, E., Goossens, L., Verhagen, M., Wouters, S., Engels, R., & Scholte, R. (2014). Loneliness, affect, and adolescents' appraisals of company: An experience sampling method study. *Journal of Research on Adolescence*, *24*, 350–363. <https://doi.org/10.1111/jora.12061>.
- Van Roekel, E., Scholte, R., Engels, R., Goossens, L., & Verhagen, M. (2015). Loneliness in the daily lives of adolescents: An experience sampling study examining the effects of social contexts. *Journal of Early*

- Adolescence*, 35, 905–930. <https://doi.org/10.1177/0272431614547049>.
- Vervoort, L., Wolters, L. H., Hogendoorn, S. M., Prins, P. J. M., de Haan, E., Nauta, M. H., & Boer, F. (2010). Automatic evaluations in clinically anxious and non-anxious children and adolescents. *Journal of Clinical Child and Adolescent Psychology*, 39, 481–491. <https://doi.org/10.1080/15374416.2010.486316>.
- Wang, J. M., Rubin, K. H., Laursen, B., Booth-LaForce, C., & Rose-Krasnor, L. (2013). Preference-for-solitude and adjustment difficulties in early and late adolescence. *Journal of Clinical Child and Adolescent Psychology*, 42, 834–842. <https://doi.org/10.1080/15374416.2013.794700>.
- Yang, F., Chen, X., & Wang, L. (2015). Shyness-sensitivity and social, school, and psychological adjustment in urban Chinese children: A four-wave longitudinal study. *Child Development*, 86, 1848–1864. <https://doi.org/10.1111/cdev.12414>.
- Zhao, S., Chen, X., Ellis, W., & Zarbatany, L. (2015). Affiliation with socially withdrawn groups and children's social and psychological adjustment. *Journal of Abnormal Child Psychology*. Advance online publication. <https://doi.org/10.1007/s10802-015-0120-x>

Somatic Complaints

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Overview

Somatic complaints in youths are common. Although a large proportion of the symptoms lack medical explanations, they are associated with an overuse of the health care system and can have a negative impact on the quality of life for adolescents and their families. Somatic symptoms start predominantly prior to the age of 15 and are frequently associated with internalizing psychopathology, like anxiety and depression. Gender influences the prevalence of somatic symptoms, with girls reporting more symptoms

than boys. Sociocultural factors have been implied to have an influence on the prevalence and expression of somatic complaints. A number of psychosocial, behavioral and individual factors are associated with the development of somatic complaints and several explanatory models are used to describe the origin and maintenance of medically unexplained somatic symptoms.

Importance

Population-based studies suggest that somatic complaints in youths are common, with nearly half of children and adolescents reporting at least one symptom during the last 2 weeks (Garber et al. 1991). From a primary care perspective, the symptoms presented do not receive a medical explanation in a large number of cases. Psychosocial factors may have a significant role in motivating such visits (Barsky and Borus 1995). Although a large proportion of the symptoms lack medical explanations, they may have a negative impact on the quality of life for the adolescents and their families. They are also associated with poorer academic performance and increased school absence, which in turn can lead to social isolation (Beck 2008). Further, they are associated with an overuse of the health-care system and thereby also a risk of undergoing unnecessary medical examinations and treatments. In addition, somatic complaints may precede the development of somatic symptom disorders in adulthood (Fritz et al. 1997). There is a strong association between somatic symptoms and mental health problems, in particular anxiety and depression (Campo and Fritsch 1994), underlining the importance to early recognize these patients in primary health care.

During the past decades, somatization appears to have become more common in primary care and the number of adolescents experiencing somatic symptoms seems to be on the increase. In epidemiological studies, self-reported pain like headache and stomachache has become more common during early teens over the last decades in many Western countries like Sweden (Lindgren and Lindblad 2010). Medicalization of physical distress is suggested to be part of the explanation;

uncomfortable bodily states, which previously were perceived to be an inevitable part of daily life, seem to have been reclassified as diseases in need of medical interventions. The era of managed care might further amplify this process, as the emphasis on productivity gives physicians less time to explore the psychosocial issues often involved in somatization and patients feel forced to exaggerate their symptoms in order to get access to medical care (Barsky and Borus 1995).

Definitions

The terms “psychosomatic” or “functional” symptoms refer to clinical symptoms with no underlying organic pathology. “Somatization” is defined as “the tendency to experience and communicate somatic distress and symptoms unaccounted for by pathological findings, to attribute them to physical illness, and to seek medical help for them” (Lipowski 1988). However, it is often difficult to draw a line between “functional” and “organic” symptoms as all symptoms contain physical and psychological components. The term “medically unexplained symptoms” can also be used, but it is dependent on the current state of medical knowledge and the lack of a medical explanation is not sufficient for the diagnosis of a somatic symptom disorder. Excessive thoughts, feelings, and behaviors related to the somatic symptoms, as well as persistency of the symptoms and significant disruption of daily life, are needed for the symptoms to be considered psychopathological (DSM-V 2013).

Prevalence and Types of Somatic Symptoms

The prevalence of somatic symptom disorder in the general adult population is estimated to be about 5–7% according to the new DSM-V criteria. Half of 14–24-year-olds had a lifetime history of at least one clinically significant somatic symptom, and some 10% report more than three symptoms (Lieb et al. 2000). The most commonly

reported symptoms are headaches followed by low energy, sore muscles, and abdominal discomfort. Dizziness, nausea, and vomiting are also relatively common, while pseudoneurological symptoms are rare in community samples of children and adolescents. The prognosis of medically unexplained symptoms is largely unknown, though one systematic review found that about 50–75% of the patients improve, while 10–30% deteriorate (Olde Hartman et al. 2009).

Age and Gender

The type of somatic symptoms experienced seems to vary with age, abdominal pain being most common in early childhood, followed by headache and limb pain peaking at the age of 12, while pseudoneurological symptoms, although unusual, seem to increase in adolescence (Campo and Fritsch 1994). Initially being monosymptomatic, somatic complaints tend to become polysymptomatic through the course of development (Fritz et al. 1997).

Epidemiological research has shown that women report more somatic symptoms than men (Campo and Fritsch 1994) and it is not an artifact of higher health-care utilization. Studies of adolescents from the general population and in primary care settings have similarly demonstrated that girls report more somatic symptom than boys. This gender difference seems to start in puberty with adolescent girls reporting somatic symptoms at an increasing rate, while reporting levels in boys fall during this time (Barsky et al. 2001). Physiological and neurobiological changes that take place in puberty may have a role, as well as socialization processes.

There are several theories explaining the causes of these differences. Biological explanations point out differences in perception, processing, and modulation of unpleasant sensations, as well as different autonomic responses to painful stimuli (Barsky et al. 2001). Hormonal factors seem to be involved in mechanisms of pain regulation through GABA and other neuroactive substances (Berkley 1997). This

might in part account for the fact that rates of somatic symptoms start to differ during puberty and that more advanced pubertal status in girls is associated with more somatic symptoms (Rhee 2005). The socialization process influences the willingness to communicate distress. It is considered more socially acceptable for women than men to acknowledge weakness and pain, and women in general have a lower threshold for labeling sensations as distressing and seeking medical help for them (Barsky et al. 2001). Interpersonal problems and negative life events (Aro 1987), as well as experiences of physical or sexual abuse (Fiddler et al. 2004), are known risk factors for developing medically unexplained somatic symptoms. The fact that prevalence rates of sexual abuse are considerably higher among girls compared to boys might explain some of the difference in somatic complaints reported. Some studies suggest that the higher prevalence of anxiety and depression among women can account for gender differences in reporting of somatic complaints (Piccinelli and Simon 1997). Other studies state that although gender differences decrease when adjusting for internalizing symptoms, they remain significant (Kroenke and Spitzer 1998). The fact that women have higher levels of negative affectivity is another factor suggested to account for differences in somatic symptom reporting (Deary et al. 2007). However, previous studies suggest that, although women tend to report more somatic symptoms than men, the association between somatic complaints and mental health problems is equally strong in men and women (Haug et al. 2004). At the same time, there are also indications that somatic complaints are associated with different types of mental health problems in boys and girls. Among girls, somatic complaints have a stronger association with anxiety and depression, while somatic symptoms among boys are more likely to be associated with disruptive behavior disorders (Egger et al. 1999). Longitudinal community studies show a significant continuity of psychiatric disorders but, heterotypic continuity, from one diagnosis to another, is predominantly seen in girls (Costello et al. 2003).

Factors Associated with Somatic Symptoms

As many as 70% of patients with a diagnosable psychiatric disorder initially present somatic symptoms (Kirmayer and Robbins 1991). At the same time, although there is a strong association between somatic symptoms and internalizing problems, three fourths of youths with somatic complaints do not develop other emotional disorders and neither do their somatic symptoms become chronic (Mulvaney et al. 2006). Several psychological models try to explain why some individuals may be more susceptible to developing chronic somatic complaints. Developmental psychopathology describes somatic symptoms as a continuum of severity rather than a diagnosis and tries to integrate risk and protective factors across different domains (child, family, and society) (Beck 2008). Individual risk factors such as low self-esteem, negative affectivity, and poor social skills moderate the impact of negative life events and everyday stressors. Children with many individual risk factors are more vulnerable to the impact of negative social factors, thus reporting more somatic complaints (Walker et al. 2002). Looking at risk and protective factors in a larger social context, the best predictors of the child's somatic complaints are the mother's health, the child's mental stability and social skills, and the family's socioeconomic status. Children from families with low education, low income, and unemployment seem to be more vulnerable to develop somatic symptoms (Berntsson et al. 2001).

Cognitive skills are also suggested to influence somatization in children and adolescents. It is proposed that children less skilled in verbal expressions of their feelings tend to experience and communicate psychological distress through somatic symptoms (Eminson 2001). Poor emotion awareness, or alexithymia, has often been linked to somatic symptoms, although other studies have found this effect to be mediated through internalizing psychopathology. Lack of adaptive coping strategies, or in other words of adequate individual's efforts to regulate emotions,

thoughts, behavior, physiology, and environment in response to stressful events, is also a risk factor for developing persistent somatic complaints. Children who use coping strategies like acceptance or distraction in response to pain have fewer somatic and internalizing symptoms. On the other hand, poor coping strategies characterized by avoidance, rumination over pain, disengagement, and anger are often associated with increased levels of somatic and depressive symptoms (Beck 2008).

Both psychiatric conditions and chronic physical illness in a parent has been associated with somatization among the children (Campo and Fritsch 1994). Having a physical illness or hospitalization early in life also seems to increase the susceptibility to somatization, and even minor accidents might serve as a trigger in this context. As somatic complaints often cluster within families, genetic factors have been implicated. There is some evidence that genetic factors determining personality traits (e.g., neuroticism) contribute to anxiety, depression, and, to a lesser extent, perceived somatic health.

Early learning experiences may contribute to a tendency to focus on unexplained bodily sensations and to developing beliefs that these sensations are harmful and dangerous (Barlow 2004). Parents and adults play an important role in shaping these early learning experiences. Retrospective studies of adults found that subjects whose parents had paid special attention to some types of symptoms when they were children were inclined to seek medical help for these same kinds of symptoms as adults (Barlow 2004). A parent's tendency toward overprotection and separation fears may give the child a sense of personal vulnerability that promotes somatization. The parent may also shape the child's illness behavior by responding or ignoring the child's physical complaints, attributing significance to these, facilitating withdrawal from normal life activities, and seeking medical help on behalf of the child. Social reinforcement, such as attention, expressions of sympathy, and relief from responsibilities may influence the expression and even experience of somatic symptoms. These secondary gains are often unintentional and outside of conscious awareness.

Help-seeking can in itself be a maintaining factor and unhelpful illness behaviors can be reinforced in a medical setting. It has been shown in several studies that a poor relationship with the general practitioner strongly influences symptom reporting and number of consultations (Deary et al. 2007). In some degree, analogous to the parent and child relationship, a negative patient-doctor interaction can increase distress concerning somatic symptoms. On the other hand, there is a lower prevalence of somatization disorders in health-care systems where the patients have a good and ongoing relationship with the primary health physician (Gureje 2004), highlighting the role of trust and communication in finding explanations for distress.

The ability to make sense of one's symptoms has been shown to lessen distress and any explanation that the individual may use is better than none (Kirmayer et al. 2004). Being able to create a narrative can be seen as related to sense of coherence – the capacity to perceive the world as predictable, manageable, and meaningful. A survey of adolescents showed that low sense of coherence is a factor associated with a higher frequency of somatic complaints (Simonsson et al. 2008). This goes in line with the proposal that children less capable of expressing their feeling in words, thus creating a narrative, communicate psychological distress through somatic symptoms (Eminson 2001).

Explanatory Models of Medically Unexplained Symptoms

There are many different models and theories in the development and maintenance of medically unexplained somatic symptoms. Some of the most common theories will be described here.

Somatosensory amplification refers to the tendency to experience somatic symptoms as intense, noxious, and disturbing (Barsky et al. 1988). It consists of three components: (1) bodily hypervigilance that includes increased attention to unpleasant bodily sensations, (2) a tendency to focus on weak and infrequent sensations, and (3) a disposition to appraise somatic sensations

as abnormal and symptomatic of disease (Barsky et al. 1988). Amplification seems to be related to the reporting of somatic symptoms. It is however unclear to what extent it is an independent factor or if the effect is mediated by factors such as anxiety, depression, and negative affectivity. The conflicting evidence suggests that somatosensory amplification can only in part account for somatization (Duddu et al. 2006), with other neurobiological as well as social factors having a role.

Sensitization refers to a tendency to respond to stimuli with heightened physical pathology because of prior stressful experiences. The sensitization model proposes that repeated experience of symptoms can leave traces at a neuronal level, causing cerebral restructuring, which facilitates further symptom perceptions. The sensitization process also has a psychological component with negative expectations and a lack of habituation playing a role in the perception of physical signals (van Raveznwaaij et al. 2010). Other authors propose that sensitization is predominantly a maintaining factor, above its role as a risk factor (Rief and Broadbent 2007).

Neuroticism is a personality trait characterized by a tendency to experience negative effect, also described as a predisposition to experience somatopsychic distress. It is correlated with several mechanisms suggested to be involved in symptom perpetuation, such as harm avoidance and conditioning to noxious stimuli. Neuroticism is associated with a variety of health problems, among them anxiety, depression, and medically unexplained symptoms. Some authors propose that the high association between several somatic symptoms and anxiety and depression is a manifestation of the underlying tendency to experience somatopsychic distress, e.g., the neurotic personality trait (Deary et al. 2007).

The *hypothalamus pituitary adrenal axis* (HPA axis) is a stress response system that involves a hormonal cascade ending in the production of cortisol. Cortisol affects metabolism, immune functioning, energy, and mood. Major depression is consistently associated with high levels of cortisol while, chronic fatigue syndrome, fibromyalgia, and PTSD have been found to have low cortisol levels. A theory is that prolonged stress

leads to a “burnout” response and a down-regulation in cortisol production, resulting in pain, fatigue, and stress sensitivity. Lowered cortisol may also lead to increased levels of inflammatory cytokines, resulting in “illness behavior” of inactivity and avoidance. However, the evidence for the role of the HPA axis in medically unexplained symptoms is inconclusive, as different studies give a varied picture (Deary et al. 2007).

The *signal-filtering model* combines psychological and psychobiological explanations. Most of the sensory signals constantly produced in different part of the body are normally filtered before they reach our conscious attention. The signal-filtering model states that in somatoform disorders the filtering capacity is either reduced, or the physical signals increased. Selective attention, anxiety, depression, and immunological activation can have a role in the reduction of the filter system, while overarousal, chronic HPA-axis activation, and sensitization can lead to an increase in bodily signals (Rief and Barsky 2005).

The *cognitive behavioral therapy model* is a meta-model linking together the cognitive, behavioral, and physiological factors believed to contribute to somatic symptoms. Predisposing and precipitating factors like early experience of adversity, threat sensitivity, and neuroticism increase the amount of symptoms experienced and lower the threshold for their detection. Life events and stress further lower the threshold by increasing physiological sensitization and distress intolerance. Perpetuating factors include (1) cognitive processes like attention, attribution, and rumination; (2) physiological factors like hypocortisolism; (3) behavioral processes of avoidance and illness response; and (4) social factors of medical uncertainty and lack of explanation. There is evidence for the different elements of the CBT model, but the pattern of interaction of the elements is to some degree unclear. The strength of the CBT model is that individual factors can be incorporated but that is also what makes it difficult to test (Deary et al. 2007). There is support for the CBT model in treatment of adult patients with medically unexplained

symptoms (Kroenke 2007) and it seems to be helpful for children as well (Eccleston et al. 2012). However, more research is needed to investigate which mechanisms and interventions are most important.

Somatic Complaints, Anxiety, and Depression

There is a well-established association between somatic symptoms and psychiatric problems, in particular anxiety and depression (Campo and Fritsch 1994). Longitudinal studies suggest that somatic complaints have an earlier onset than depressive disorders (Lieb et al. 2007). In depressed adolescents, multiple somatic symptoms reflect a higher severity of depression, and even in adolescents without a previous history of depression, somatic symptoms have been shown to predict depression (Bohman et al. 2012). Somatic symptoms were also significantly associated with persistent depression at a 1-year follow-up of a large community sample of adolescents (Rushton et al. 2002). However, there is also longitudinal research suggesting that the influence of somatic symptoms on anxiety and depression is weak and lagged, while the effect of anxiety and depression on somatic symptoms is much stronger and immediate (Janssens et al. 2010). The research is also conflicting on the question of whether anxiety and depression have an equally strong relationship to somatic symptoms. A study of depressed inpatients suggests that the association between somatic complaints and anxiety may be stronger than the association between somatic complaints and depression (Jolly et al. 1994). This is supported by findings from a primary care study, where anxiety accounted for 11% of the variance in somatic symptom reporting, compared to 3% for depression (Kroenke and Spitzer 1998). Another study of a clinical sample of children describes that the association between somatic complaints and depression is independent of anxiety levels (McCauley et al. 1991). While, a large population-based study found the association of

somatic complaints with anxiety and depression to be of equal strength (Haug et al. 2004).

The high comorbidity between anxiety and mood problems can imply that both conditions are manifestations of the same neurobiological processes (Axelson and Birmaher 2001). Anxiety and depression are known to share a common vulnerability to experience negative affect (poor concentration, sleep disturbances, or irritability) (Griffith et al. 2010). Depression is also characterized by absence of positive affect (inability to experience pleasure and cognitive and motor slowing), while anxiety features autonomic arousal (rapid heart rate, shortness of breath, and trembling) (Clark and Watson 1991). This vulnerability, or neurotic personality trait, is suggested to be genetically determined and neurobiological, involving neural circuits that are modulated by serotonergic neurons (Axelson and Birmaher 2001). It has been suggested that the association between somatization, anxiety, and depression may be explained in a similar way (Deary et al. 2007). Neuroticism is frequently implicated as a risk factor of psychopathology and has been linked to somatization (De Gucht 2003; Kirmayer et al. 1994), anxiety (Aldinger et al. 2014), and depression (Russo et al. 1997). The temperamental vulnerability of neuroticism, together with negative life events and early learning experiences, might increase the number of symptoms experienced and lower the threshold for their detection. Adverse life events and stress lead to physiological changes, further promoting sensitization to noxious stimuli. The combination of psychological vulnerability, a stressful life event, and lack of coping strategies can lead to the development of anxiety and, later in life, depression (Barlow 2004). Lack of explanation for the symptoms may increase anxiety and symptom focus. Interpersonal, social, and cultural models reinforce verbal or behavioral expressions of distress (Deary et al. 2007; Kirmayer and Sartorius 2007). Selective attention, symptom avoidance, and illness behavior further enhance the feedback loop that leads to psychopathology (Kirmayer et al. 1994). On a larger scale, the current trend of medicalization appears to amplify the mild

somatic distress of everyday life and lower the threshold for physical discomfort (Barsky and Borus 1995)

Somatic Anxiety

Anxiety can be described as consisting of behavioral, cognitive-affective, and somatic components. The cognitive aspect involves worrisome thoughts and unpleasant emotions, while somatic anxiety refers to bodily symptoms of increased physiological arousal, such as an increase in heart rate and muscle tension (Barlow 2004). The somatic component of anxiety has been implicated to have a role in the development of future somatic complaints. In a longitudinal 1-year follow-up study of adolescents, somatic anxiety was able to predict subsequent somatic complaints, even after controlling for demographic factors and internalizing problems (Ruchkin and Schwab-Stone 2014).

Cross-Cultural Differences in Mental Health

There is some evidence that sociocultural factors can influence prevalence and nature of symptoms exhibited in specific somatization disorders, like conversion disorder (Davey 2008). There are also differences in how symptoms are described and explanatory models vary across cultures, with varying attribution of symptoms to medical illness, family, work, environmental stress, or culture-specific phenomena (DSM-V 2013).

Somatization is thought to be particularly common among non-Western cultures, but conclusions are complicated by the lack of comparable standardized methodologies; diagnostic criteria derived from one culture might not be applicable to another and availability of mental health-care services may also have a role (Kirmayer and Young 1998). Although the prevalence of the most commonly reported somatic complaints are cross-culturally similar, the expression and explanations may vary, therefore producing conflicting

results depending on the methods used (Weisz et al. 2006). A large cross-cultural study of somatization conducted by the WHO used a checklist of complaints that reflected the common forms of somatization in the cultures included in the study. Although the rates of somatization markedly varied across cultures, no clear cultural, economic, or geographic factors accounting for the variation could be identified (Gureje et al. 1997). Another study focusing on adolescents demonstrated that, although many kinds of psychopathology were cross-culturally different, the levels of somatic complaints in particular were quite similar (Weisz et al. 2003).

Notably, as mentioned above, the incidence of self-reported headache and stomach pain in young adolescents has increased in many Western countries over the last decades. This may be explained by subtle ongoing sociocultural and attitudinal changes. In a country like Sweden, it has been suggested that the increase of self-reported pain may – at least to a part – be understood as late effects of the welfare society itself and some of its inherent values (Lindgren and Lindblad 2010).

Considering the paucity of cross-cultural studies in child and adolescent psychiatry as well as lack of epidemiological studies of somatic complaints in nonclinical samples, there is still a need for further research on these topics.

References

- Aldinger, M., Stopsack, M., Ulrich, I., et al. (2014). Neuroticism developmental courses – Implications for depression, anxiety and everyday emotional experience; a prospective study from adolescence to young adulthood. *BMC Psychiatry*, 14, 210. <https://doi.org/10.1186/s12888-014-0210-2>.
- Aro, H. (1987). Life stress and psychosomatic symptoms among 14 to 16-year old Finnish adolescents. *Psychological Medicine*, 17, 191–201.
- Axelson, D. A., & Birmaher, B. (2001). Relation between anxiety and depressive disorders in childhood and adolescence. *Depression and Anxiety*, 14, 67–78.
- Barlow, D. H. (2004). *Anxiety and its disorders: The nature and treatment of anxiety and panic*. New York: Guilford Press.
- Barsky, A. J., & Borus, J. F. (1995). Somatization and medicalization in the era of managed care. *JAMA*,

- 274, 1931–1934. <https://doi.org/10.1001/jama.1995.03530240041038>.
- Barsky, A. J., Goodson, J. D., Lane, R. S., & Cleary, P. D. (1988). The amplification of somatic symptoms. *Psychosomatic Medicine*, *50*, 510–519.
- Barsky, A. J., Peekna, H. M., & Borus, J. F. (2001). Somatic symptom reporting in women and men. *Journal of General Internal Medicine*, *16*, 266–275.
- Beck, J. E. (2008). A developmental perspective on functional somatic symptoms. *Journal of Pediatric Psychology*, *33*, 547–562. <https://doi.org/10.1093/jpepsy/jsm113>.
- Berkley, K. J. (1997). Sex differences in pain. *Behavioral and Brain Sciences*, *20*, 371–380 (Discussion 435–513).
- Berntsson, L. T., Köhler, L., & Gustafsson, J. E. (2001). Psychosomatic complaints in schoolchildren: A Nordic comparison. *Scandinavian Journal of Public Health*, *29*, 44–54.
- Bohman, H., Jonsson, U., Päären, A., von Knorring, L., Olsson, G., & von Knorring, A.-L. (2012). Prognostic significance of functional somatic symptoms in adolescence: A 15-year community-based follow-up study of adolescents with depression compared with healthy peers. *BMC Psychiatry*, *12*, 90. <https://doi.org/10.1186/1471-244X-12-90>.
- Campo, J. V., & Fritsch, S. L. (1994). Somatization in children and adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, *33*, 1223–1235. <https://doi.org/10.1097/00004583-199411000-00003>.
- Clark, L. A., & Watson, D. (1991). Tripartite model of anxiety and depression: Psychometric evidence and taxonomic implications. *Journal of Abnormal Psychology*, *100*, 316–336.
- Costello, E. J., Mustillo, S., Erkanli, A., Keeler, G., & Angold, A. (2003). Prevalence and development of psychiatric disorders in childhood and adolescence. *Archives of General Psychiatry*, *60*, 837–844. <https://doi.org/10.1001/archpsyc.60.8.837>.
- Davey, G. C. (2008). *Psychopathology: Research, assessment and treatment in clinical psychology*. Chichester: Wiley.
- De Gucht, V. (2003). Stability of neuroticism and alexithymia in somatization. *Comprehensive Psychiatry*, *44*, 466–471. [https://doi.org/10.1016/S0010-440X\(03\)00143-3](https://doi.org/10.1016/S0010-440X(03)00143-3).
- Deary, V., Chalder, T., & Sharpe, M. (2007). The cognitive behavioural model of medically unexplained symptoms: A theoretical and empirical review. *Clinical Psychology Review*, *27*, 781–797. <https://doi.org/10.1016/j.cpr.2007.07.002>.
- DSM-V, A.P. (2013). *Diagnostic and statistical manual of mental disorders, DSM-5* (5th ed.). Washington, DC: American Psychiatric Publishing.
- Duddu, V., Isaac, M. K., & Chaturvedi, S. K. (2006). Somatization, somatosensory amplification, attribution styles and illness behaviour: A review. *International Review of Psychiatry*, *18*, 25–33. <https://doi.org/10.1080/09540260500466790>.
- Eccleston, C., Palermo, T. M., de C Williams, A. C., Lewandowski, A., Morley, S., Fisher, E., & Law, E., (2012). Psychological therapies for the management of chronic and recurrent pain in children and adolescents. *Cochrane Database of Systematic Reviews*, *12*, CD003968. <https://doi.org/10.1002/14651858.CD003968.pub3>
- Egger, H. L., Costello, E. J., Erkanli, A., & Angold, A. (1999). Somatic complaints and psychopathology in children and adolescents: Stomach aches, musculoskeletal pains, and headaches. *Journal of the American Academy of Child and Adolescent Psychiatry*, *38*, 852–860. <https://doi.org/10.1097/00004583-199907000-00015>.
- Eminson, D. M. (2001). Somatizing in children and adolescents. 1. Clinical presentations and aetiological factors. *Advances in Psychiatric Treatment*, *7*, 266–274. <https://doi.org/10.1192/apt.7.4.266>.
- Fiddler, M., Jackson, J., Kapur, N., Wells, A., & Creed, F. (2004). Childhood adversity and frequent medical consultations. *General Hospital Psychiatry*, *26*, 367–377. <https://doi.org/10.1016/j.genhosppsych.2004.04.001>.
- Fritz, G. K., Fritsch, S., & Hagino, O. (1997). Somatoform disorders in children and adolescents: A review of the past 10 years. *Journal of the American Academy of Child and Adolescent Psychiatry*, *36*, 1329–1338. <https://doi.org/10.1097/00004583-199710000-00014>.
- Garber, J., Walker, L. S., & Zeman, J. (1991). Somatization symptoms in a community sample of children and adolescents: Further validation of the Children's Somatization Inventory. *Psychological Assessment: A Journal of Consulting and Clinical Psychology*, *3*, 588–595. <https://doi.org/10.1037/1040-3590.3.4.588>.
- Griffith, J. W., Zinbarg, R. E., Craske, M. G., et al. (2010). Neuroticism as a common dimension in the internalizing disorders. *Psychological Medicine*, *40*, 1125–1136. <https://doi.org/10.1017/S0033291709991449>.
- Gureje, O. (2004). What can we learn from a cross-national study of somatic distress? *Journal of Psychosomatic Research*, *56*, 409–412. [https://doi.org/10.1016/S0022-3999\(03\)00623-8](https://doi.org/10.1016/S0022-3999(03)00623-8).
- Gureje, O., Simon, G. E., Ustun, T. B., & Goldberg, D. P. (1997). Somatization in cross-cultural perspective: A World Health Organization study in primary care. *The American Journal of Psychiatry*, *154*, 989–995.
- Haug, T. T., Mykletun, A., & Dahl, A. A. (2004). The association between anxiety, depression, and somatic symptoms in a large population: The HUNT-II study. *Psychosomatic Medicine*, *66*, 845–851.
- Janssens, K. A. M., Rosmalen, J. G. M., Ormel, J., van Oort, F. V. A., & Oldehinkel, A. J. (2010). Anxiety and depression are risk factors rather than consequences of functional somatic symptoms in a general population of adolescents: The TRAILS study. *Journal of Child Psychology and Psychiatry*, *51*, 304–312. <https://doi.org/10.1111/j.1469-7610.2009.02174.x>.
- Jolly, J. B., Wherry, J. N., Wiesner, D. C., Reed, D. H., Rule, J. C., & Jolly, J. M. (1994). The mediating role of anxiety in self-reported somatic complaints of

- depressed adolescents. *Journal of Abnormal Child Psychology*, 22, 691–702.
- Kirmayer, L. J., Groleau, D., Looper, K. J., & Dominicé, M. (2004). Explaining medically unexplained symptoms. *Canadian Journal of Psychiatry*, 49, 663–672.
- Kirmayer, L. J., & Robbins, J. M. (1991). Three forms of somatization in primary care: Prevalence, co-occurrence, and sociodemographic characteristics. *Journal of Nervous and Mental Disease*, 179, 647–655.
- Kirmayer, L. J., Robbins, J. M., & Paris, J. (1994). Somatoform disorders: Personality and the social matrix of somatic distress. *Journal of Abnormal Psychology*, 103, 125–136.
- Kirmayer, L. J., & Sartorius, N. (2007). Cultural models and somatic syndromes. *Psychosomatic Medicine*, 69, 832–840. <https://doi.org/10.1097/PSY.0b013e31815b002c>.
- Kirmayer, L. J., & Young, A. (1998). Culture and somatization: Clinical, epidemiological, and ethnographic perspectives. *Psychosomatic Medicine*, 60, 420–430.
- Kroenke, K. (2007). Efficacy of treatment for somatoform disorders: A review of randomized controlled trials. *Psychosomatic Medicine*, 69, 881–888. <https://doi.org/10.1097/PSY.0b013e31815b00c4>.
- Kroenke, K., & Spitzer, R. L. (1998). Gender differences in the reporting of physical and somatoform symptoms. *Psychosomatic Medicine*, 60, 150–155.
- Lieb, R., Meinlschmidt, G., & Araya, R. (2007). Epidemiology of the association between somatoform disorders and anxiety and depressive disorders: An update. *Psychosomatic Medicine*, 69, 860–863. <https://doi.org/10.1097/PSY.0b013e31815b0103>.
- Lieb, R., Pfister, H., Mastaler, M., & Wittchen, H. U. (2000). Somatoform syndromes and disorders in a representative population sample of adolescents and young adults: Prevalence, comorbidity and impairments. *Acta Psychiatrica Scandinavica*, 101, 194–208.
- Lindgren, C., Lindblad, F. (2010). The enigma of the welfare state: excellent child health prerequisites—poor subjective health. *Acta Paediatrica*, 99, 803–807. <https://doi.org/10.1111/j.1651-2227.2010.01725.x>.
- Lipowski, Z. J. (1988). Somatization: The concept and its clinical application. *The American Journal of Psychiatry*, 145, 1358–1368.
- McCauley, E., Carlson, G. A., & Calderon, R. (1991). The role of somatic complaints in the diagnosis of depression in children and adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 30, 631–635. <https://doi.org/10.1097/00004583-199107000-00016>.
- Mulvaney, S., Lambert, E. W., Garber, J., & Walker, L. S. (2006). Trajectories of symptoms and impairment for pediatric patients with functional abdominal pain: A 5-year longitudinal study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 45, 737–744. <https://doi.org/10.1097/10.chi.0000214192.57993.06>.
- Olde Hartman, T. C., Borghuis, M. S., Lucassen, P. L. B. J., van de Laar, F. A., Speckens, A. E., & van Weel, C. (2009). Medically unexplained symptoms, somatisation disorder and hypochondriasis: Course and prognosis. A systematic review. *Journal of Psychosomatic Research*, 66, 363–377. <https://doi.org/10.1016/j.jpsychores.2008.09.018>.
- Piccinelli, M., & Simon, G. (1997). Gender and cross-cultural differences in somatic symptoms associated with emotional distress. An international study in primary care. *Psychological Medicine*, 27, 433–444.
- Rhee, H. (2005). Relationships between physical symptoms and pubertal development. *Journal of Pediatric Health Care*, 19, 95–103. <https://doi.org/10.1016/j.pedhc.2004.10.004>.
- Rief, W., & Barsky, A. J. (2005). Psychobiological perspectives on somatoform disorders. *Psychoneuroendocrinology*, 30, 996–1002. <https://doi.org/10.1016/j.psyneuen.2005.03.018>.
- Rief, W., & Broadbent, E. (2007). Explaining medically unexplained symptoms—models and mechanisms. *Clinical Psychology Review*, 27, 821–841. <https://doi.org/10.1016/j.cpr.2007.07.005>.
- Ruchkin, V., & Schwab-Stone, M. (2014). A longitudinal study of somatic complaints in urban adolescents: The role of internalizing psychopathology and somatic anxiety. *Journal of Youth and Adolescence*, 43, 834–845. <https://doi.org/10.1007/s10964-013-9966-9>.
- Rushton, J. L., Forcier, M., & Schectman, R. M. (2002). Epidemiology of depressive symptoms in the National Longitudinal Study of Adolescent Health. *Journal of the American Academy of Child and Adolescent Psychiatry*, 41, 199–205. <https://doi.org/10.1097/00004583-200202000-00014>.
- Russo, J., Katon, W., Lin, E., et al. (1997). Neuroticism and extraversion as predictors of health outcomes in depressed primary care patients. *Psychosomatics*, 38, 339–348. [https://doi.org/10.1016/S0033-3182\(97\)71441-5](https://doi.org/10.1016/S0033-3182(97)71441-5).
- Simonsson, B., Nilsson, K. W., Leppert, J., & Diwan, V. K. (2008). Psychosomatic complaints and sense of coherence among adolescents in a county in Sweden: A cross-sectional school survey. *Biopsychosocial Medicine*, 2, 4. <https://doi.org/10.1186/1751-0759-2-4>.
- van Ravenzwaaij, J., Olde Hartman, T., van Ravesteijn, H., Eveleigh, R., van Rijswijk, E., & Lucassen, P. (2010). Explanatory models of medically unexplained symptoms: A qualitative analysis of the literature. *Mental Health in Family Medicine*, 7, 223.
- Walker, L. S., Claar, R. L., & Garber, J. (2002). Social consequences of children's pain: When do they encourage symptom maintenance? *Journal of Pediatric Psychology*, 27, 689–698.
- Weisz, J. R., Weiss, B., Suwanlert, S., & Chaiyasit, W. (2003). Syndromal structure of psychopathology in children of Thailand and the United States. *Journal of Consulting and Clinical Psychology*, 71, 375–385.
- Weisz, J. R., Weiss, B., Suwanlert, S., & Chaiyasit, W. (2006). Culture and youth psychopathology: Testing the syndromal sensitivity model in Thai and American adolescents. *Journal of Consulting and Clinical Psychology*, 74, 1098–1107. <https://doi.org/10.1037/0022-006X.74.6.1098>.

Specific Learning Disorder

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Synonyms

[Dyscalculia](#); [Dysgraphia](#); [Dyslexia](#); [Learning disabilities](#)

Overview

The current chapter reviews and integrates conceptual and empirical research on specific learning disorder (SLD), including the following core topics: the definition and diagnostic criteria for SLD; its comorbidity with other disorders such as attention deficit hyperactivity disorder; its etiology; common practices for assessment and diagnosis; various domains of functioning such as academic, behavioral, and socioemotional adjustment; and major directions for intervention. This chapter uniquely focuses on adolescents with SLD, considering that trajectories are set during adolescence and young adulthood that can lead to difficulties in adulthood.

Introduction

Specific learning disorder (SLD) is one of the most common neurodevelopmental disorders in children and adolescents, with 5–15% prevalence rates across different languages and cultures (*Diagnostic and Statistical Manual of Mental Disorders – DSM-5*, American Psychiatric Association 2013). This disorder in learning and using academic skills has biological origins comprising an interaction of genetic, epigenetic, and environmental factors, which affect the brain's ability to perceive and process verbal and/or nonverbal information efficiently and accurately. As reported by the *DSM-5*, this disorder is more

frequent in males than in females, with demonstrated ratios ranging from about 2:1 to 3:1.

SLD commonly co-occurs with other neurodevelopmental disorders such as attention deficit hyperactivity disorder (ADHD) or developmental coordination disorder, and it may co-occur with other mental disorders such as anxiety or depressive disorders (see *DSM-5*). For example, prior research found a relatively high comorbidity with ADHD, where an estimated 31–45% of youngsters with ADHD also exhibited SLD and vice versa (Barkley 2015; DuPaul et al. 2013). Studies have also reported high heritability for most manifestations of learning disabilities. For instance, in first-degree relatives of individuals with SLD, the rates are substantially higher of having a SLD in reading (4–8 times higher) or a SLD in mathematics (5–10 times higher), compared to those without such relatives (e.g., Willcutt et al. 2010).

Diagnostic Criteria, Assessment, and General Features

The *DSM-5*, the *Diagnostic and Statistical Manual of Mental Disorders* classification and psychiatric diagnosis, identifies four major criteria for diagnosing SLD:

1. Difficulties in learning and using academic skills, indicated by the presence of at least one of the following symptoms that have persisted for at least 6 months, despite the provision of interventions targeting those difficulties: inaccurate or slow and effortful word reading; difficulty in reading comprehension; difficulties with spelling; difficulties with written expression; and difficulties mastering number sense, number facts, calculation, and mathematical reasoning.
2. The affected academic skills are substantially and quantifiably below those expected for the individual's chronological age, and they cause significant interference with academic or occupational performance, or with activities of daily living, as confirmed by individually

- administered standardized achievement measures and comprehensive clinical assessment.
3. The learning difficulties began during school-age years but may not have become fully manifested until the demands for those affected academic skills exceeded the individual's limited capacities.
 4. The learning difficulties are not better accounted for by alternative disabilities such as intellectual disabilities, uncorrected visual or auditory acuity, other mental or neurological disorders, psychosocial adversity, lack of proficiency in the language of academic instruction, or inadequate educational instruction.

Data from research studies investigating individuals with SLD have underscored their heterogeneous and sometimes overlapping difficulties in the reading, writing, and mathematical domains (Tannock 2013). These studies also suggested that different cognitive, perceptual, linguistic, and neuropsychological processes underlie these major areas of difficulty in SLD (American Psychiatric Association 2013; Fletcher et al. 2007), as discussed below.

Generally, these four *DSM-5* diagnostic criteria for SLD are evaluated by a clinical synthesis of the individual's history (i.e., developmental, educational, medical, neurological, and familial), together with school reports and individualized psychoeducational assessment. The individual assessment battery typically includes measures of cognitive performance such as memory, language, visual and spatial skills, attention, fine motor skills, processing and processing speed, problem solving and reasoning, and achievement. Emotional functioning has been also included in comprehensive assessments to clarify the individuals' stress and coping with SLD challenges. Such diagnostic evaluations also incorporate assessment of other possible comorbid disorders such as ADHD, anxiety, or depressive disorders. Following the diagnostic evaluation process, youngsters who were identified as having SLD diagnosis may be eligible for appropriate learning and testing accommodations in their academic system, along with specific interventions and support from the

school's psychoeducational staff and from external resources.

As emphasized by a substantial cumulative body of research in SLD, individuals with this disorder show clinically significant impairment not only in the expected academic domain but also in socioemotional and behavioral functioning (see Swanson et al. 2013, for a review). The next sections provide an overview of each of these major domains of difficulty, in terms of their features, underlying processing deficits, and major aspects regarding instruction and intervention processes.

Academic Skills and Performance in Youngsters with SLD

Overall, numerous studies investigating academic functioning of children and adolescents with SLD have highlighted these youngsters' lower school achievement levels, greater academic difficulties, and poorer learning abilities than youngsters with typical development. These studies also reported a much higher school dropout rate for high school students with SLD, occurring 2–3 times more frequently than among their non-disabled high school counterparts (e.g., Gregg 2013). Findings from follow-up research revealed that the academic difficulties associated with SLD persist into adulthood. For example, studies reported that fewer adults with SLD attend postsecondary educational institutions and that fewer graduate, in comparison to adults without SLD (Gerber 2012).

Considerable research on academic skills and functioning in individuals with SLD has focused on learning disabilities in the reading domain (often called *dyslexia*). These studies emphasized the central areas of deficit underlying reading difficulties and investigated various intervention approaches addressing each area (Siegel and Mazabel 2013). Specifically, individuals with reading disabilities demonstrate a variety of dysfunctional reading performance skills in two major areas: decoding skills and/or comprehension skills (Siegel and Mazabel 2013; Vaughn et al. 2013). Decoding problems of children with

dyslexia include slow reading speed, poor reading fluency, mispronunciation of words in oral reading, and more. Studies on decoding difficulties examined the possible role of deficits in phonological processing as well as in specific cognitive processing measures like verbal working memory, visual-spatial memory, executive processing, and short-term memory (Kudo et al. 2015). Children with poor primary comprehension skills have difficulties in comprehending the content of the material and may also have linguistic deficits involving the semantic processing of written language (e.g., Vaughn et al. 2013).

Empirical evidence on the deficient processes underlying reading disabilities has guided diverse intervention studies (e.g., Siegel and Mazabel 2013). Such intervention study designs emphasized the role of phonics instruction in enhancing reading acquisition among younger as well as older readers. In addition, research has suggested that reading instruction and remediation are most effective when they are highly explicit and intensive, offered in a small and interactive group format, set up in a way that controls task difficulty, and incorporate basic elements of reading as well as metacognitive strategies. For example, Lovett and colleagues (2013) presented the PHAST PACES reading instruction intervention for adolescents, which comprised word identification strategies, knowledge of text structure and conventions, and a set of five reading comprehension strategies. In the domain of reading comprehension interventions, research outcomes pinpointed the value of components such as strategy instruction related to the main idea or to summarization, vocabulary instruction, and extended discussion of text meaning and interpretation – as effective means for improving comprehension (Solis et al. 2012).

Children and adolescents with learning disabilities in the mathematics domain (often called *dyscalculia*) manifest a developmental arithmetic disorder in one or more of the skills involved in mathematics such as deficits in counting, accurate or fluent calculation, memorization of arithmetic facts, and accurate math reasoning (e.g., *DSM-5*, American Psychiatric Association 2013). Research studies suggested several explanations

for these difficulties, focused on neurocognitive processes such as deficiencies in semantic memory, deficits in visual/spatial processing, and deficits in sequencing multiple steps in complex procedures. Such neurocognitive processes may include, for example, verbal and nonverbal neurocognitive processes, spatial working memory, naming speed, verbal-auditory discrimination ability, long-term memory for general information, and visuospatial processes (e.g., Fletcher et al. 2007; Swanson and Jerman 2006).

In exploring the efficacy of mathematical instruction and remediation, researchers have highlighted the importance of diverse techniques (e.g., Fuchs et al. 2013). Several studies underscored the contribution of teaching the relevant links between different kinds of problems, mathematical procedures, and real-world applications. In addition, studies also emphasized that children with dyscalculia may benefit from the explicit teaching of self-regulation, self-monitoring, and procedural knowledge (i.e., understanding the sequential set of steps required for solving a problem). Such studies also suggested the role of cognitive strategies that incorporate cueing, modeling, verbal rehearsal, and explicit instruction for more effective mathematical instruction.

Children and adolescents with learning disabilities in the domain of written expression (often called *dysgraphia*) demonstrate difficulties in several major aspects of writing skills such as spelling accuracy, grammar, and punctuation accuracy (American Psychiatric Association 2013). In investigating the possible sources of these written expression disorders, studies have proposed variables such as disordered receptive or expressive language skills and/or deficits in neuropsychological processing such as visuospatial, executive-coordination, or fine motor and graphomotor abilities (dyspraxia).

The breadth of research investigating effective instruction, intervention, and remediation programs for youngsters with dysgraphia lags behind that of research investigating dyslexia and dyscalculia. However, available studies on dysgraphia have examined the role of four major components in writing development and writing

disabilities: strategies, skills, knowledge, and motivation (e.g., Graham et al. 2013). Consequently, researchers have highlighted the effectiveness of intervention methods such as self-regulation strategies, rule-based lexical information, lexical visual information in whole-word forms, occupational therapy, and diverse technologies to facilitate intensive repetitive practice.

Socioemotional and Behavioral Adjustment of Youngsters with SLD

Beyond documenting the effects of SLD on academic and cognitive functioning, research has also indicated these youngsters' diverse socioemotional and behavioral difficulties (see Al-Yagon and Margalit 2013, for a review). Findings from accumulating research have underscored that children and adolescents with SLD evidence a wide range of social, affective, and behavioral difficulties in comparison to their typically developing peers. These include poorer social competence, more peer rejection, and loneliness; lower pragmatic communication abilities, greater impairment in adaptation to novel situations, and more substantial difficulties in establishing and maintaining satisfying social relationships; higher depression and anxiety, more withdrawn behaviors, lower prevalence of secure attachment with parents and teachers, and higher levels of internalizing and externalizing behavior problems (e.g., Al-Yagon 2012, *in press*; Idan and Margalit 2014; Wehmeier et al. 2010). Thus, it is not surprising that transition to college highlighted their challenges, and their relations to their future expectations and hope (Feldman et al. *in press*). Nevertheless, it should be noted that in line with resilience approaches (e.g., Masten 2014), research examining the SLD population has also identified subgroups of youngsters with isolated academic difficulties alongside well-adjusted social and emotional functioning (e.g., Margalit 2012).

Several hypotheses have been suggested for the high prevalence rates of these socioemotional and behavioral difficulties among individuals with SLD (see Al-Yagon and Margalit 2013, for

a review). These different hypotheses distinguish between primary and secondary causes. The *primary-cause hypothesis* suggests that internal neurological factors (e.g., information-processing disorders, impulsivity, performance and production deficits), which affect these individuals' academic skills, may also affect their social and emotional perceptions and interpretations which, in turn, may impair their social, emotional, and behavioral skills. The *secondary-cause hypothesis* appraises these difficulties as a result of or a secondary effect of the basic academic difficulties experienced by these individuals.

Intervention studies designed to improve the socioemotional and behavioral functioning of children with SLD generally include individual/family psychotherapy or social skills training, spanning a wide range of intervention durations, settings, and techniques (Al-Yagon and Margalit 2013). For example, social skills training programs may consist of cognitive behavior modification or metacognition training such as coaching, modeling, role-playing, feedback, and mnemonic strategies to train children in efficient interpersonal problem-solving skills (e.g., Kopelman-Rubin et al. 2013). Such studies also proposed the possible role of intervention programs focusing on these youngsters' close relationships with significant others such as parents, peers, and teachers (e.g., Brunstein Klomek et al. 2013).

Conclusion

SLD is one of the most common neurodevelopmental disorders in children and adolescents and commonly co-occurs with other neurodevelopmental disorders such as ADHD. Empirical scrutiny into SLD has grown considerably over recent decades, yielding significant developments in the understanding of this disorder's genetic, neuropsychological, and other etiologies, as well as clarifying its characteristics and identifying emerging diagnostic and interventional approaches. Data from such studies highlighted the reciprocal influences of the neuropsychological, educational, familial, and socioemotional processes among individuals with SLD. This

reciprocal impact seems to contribute to the process of comprehensive assessment as well as to the process of designing effective interventions for these youngsters in family and educational settings.

In contrast to the emerging research literature on children and adolescents with SLD, empirical research and intervention for adults with SLD remain rare. Considering that youngsters with SLD may continue to face challenges related to their disabilities as they enter postsecondary education settings, this paucity of research calls for extended future examination. Researchers would do well to investigate the persistence of neuropsychological, cognitive, academic, familial, interpersonal, and intrapersonal difficulties into adulthood in various occupational, educational, and personal settings such as workplaces, institutions of higher learning, spousal relationships, and families.

In sum, as seen from this extensive discussion, individuals with SLD experience significant impairments in academic and socioemotional areas but in line with resilience theory also reveal areas of resilient functioning that should be further investigated and promoted.

References

- Al-Yagon, M. (2012). Adolescents with learning disabilities: Socioemotional and behavioral functioning and attachment relationships with fathers, mothers, and teachers. *Journal of Youth and Adolescence, 41*, 1294–1311.
- Al-Yagon, M. (2016). Perceived close relationships with parents, teachers, and peers: Predictors of social, emotional, and behavioral functioning in adolescents with LD or comorbid LD and ADHD. *Journal of Learning Disabilities*. <https://doi.org/10.1177/0022219415620569>.
- Al-Yagon, M., & Margalit, M. (2013). Social cognition of children and adolescents with LD: Intrapersonal and interpersonal perspectives. In H. L. Swanson, K. Harris, & S. Graham (Eds.), *Handbook of learning disabilities* (2nd ed., pp. 278–292). New York: Guilford Press.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington: American Psychiatric Publishing.
- Barkley, R. A. (Ed.). (2015). *Attention-deficit/hyperactivity disorder: A handbook for diagnosis and treatment* (4th ed.). New York: Guilford Press.
- Brunstein Klomek, A., Kopelman-Rubin, D., Al-Yagon, M., et al. (2013). Changes in attachment representations during an open trial of a psychological intervention for adolescents with learning disorders. *Adolescent Psychiatry, 3*, 329–335.
- DuPaul, G. J., Gormley, M. J., & Laracy, S. D. (2013). Comorbidity of LD and ADHD: Implications of DSM-5 for assessment and treatment. *Journal of Learning Disabilities, 46*(1), 43–51.
- Feldman, D. B., Davidson, O. B., Ben-Naim, S., Maza, E., & Margalit, M. (in press). Hope as a mediator of loneliness and academic self-efficacy among students with and without learning disabilities during the transition to college. *Learning Disabilities Research & Practice*.
- Fletcher, J. M., Lyon, G. R., Fuchs, L. S., & Barnes, M. A. (2007). *Learning disabilities: From identification to intervention*. New York: Guilford.
- Fuchs, L. S., Fuchs, D., Schumacher, R., & Seethaler, P. M. (2013). Instructional intervention for students with mathematics learning disabilities. In H. L. Swanson, K. Harris, & S. Graham (Eds.), *Handbook of learning disabilities* (2nd ed., pp. 388–404). New York: Guilford Press.
- Gerber, P. J. (2012). The impact of learning disabilities on adulthood: A review of the evidenced-based literature for research and practice in adult education. *Journal of Learning Disabilities, 45*(1), 31–46. <https://doi.org/10.1177/0022219411426858>.
- Graham, S., Harris, K. R., & McKeown, D. (2013). The writing of students with learning disabilities, meta-analysis of self-regulated strategy development writing intervention studies, and future directions. In H. L. Swanson, K. Harris, & S. Graham (Eds.), *Handbook of learning disabilities* (2nd ed., pp. 405–432). New York: Guilford Press.
- Gregg, N. (2013). Adults with learning disabilities: Factors contributing to persistence. In H. L. Swanson, K. Harris, & S. Graham (Eds.), *Handbook of learning disabilities* (2nd ed., pp. 85–103). New York: Guilford Press.
- Idan, O., & Margalit, M. (2014). Socioemotional self-perceptions, family climate, and hopeful thinking among students with learning disabilities and typically achieving students from the same classes. *Journal of Learning Disabilities, 47*(2), 136–152.
- Kopelman-Rubin, D., Brunstein Klomek, A., Al-Yagon, M., Mufson, L., Apter, A., & Mikulincer, M. (2013). Psychological intervention for adolescents diagnosed with learning disorders: I Can Succeed (ICS) treatment model, feasibility and acceptability. *International Journal for Research in Learning Disabilities, 1*(1), 37–54.
- Kudo, M. F., Lussier, C. M., & Swanson, H. L. (2015). Reading disabilities in children: A selective meta-

- analysis of the cognitive literature. *Research in Developmental Disabilities*, 40C, 51–62. <https://doi.org/10.1016/j.ridd.2015.01.002>.
- Lovett, M. W., Barron, R. W., & Frijters, J. C. (2013). Word identification difficulties in children and adolescents with reading disabilities: Intervention research findings. In H. L. Swanson, K. Harris, & S. Graham (Eds.), *Handbook of learning disabilities* (2nd ed., pp. 329–360). New York: Guilford Press.
- Margalit, M. (2012). *Lonely children and adolescents: Self-perceptions, social exclusion and hope*. New York: Springer.
- Masten, A. S. (2014). Global perspectives on resilience in children and youth. *Child Development*, 85(1), 6–20. <https://doi.org/10.1111/cdev.12205>.
- Siegel, L. S., & Mazabel, S. (2013). Basic cognitive processes and reading disabilities. In H. L. Swanson, K. Harris, & S. Graham (Eds.), *Handbook of learning disabilities* (2nd ed., pp. 186–213). New York: Guilford Press.
- Solis, M., Ciullo, S., Vaughn, S., Pyle, N., Hassaram, B., & Leroux, A. (2012). Reading comprehension interventions for middle school students with learning disabilities: A synthesis of 30 years of research. *Journal of Learning Disabilities*, 45(4), 327–340. <https://doi.org/10.1177/0022219411402691>.
- Swanson, H. L., Harris, K., & Graham, S. (Eds.). (2013). *Handbook of learning disabilities* (2nd ed.). New York: Guilford Press.
- Swanson, H. L., & Jerman, O. (2006). Math disabilities: A selective meta-analysis of the literature. *Review of Educational Research*, 76(2), 249–274. <https://doi.org/10.3102/00346543076002249>.
- Tannock, R. (2013). Rethinking ADHD and LD in DSM-5: Proposed changes in diagnostic criteria. *Journal of Learning Disabilities*, 46(1), 5–25. <https://doi.org/10.1177/0022219412464341>.
- Vaughn, S., Swanson, E., & Solis, M. (2013). Reading comprehension for adolescents with significant reading problems. In H. L. Swanson, K. Harris, & S. Graham (Eds.), *Handbook of learning disabilities* (2nd ed., pp. 375–387). New York: Guilford Press.
- Wehmeier, P. M., Schacht, A., & Barkley, R. a. (2010). Social and emotional impairment in children and adolescents with ADHD and the impact on quality of life. *Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine*, 46(3), 209–217. <https://doi.org/10.1016/j.jadohealth.2009.09.009>.
- Willcutt, E. G., Pennington, B. F., Duncan, L., Shelley, D., Keenan, J. M., . . . Olson, R. K. (2010). Understanding the complex etiologies of developmental disorders: Behavioral and molecular genetic approaches. *Journal of Developmental and Behavioral Pediatrics*, 31, 533–544. <https://doi.org/10.1097/DBP.0b013e3181ef42a1>.

Spiritual Development

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Overview

Although the field of developmental psychology has often neglected topics related to spirituality, the past decade has seen a surge of interest in this domain (Roehlkepartain et al. 2006). Benson (2004), for instance, has called for psychology to “honor spiritual development as a core developmental process that deserves equal standing in the pantheon of universal developmental processes” (p. 50). Much of the response to this call for increased scientific understanding of spiritual development has come from researchers who focus on the stage of adolescence. This is perhaps not surprising, as adolescence has long been recognized as a time when a great deal of growth occurs in spiritual and religious domains (e.g., Levenson et al. 2005; King and Roeser 2009; Spika et al. 2003). Furthermore, researchers have demonstrated that spirituality may be related to positive psychosocial adjustment, including low involvement in risk-taking (substance use, delinquency, etc.) and good mental health (Perez et al. 2009; Rew and Wong 2006; Ritt-Olson et al. 2004). Spirituality, therefore, may be an important construct for researchers of adolescence to explore. This report aims to facilitate understanding of spiritual development in adolescence by focusing on four important issues within the field. First, issues surrounding the definition and measurement of spirituality in adolescence will be explored. In this section, the various ways in which spirituality has been defined and measured in the literature is examined (particularly in contrast to religiosity), and the importance of understanding the various conceptualizations is emphasized. Second, the way in which certain developmental features of adolescence may

prompt spiritual growth during this period of life, will be considered. This section explores how cognitive, neurological, and emotional changes during adolescence may make teens more likely to engage in the exploration of spiritual ideas, experience a spiritual conversion or commitment, and make spiritual commitments that endure over time. Third, major findings and foci of the empirical research on spirituality in adolescence will be examined, focusing in particular on work that has demonstrated that spirituality may be linked with lower levels of negative behavior such as substance use and delinquency, and higher levels of positive behavior such as community service and emotional well-being. Fourth, directions for future research will be considered, specifically focusing on the importance of developing a more comprehensive understanding of how the various domains of spirituality are related to various domains of religiosity over time, the need for research on non-U.S. populations, and the need for experimental studies.

Definitional and Measurement Issues

A major challenge in the study of adolescent spirituality involves the definition and measurement of the construct. Historically, spirituality was conceptualized as the private or personal aspects of religion, and spiritual individuals were seen simply as people who were deeply religious (Koenig 2008). The definition of spirituality in the psychological literature, however, has been broadened considerably in recent years. Many researchers (e.g., Miller and Thoresen 2003; Zinnbauer and Pargament 2005) now consider spirituality to involve the behaviors, thoughts, and feelings that arise from a concern with or search for the sacred, divine, or nonmaterial aspects of life. These scholars tend to espouse the view that spirituality is often, but not always, pursued within the boundaries of religion (e.g., Hill and Pargament 2003; Zinnbauer et al. 1997; Zinnbauer and Pargament 2005).

Miller and Thoresen (2003) make use of an interesting metaphor to illustrate this conceptualization of spirituality, stating that “the field of

religion is to spirituality as the field of medicine is to health” (p. 28). Just as medicine is a fairly common and successful means through which individuals achieve health (but not the *only* means – consider good eating habits and exercise, for example), religion is *just one* of the common and reasonably successful means through which individuals facilitate connection with the sacred. The term “spiritual development,” made popular by Peter Benson and his colleagues (Benson 2004; Benson et al. 2003) also reflects this conceptualization, where “spiritual development is the process of growing the intrinsic human capacity for self-transcendence, in which the self is embedded in something greater than the self, including the sacred . . . It is shaped both within and outside of religious traditions, beliefs, and practices” (p. 206).

Recently, the definition of spirituality has been extended even further by some researchers to include factors such as emotional well-being, human values, meaning, and purpose in life (Koenig 2008). For instance, in two prominent studies (Dowling et al. 2003, 2004), adolescent spirituality was defined as “seeing life and living in new and better ways, taking something to be transcendent or of great value, and defining self and relation to others in ways that move beyond the petty or material concerns to genuine concern for others” (Dowling et al. 2004, p. 7). This very broad conceptualization of spirituality may be problematic for research purposes, and further attention will be given to this issue later in this essay.

Due to the diversity of definitions across studies, many scales exist that all claim to measure some form of “spirituality.” This inconsistency represents a challenge for individuals attempting to make sense of the role of spirituality in adolescent development. Further complicating matters is the fact that spirituality is an enormously multidimensional construct, and different measures assess various dimensions of the construct (Benson et al. 2003; Tsang and McCullough 2003). Tsang and McCullough (2003) and Hill (2005) emphasize that measures of *dispositional* spirituality assess how “spiritual” a person is at a trait-like or dispositional level, while measures

of *operational* spirituality assess how individuals experience spiritual realities, their motivations for being spiritual, and their use of spirituality to deal with problems. Researchers have not done a particularly good job of being clear about the particular domains or dimensions of spirituality being assessed within a given study, or considering how the results obtained in a study may have been related to the particular measure/domain of spirituality that was utilized.

Another complication with definitional and measurement issues involves the overlap of spirituality with religion. A detailed exploration of the distinction between spirituality and religiosity is beyond the scope of this essay, and excellent overviews of definitional and measurement issues related to the difference between spirituality and religion readers are presented in Hill et al. (2000), Hill (2005), Koenig (2008), Zinnbauer and Pargament (2005), Zinnbauer et al. (1999), and Zinnbauer et al. (1997). For the purpose of this report, however, attention will be drawn to the issue that because spirituality and religiosity are typically correlated, items assessing both constructs are often combined in a single scale and labeled as either “spirituality” or “religiosity.” As an illustration, Koenig et al. (2008) assessed what was termed “religiousness” using a composite measure of items such as frequency of religious service/youth group attendance, frequency of prayer and scripture reading, frequency of discussing religious teachings with others, number of friends with similar beliefs, and overall importance of religion in daily life. In another study, Kerestes et al. (2003) assessed what they labeled “religious perspective” and combined items such as “I have a close relationship with God,” and “My faith/spirituality helps me to answer questions about myself and the world around me” with items such as “It is important for me to share my religious beliefs with others” (also see Ozorak 1989; Regnerus 2003; Wills et al. 2003). In these studies, although several items on the scales could be considered aspects of a personal concern with and/or search for the sacred, they were included with items that were very specific to organized religion. Thus, the studies

could not provide information about spirituality as a distinct but related domain from religiosity.

Contributing to this problem is the fact that researchers are often not specifically interested in differentiating spirituality from religiosity (i.e., the focus is typically on the association between religiosity/spirituality and other variables), and it is more parsimonious to combine both constructs in a single scale if statistics support such a merger (e.g., high reliability, items load onto one factor). Furthermore, in some populations, spirituality may be inseparable from religion (i.e., for highly religious individuals the search for the sacred may be pursued exclusively within religious practices and beliefs). For example, in a sample of 13- and 14-year-old Indonesian Muslims (Indonesians are, on average, highly religious, see Lippman and Keith 2005), French et al. (2008) found that a single latent variable combining religiosity and spirituality was a better fit with the data than a two-factor model. Unfortunately, such issues have contributed to a dearth of knowledge about spirituality (as separate from religiosity) and confusion regarding whether findings in a study can be attributed to spirituality or religion.

These definitional and measurement issues are important to keep in mind when interpreting the literature. If some studies find associations between spirituality and (for instance) an index of psychosocial adjustment and other studies find a null (or opposite) effect, it may be because very different definitions/measures of spirituality were used, or because in some studies aspects of spirituality were combined in a scale with aspects of religiosity. In reading the literature on spirituality, therefore, it is essential to consider how spirituality was defined and measured, whether the items and/or scale(s) reflect dispositional or operational domains of spirituality, and whether elements of religiosity were also included in the scales.

Features of Adolescence that may Promote Spiritual Development

Adolescence is often considered to be a period of life when individuals experience changes and growth in the spiritual domain. This growth may

happen, at least in part, because some of the normative development that occurs in adolescence may make teens particularly responsive to environmental stimulation of a spiritual nature (Good and Willoughby 2008). In this section, the reasons why normative adolescent development that occurs within other domains (i.e., intrapersonal, cognitive, and neurological) may facilitate growth in the spiritual domain will be explored. In particular, this section explores why adolescents may be more likely than individuals in other stages of life to (a) engage in the exploration of spiritual ideas; (b) experience a spiritual conversion or commitment; and (c) make spiritual commitments that endure over time (Good and Willoughby 2008).

Exploration of spiritual ideas. As individuals enter adolescence, their aptitude for abstract thought increases. The capability to think abstractly allows individuals to consider and generate hypotheses about unfamiliar (as opposed to real, familiar, or concrete) situations and ideas (e.g., Inhelder and Piaget 1958; Overton et al. 1987). This increased capacity for abstract thought also enables them to consider different ideas about spiritual concepts. As this capacity grows, they may find themselves asking difficult, abstract questions such as “How can a loving God exist when there is so much pain and suffering in the world?” Furthermore, because adolescents are better able than children to engage in deductive reasoning (e.g., Chapell and Overton 1998; Ward and Overton 1990), they may have a greater capacity to systematically test their hypotheses about abstract spiritual questions and to draw conclusions on the basis of what they find.

Another key cognitive capacity that emerges in adolescence is metacognitive orientation, which is the ability to reflect on and evaluate one’s own ideas and the ideas presented by other people (Moshman 1998). In a review of the research on metacognitive abilities, Byrnes (2003) stated that while children tend to assume that all knowledge is certain and objective, adolescents are able to consider multiple perspectives, and to evaluate the validity of different perspectives using evidence or reasoning-based methods. Therefore, adolescents have at their disposal a newfound cognitive ability to critically evaluate the sources from

which they have received knowledge about spiritual matters. For instance, they may begin to question whether there is adequate evidence that the holy books of their religions are actually inspired by God.

Support for the hypothesis that adolescents may be particularly likely to engage in spiritual exploration also comes from the research on identity formation. Identity formation is a crucial component of intrapersonal development in adolescence (e.g., Erikson 1968), and commitment to a set of spiritual beliefs (whether they be theist, atheist, or agnostic) may be a key means of identity commitments (Kroger 1996; Schwartz 2001). Indeed, adherence to a spiritual belief system typically involves the adoption of a particular worldview and set of ideologies concerning work, love, life, and death. Therefore, not only might the search for the self precipitate questioning in adolescents about what they have been taught regarding spirituality, but it could also facilitate the adoption of identity commitments.

Adolescent spiritual conversions and commitment experiences. One outcome of spiritual exploration during adolescence may be a conversion or commitment experience (Erikson 1964). Recent research indicates that these experiences are quite common among U.S. adolescents. For example, using data from a nationally representative survey (the National Study of Youth and Religion) that employed a random digit-dial telephone survey of U.S. households, Smith and Denton (2005) reported that 55% of adolescents reported having “made a personal commitment to live life for God.” Even when considering only those teenagers who reported they were “not religious,” 13% said they had made a personal commitment to live life for God. These statistics suggest that religious/spiritual commitment experiences happen for large numbers of teenagers today, even for those who are not affiliated with a religious group.

Zinnbauer and Pargament (1998) define conversion as a gradual or sudden process where a change involving the sacred occurs in an individual. These types of experiences may be associated with intense pleasurable feelings (Newberg and Newberg 2005; Spika et al. 2003) Empirical

support for this hypothesis comes from a small number of experimental studies examining the relation between brain activity and spiritual/religious and paranormal experiences. Although this field of research is still in its infancy, results from several studies using positron emission tomography (PET) suggest that spiritual experiences may be correlated with distinct neural patterns, such as increased blood flow in the limbic structure (which is associated with emotion), as well as the frontal and parietal structures (areas associated with thought, cognition, and belief) (Azari et al. 2001, 2005; Persinger 1993, 1997). It is possible that the nature of conversion experiences may interact with the normative emotional and cognitive characteristics of adolescents in such a way that may make adolescents particularly susceptible to experiencing a spiritual commitment or conversion; this idea is considered in detail in the following section.

Emotion, cognition, and conversions. Adolescence is a period of heightened emotions; teenagers tend to have higher highs and lower lows than children or adults (Dahl 2004). This intensity may be particularly salient for negative emotions such as depression and anxiety (e.g., Jessor and Jessor 1977; Larson et al. 1980; Larson and Ham 1993). Dahl (2004) stated that, while adolescents are in possession of this set of “turbo-charged emotions” (p. 17), they often do not possess the cognitive maturity to fully regulate these emotions. Researchers have suggested recently that the prefrontal cortex, which controls self-regulatory capacities such as impulse control, planning, and foresight, may not be fully mature until young adulthood (Giedd 2004; Hooper et al. 2004; Luciana 2006). In one study, Galvan et al. (2006) presented fMRI data showing that areas of the brain involved in planning and control develop later than areas of the brain that are sensitive to immediate rewards. In short, there is evidence to suggest that adolescents, on average, are less skilled than adults at logically considering consequences before engaging in behavior. The choices that adolescents make, consequently, may often be guided by intense emotions in the moment, rather than by calculated decision-making processes (Steinberg 2004).

One result of this interaction between high-intensity emotions and relatively immature cognitive abilities may be sensitivity to opportunities for conversion. Spika et al. (2003) state that conversions may sometimes follow a “behavior first, then belief” sequence of change. An adolescent who, in the moment, senses an intense love and affection from or “oneness” with a higher power may act on these feelings and make a religious or spiritual commitment without first considering the “consequences” of such a commitment (for instance, engaging in practices of spiritual discipline such as meditation, sacrificing sleeping in on Sunday mornings to attend worship services, or giving up pork or alcohol or extramarital sex). An adult, however, may be more likely to look past the emotion of the moment and use foresight and planning in considering the long-term implications of a commitment. These inhibitory cognitive skills may make it easier for adults to avoid making impulsive spiritual commitments.

Conversion represents only one type of emotionally intense spiritual/religious experience (Newberg and Newberg 2005), and adolescents may also be more likely to become involved in other experiences (i.e., group ritual, individual prayer, meditation) that are associated with intense feelings, such as awe, peace, tranquility, and ecstasy (Newberg and Newberg 2005). Adolescent insensitivity to reward, wherein adolescents engage in intense, thrilling activities to experience the same kind of pleasurable feeling that an adult may experience from an everyday task (e.g., Vaidya et al. 2004; Spear 2000) also could make teenagers more likely than children or adults to seek out spiritual experiences that produce pleasurable feelings. Simply going to religious services, for example, may not provide sufficient stimulation for adolescents; rather, they may seek out more intense experiences that satisfy their desire for novel, exciting activities. Religious groups have long understood this adolescent need for intense stimulation, and during the past several decades many religious organizations geared toward teenagers have adopted an MTV-style youth ministry to attract the younger generation (Gerson 2006; Steptoe 2006). In fact, 45% of all teens surveyed by Smith and Denton

(2005) had attended at least one religious conference, rally, retreat or congress, 51% had an experience of spiritual worship that was very moving or powerful, 50% believed they had experienced a definite answer to prayer or specific guidance from God, and 46% believed they had witnessed or experienced a miracle from God.

Stress, negative life events, and conversion. Stress and negative life events are other important factors to consider for why adolescents may be susceptible to spiritual conversions. There is a substantial body of empirical evidence linking stress to conversions. Compared with non-converts, adults who reported a recent religious or spiritual conversion also reported experiencing more stressful life events and personal problems (Zinnbauer and Pargament 1998; Kox et al. 1991). This link between stress and conversions is relevant for the purposes of this essay because researchers have suggested that entry into adolescence may be associated with an increase in stressful or negative life events such as fallings-out with peers, break-ups of romantic relationships, or fighting with parents (e.g., Larson and Ham 1993; Spear 2000). Furthermore, adolescents may not yet have developed the skills for regulating the powerful emotions that accompany these stressful events (e.g., Chambers et al. 2003; Galvan et al. 2006). The tendency for adolescents to report more intense negative emotions may also be related to stress perception, rather than actual stressful events; that is, adolescents often perceive life events as being more stressful than do children or adults (Spear 2000). Allen and Matthews (1997), for example, found that in response to a laboratory stressor adolescents showed a greater increase in blood pressure and heart rate than children. Because stressful or negative life events are sometimes associated with spiritual or religious conversion, it is possible that increased exposure to stress in adolescence coupled with a cognitive bias toward perceiving events as more stressful could contribute to adolescent susceptibility to conversion.

Endurance of adolescent spiritual commitments. There is a dearth of research on whether spiritual commitments made in adolescence are more likely to “stick” than adulthood conversions.

There is indirect empirical and theoretical evidence, however, that implies spiritual commitments made in adolescence (and perhaps in early adulthood) may be more likely to endure throughout the lifespan. The first line of evidence for this claim comes from the identity formation literature. Research has established that while adolescence is a period of ideological exploration (Erikson 1968), firm commitments to a set of personal beliefs (including spirituality) tend to increase as individuals move into young adulthood (e.g., Adams et al. 1989; Adams and Fitch 1982).

By the time individuals enter adulthood, therefore, many of their ideological commitments may be fairly well established. Importantly, young adults’ major decisions such as choice of career or a spouse may often be related to their ideological commitments. For example, young people tend to select marriage partners who are similar to themselves in terms of social class, religion, personality, intelligence, and educational plans (e.g., Simpson and Harris 1994). There is also evidence that young adults consider their personal values in career-related decision making. For example, Constantine et al. (2006) report that college students often used prayer, church, and Bible reading to help deal with career-related challenges. Several researchers have also suggested that individuals may consider their career to be an extension of their spiritual values, wherein the spiritually or religiously motivated desire to serve others, treat others with kindness, and to follow the call of God is fulfilled in part through their vocation (e.g., Duffy 2006; Lips-Wiersma 2002). This evidence implies that it may be more difficult to form spiritual commitments after adolescence. Consider how difficult it would be for a 40-year-old adult to adopt a Buddhist spiritual orientation (where one of the main tenets is the rejection of attachment to worldly possessions) when he or she selected a career or a spouse based on a very different set of ideological values in early adulthood.

Finally, research on the relation between memory and emotion also lends indirect support to the hypothesis that religious or spiritual commitments made in adolescence may be more likely to endure

throughout the lifespan. It is well established that memories of emotionally charged events (so long as they are not extraordinarily stressful) are remembered more readily than everyday, less emotional events, and they are remembered with more accuracy and vividness (e.g., LaBar and Cabeza 2006; Richards and Gross 2006). Given the emotionally charged nature of conversions and other spiritual experiences in adolescence, it is conceivable that spiritual experiences that occur in adolescence may remain more salient in an individual's memory than such experiences in adulthood (because they may be less emotionally intense). In adulthood, an individual may come back to these salient, emotionally intense adolescent memories as reasons or evidence for which they should remain committed to their spiritual beliefs.

Major Findings and Foci of Empirical Studies

The ideas presented above address why, on a theoretical level, adolescence may be a "sensitive period" for spiritual development. Those claims, however, largely have not yet been tested by empirical research. It would be useful, therefore, to consider what is *known* (i.e., supported by empirical studies) about adolescent spirituality.

The most prevalent focus of the field of psychological research on spirituality in adolescence has been the association of spirituality with internalizing and externalizing problems. In general, studies have found that spirituality is associated with positive outcomes such as lower depression and anxiety, and less involvement in health risk behaviors (e.g., substance use) (e.g., Dew et al. 2008; Desrosiers and Miller 2007; Cotton et al. 2006; Perez et al. 2009; Rew and Wong 2006).

These results however, must be interpreted with some degree of caution and criticism. First, as is pointed out by Koenig (2008) and echoed by Dew et al. (2008), some researchers use exceptionally broad conceptualizations of spirituality. Some of the more popular scales used in recent studies of spirituality conceptualize the construct as including "positive psychological states"

(Koenig et al. 2008, p. 350), such as the sense that life has purpose and meaning, feelings of peacefulness, and being connected with others. For instance, the "existential well-being" subscale of the spiritual well-being scale (which has been used in adolescent and young adult populations; e.g., Cotton et al. 2009) assesses an individual's sense of purpose, satisfaction with life, and hope for the future, including items such as "I feel that life is a positive experience," and "I feel that life is full of conflict and unhappiness" (reverse scored). The Brief Multidimensional Measure of Religiousness/Spirituality is another commonly used tool to assess spirituality in adolescent populations (e.g., Desrosiers and Miller 2007, 2008; Dew et al. 2008; Kelley and Miller 2007), and several of its subscale domains (i.e., meaning, values) measure characteristics such as inner harmony and connection to others. The Daily Spiritual Experiences Scale (Underwood and Teresi 2002), while in some items assesses constructs related solely to feelings of connection with the sacred (e.g., "I feel God's presence"), also includes items that could be considered indicators of mental health (e.g., "I feel a selfless caring for others," "I feel deep inner peace or harmony," "I feel thankful for my blessings"). Koenig (2008) points out that when spirituality is assessed in a very broad manner, individuals who are healthy and well-adjusted would score higher on these types of spirituality scales and subscales than mentally or physically unwell individuals simply because the items used to assess both these constructs (mental health and "spirituality") are similar. This issue raises the question as to whether it is appropriate to conceptualize spirituality as involving positive psychological/emotional states, particularly when spirituality is being used to predict internalizing and externalizing problems. Koenig (2008) also points out that this definition of spirituality makes it impossible to consider situations where an individual's search for the sacred may be associated with negative feelings such as inner turmoil and morbid thoughts.

Scales that do not conceptualize spirituality as including emotional well-being, such as the Index of Core Spiritual Experiences (INSPIRIT; Kass

et al. 1991) may be more appropriate when testing the association between spirituality and adolescent adjustment problems. The INSPiRiT measures individuals' experiences with the sacred/transcendent aspects of life (i.e., feelings that god/a higher power exists). In a recent study using a large sample of adolescents followed yearly from grade 7 to grade 9, Perez et al. (2009) found that the INSPiRiT indirectly predicted depressive symptoms over time, through the mediating variables of personal agency and direct coping. Koenig (2008) also suggested that it might be useful to consider how dimensions of spirituality such as mystical experiences (e.g., using Hood's 1975 Mysticism scale) or religious/spiritual doubts, uncertainties, and questioning [e.g., using Batson and Schoenrade's 1991 Quest Scale] are associated with mental health.

Another main area of focus of the empirical research on adolescent spirituality is the relation between spirituality and positive domains of youth development. For instance, Dowling and colleagues (Dowling et al. 2003, 2004) explored the relation between spirituality, religiosity, and thriving (an index of positive youth development). These studies found that spirituality predicted thriving directly, and that the relation between spirituality and thriving was also mediated by religiosity. Of concern, however, was the overlap in how the constructs of spirituality and thriving were assessed. Specifically, spirituality was conceptualized as a higher-order latent variable encompassing three lower-order factors including orientation to do good work (items such as "Imagine you see a little kid fall and get hurt on the playground, would you run over and try to help?"), orientation to help others (i.e., "How many hours did you give to people outside your family that have special needs during the last month without pay?"), and participation in self-interest activities (i.e., "In the past 12 months, how many times have you been out on a date?"). Thriving was a higher-order variable with nine lower-order factors, such as presence of a moral compass, search for a positive identity, personal values, view of gender equity, and path for a hopeful future. Although results from structural

equation modeling suggested that spirituality and thriving were best represented as two separate higher-order latent factors, at face level there appears to be a great deal of overlap between spirituality and thriving, as defined in this study. Therefore, it may not be surprising that spirituality predicted thriving.

In other research linking spirituality to positive youth development, Kelley and Miller (2007) found that daily spiritual experiences predicted life satisfaction to a greater extent than religiosity. Spirituality also may be related to community service and civic engagement (e.g., Serow and Dreyden 1990), particularly if spirituality is conceptualized as involving a concern with or sense of responsibility for others. In a qualitative study, Mariano and Damon (2008) conducted interviews with 48 adolescents about the role of spirituality/faith in finding purpose in life. They found that spirituality (and religious faith, as the two were often intertwined for these participants) may influence life purpose in diverse ways, such as through the intention to contribute to society (i.e., adolescents' sense of spirituality leads to an intention to contribute), the development of character, and the infusion of personal goals with value.

In short, empirical research has generally revealed that spirituality is associated with lower levels of maladjustment and higher levels of positive development. There are many challenges still to be met, however, and much work still needs to be done if an advanced, comprehensive understanding of the role of spirituality in the lives of adolescents is to be developed. It is these more complex issues which must be examined in future research, some of which are considered in the following section.

Directions for Future Research

Although research on spiritual development in adolescence has made great strides in the past decade, compared to other domains of development, the field is still in its infancy. There is still a great deal of research that must be done before a more complete understanding of how this domain operates during adolescence is reached. In this

section, the five issues that represent important areas for future research to explore are considered.

First, while considerable progress has been made in understanding the relation between spirituality and other domains of development (e.g., mental health), much less is known about spirituality as a domain of development *in its own right*. In other words, although researchers know about the variables with which spirituality is correlated, our comprehension of this construct in a truly developmental sense – how its various dimensions unfold within individuals over time – is limited. Some knowledge of rank-order and mean-level change in spirituality over time can be gleaned from patterns of spirituality reported in longitudinal studies (or large multi-cohort cross-sectional studies) that focused on the relation between spirituality and other domains. For instance, French et al. (2008) reported a correlation of 0.49 in self-rated spirituality in Indonesian early adolescents (mean age 13.3) over a 5-month period, indicating considerable rank-order stability in spirituality in the sample (information on changes in mean-level spirituality over the same time period was not provided). Desrosiers and Miller (2007) reported that the Daily Spiritual Experiences Scale (which assessed perceptions of emotional involvement and interaction with sacred/transcendent aspects of daily life) was not significantly correlated with age. Ozorak's (1989) cross-sectional multi-cohort study of changes in religiosity across adolescence included a scale of personal religious experiences, which could be considered to assess the domain of spirituality (items included frequency of solitary prayer and reading sacred literature); here, grade 11 and 12 students reported significantly lower scores on this scale than grade 9 students.

While these studies provide some useful information on univariate descriptive patterns of change over time, much more detailed information is needed, such as how spirituality and religiosity function independently and concurrently over time, and how the various domains of spirituality operate over time. Furthermore, it will be important for future research to explore intraindividual variability in trajectories of spirituality across adolescence (i.e., subgroups of

adolescents who report increasing, decreasing, stable high or stable low patterns of spirituality), and how these different trajectories may differentially predict adjustment.

Second, it is essential for researchers to develop a more complete understanding of the ways in which spirituality as separate from (but related to) religiosity. Many theoretical articles have been written about the differences between spirituality and religiosity, but in empirical research the domains are not often separated. This issue becomes even more important when considering the changing religious landscape of modern Western society. Most notably, attendance at religious services has decreased considerably in the USA, Canada, and Europe over the past 50 years (e.g., Brierley 2006; Clark 2003; Dogan 2003; Miller and Nakamura 1996). One of the outcomes of the growing decline in religious service attendance has been the birth of the construct of “unreligious spirituality” (Zinnbauer et al. 1997). Many individuals, including adolescents, identify themselves as “being spiritual but not religious” (e.g., Smith and Denton 2005; Shahabi et al. 2002; Zinnbauer et al. 1997). For example, using data from a nationally representative survey, Smith and Denton (2005) reported that 51% of adolescents said it was “very true” or “somewhat true” that they were “spiritual but not religious.” Results from a Canadian nationally representative survey (Bibby 2009) indicated that, although only 21% of teens attended religious services weekly and 13% said that religious involvement was very important to them, over 75% reported that they often wondered about ultimate questions such as what happens after death and the purpose of life. Results from a representative study of 15–24 year-olds in 15 European countries (as reported in Lippman and Keith 2005) indicated that 42.6% of participants considered themselves “non-practicing believers,” compared to only 19.4% who reported that they were “practicing believers.”

Despite the attention given to the idea of being “spiritual but not religious,” the empirical literature has devoted relatively little attention to understanding this phenomenon at an in-depth level, particularly in adolescent populations. Results

from interviews conducted with 267 American adolescents from 45 states (Smith and Denton 2005) indicated that many youth who reported on a survey that they were “spiritual but not religious” were actually committed members of religious institutions. In the interviews, youth explained that they considered themselves spiritual but not religious because they wanted to emphasize that “in their mind and self-image institutional trappings have not displaced their personal, spiritual faith” (p. 79). It could be hypothesized, therefore, that some adolescents may be less skilled at attaching a “correct” label to their spirituality/religiosity (i.e., a self-description that is consistent with actual spiritual/religious behaviors and beliefs). The ability to correctly define one’s spiritual/religious self-description may improve with age, as studies with adults have found that individuals who identify as “spiritual but not religious” reported significantly lower levels of religious activity involvement than those who considered themselves “spiritual and religious” (Shahabi et al. 2002; Zinnbauer et al. 1997). It is important for future research to examine this issue further, in order to develop a more comprehensive understanding of “unreligious spirituality” and its trajectory over time. For instance, “unreligious spirituality” may reflect an enduring profile of spiritual and religious beliefs and behavior that is stable over time; conversely, this type of religious/spiritual orientation could be more transient than “spiritual and religious” or “not spiritual or religious” orientations, perhaps reflecting a stage in-between being both religious and spiritual and being neither religious nor spiritual. These are important questions to consider as religious institutions play less and less of a role in public life in Western society.

Third, a greater amount of research needs to be conducted with non-U.S. populations. The U.S. population may be unique with regards to spirituality because, on average, its citizens are more religious (i.e., involved in formal religious institutions, consider formal religion important) than citizens of other developed societies. For instance, in a nationally representative survey conducted in 1999 (The IEA Civic Education Study, as reported

in Lippman and Keith 2005) where 14-year-olds in the USA were compared to their counterparts in 28 other developed nations in five regions of the world, it was found that U.S. adolescents reported the highest level of participation in religious groups (42%, compared to 27% in Southern Europe, 20% in Asia and the Pacific, 14% in Western Europe, 13% in Northern Europe, and 10% in Eastern Europe). It is possible that research on adolescents living in developed nations other than the USA may be needed to more fully comprehend spirituality (particularly nonreligious spirituality). Scales that combine items assessing religiosity with items assessing spirituality, while less than optimal even with U.S. samples, may be much less appropriate in developed countries outside of the USA.

Fourth, it would be useful for researchers of adolescent spirituality to consider conducting experimental studies to gain a sense of when spirituality may be considered a causal factor in some of the domains which are commonly linked with spirituality in survey research. While it is not possible to manipulate individuals’ dispositional spirituality, it may be possible, for instance, to manipulate the salience of spirituality during an experiment. It would lend a great deal of credibility to the field of study if experimental evidence demonstrated that spirituality “caused” (even temporarily) factors such as greater well-being or a lower propensity to engage in negative behaviors.

Finally, within the field of developmental psychology, researchers must work toward gaining a consensus on the most appropriate definitions of “spirituality” and “religiosity,” and the most effective scales for capturing both dispositional and operational spirituality and religiosity *in adolescence*. If a “gold standard” for definition and measurement could be attained, communication among researchers would be improved and scholars would be better able to communicate their findings with other psychologists as well as the media, practitioners, and the general public. Researchers in the field of health have begun to make progress toward such a goal, with the Brief Multidimensional Measure of Religiosity/Spirituality (Fetzer Institute 1999). It is only when some consistency in definition and

measurement is attained that researchers will be able to truly understand which aspects of mental, emotional, psychological, and physical health are predicted by spirituality (versus religiosity) in adolescence.

Conclusions

It is clear that spirituality is an important domain of human development, a fact to which psychologists are just beginning to pay attention. There is a general consensus that spirituality is a positive part of life, and one that may contribute to positive development in other domains. The field is ripe with opportunities for more advanced research to explore the complexities of spiritual development. To be sure, there are limitations that have impeded (and continue to impede) progress in this field of research, such as the difficulty in defining and measuring spirituality, the complexity involved in separating spirituality from religiosity, and the lack of experimental studies. These issues, however, may represent challenges inherent in a new and complex field of study, and careful exploration by skilled researchers will likely diminish many of these problems. Adolescence, in particular, may be a particularly fruitful stage of life on which researchers of spiritual development can focus, as adolescence may be a period where individuals are particularly receptive to environmental stimulation of a spiritual nature and where many changes in spirituality may occur over a relatively short period of time.

Cross-References

- ▶ [Faith](#)
- ▶ [Religiousness in Adolescence and Emerging Adulthood](#)

References

Adams, G. R., & Fitch, S. A. (1982). Ego stage and identity status development: A cross-sequential analysis. *Journal of Personality and Social Psychology*, *43*, 574–583.

- Adams, G. R., Bennion, L., & Huh, K. (1989). *Objective measure of ego identity status: A reference manual*. Guelph: Department of Family Relations and Applied Nutrition, University of Guelph.
- Allen, M. T., & Matthews, K. A. (1997). Hemodynamic responses to laboratory stressors in children and adolescents: The influences of age, race, and gender. *Psychophysiology*, *34*, 329–339.
- Azari, N. P., Nickel, J., Wunderlich, G., Niedeggen, M., Hefter, H., Tellmann, L., et al. (2001). Neural correlates of religious experience. *The European Journal of Neuroscience*, *13*, 1649–1652.
- Azari, N. P., Missimer, J., & Seitz, R. (2005). Religious experience and emotion: Evidence for distinctive cognitive neural patterns. *International Journal for the Psychology of Religion*, *15*, 263–281.
- Batson, C. D., & Schoenrade, P. A. (1991). Measuring religion as quest: 1. Validity concerns. *Journal for the Scientific Study of Religion*, *30*, 416–429.
- Benson, P. L. (2004). Emerging themes in research on adolescent spiritual and religious development. *Applied Developmental Science*, *8*(1), 47–50.
- Benson, P. L., Roehlkepartain, E. C., & Rude, S. P. (2003). Spiritual development in childhood and adolescence: Toward a field of inquiry. *Applied Developmental Science*, *7*(3), 205–213.
- Bibby, R. W. (2009). *The emerging millennials: How Canada's newest generation is responding to change and choice*. Lethbridge: Project Canada Books.
- Brierley, P. (2006). *Pulling out of the nosedive*. London: Christian Research Association.
- Byrnes, J. P. (2003). Cognitive development during adolescence. In G. R. Adams & M. D. Berzonsky (Eds.), *Blackwell handbook of adolescence* (pp. 227–246). Oxford: Blackwell.
- Chambers, R. A., Taylor, J. R., & Potenza, M. N. (2003). Developmental neurocircuitry of motivation in adolescence: A critical period of addiction vulnerability. *The American Journal of Psychiatry*, *160*, 1041–1052.
- Chapell, M. S., & Overton, W. F. (1998). Development of logical reasoning in the context of parental style and test anxiety. *Merrill-Palmer Quarterly*, *44*, 141–156.
- Clark, W. (2003). Pockets of belief: Religious attendance patterns in Canada. *Canadian Social Trends*, *68*, 1–5.
- Constantine, M. G., Miville, M. L., Warren, A. K., Gainor, K., & Lewis-Coles, M. E. L. (2006). Religion, spirituality, and career development in African American college students: A qualitative inquiry. *Career Development Quarterly*, *54*, 227–241.
- Cotton, S., Zebracki, K., Rosenthal, S. L., Tsevat, J., & Drotar, D. (2006). Religion/spirituality and adolescent health outcomes: A review. *The Journal of Adolescent Health*, *38*, 472–480.
- Cotton, S., et al. (2009). Spiritual well-being and mental health outcomes in adolescents with or without inflammatory bowel disease. *Journal of Adolescent Health*, *44*, 485–492.
- Dahl, R. D. (2004). Adolescent brain development: A period of vulnerabilities and opportunities. In R. E.

- Dahl & L. P. Spear (Eds.), *Adolescent brain development: Vulnerabilities and opportunities* (Annals of the New York Academy of Sciences, pp. 1–22). New York: New York Academy of Sciences.
- Desrosiers, A., & Miller, L. (2007). Relational spirituality and depression in adolescent girls. *Journal of Clinical Psychology, 63*, 1021–1038.
- Desrosiers, A., & Miller, L. (2008). Substance use versus anxiety in adolescents: Are some disorders more spiritual than others? *Research in the Social Scientific Study of Religion, 19*, 237–253.
- Dew, R. E., Daniel, S. S., Armstrong, T. D., Goldston, D. B., Triplett, M. F., & Koenig, H. G. (2008). Religion/spirituality and adolescent psychiatric symptoms: A review. *Child Psychiatry and Human Development, 39*, 381–398.
- Dogan, M. (2003). Religious beliefs in Europe: Factors of accelerated decline. *Research in the Social Scientific Study of Religion, 14*, 161–188.
- Dowling, E. M., Gestsdottir, S., Anderson, P. M., von Eye, A., & Lerner, R. M. (2003). Spirituality, religiosity, and thriving among adolescents: Identification and confirmation of factor structures. *Applied Developmental Science, 7*(4), 253–260.
- Dowling, E. M., Gestsdottir, S., Anderson, P. M., von Eye, A., Almerigi, J., & Lerner, R. M. (2004). Structural relations among spirituality, religiosity, and thriving in adolescence. *Applied Developmental Science, 8*(1), 7–16.
- Duffy, R. D. (2006). Spirituality, religion, and career development: Current status and future directions. *Career Development Quarterly, 55*, 52–63.
- Erikson, E. H. (1964). *Childhood and society*. New York: W.W. Norton.
- Erikson, E. H. (1968). *Identity: Youth and crisis*. New York: W.W. Norton.
- Fetzer Institute. (1999). Multidimensional measurement of religiousness/spirituality for use in health research. Retrieved 29 Aug 2009, from <http://www.fetzer.org/images/stories/pdf/MultidimensionalBooklet.pdf>.
- French, D. C., Eisenberg, N., Vaughan, J., Purwono, U., & Suryanti, T. A. (2008). Religious involvement and the social competence and adjustment of Indonesian Muslim adolescents. *Developmental Psychology, 44*, 597–611.
- Galvan, A., Hare, T. A., Parra, C. E., Penn, J., Voss, K., Glover, G., et al. (2006). Earlier development of the accumbens relative to orbitofrontal cortex might underlie risk-taking behavior in adolescents. *The Journal of Neuroscience, 26*, 6885–6892.
- Gerson, J. (2006). Pop culture versus God: Branded by the light. *The Toronto Star*, p. D1.
- Giedd, J. N. (2004). Structural magnetic resonance imaging of the adolescent brain. In R. E. Dahl & L. P. Spear (Eds.), *Adolescent brain development: Vulnerabilities and opportunities* (Annals of the New York Academy of Sciences, Vol. 1021, pp. 77–85). New York: New York Academy of Sciences.
- Good, M., & Willoughby, T. (2008). Adolescence as a sensitive period for spiritual development. *Child Development Perspectives, 2*, 32–37.
- Hill, P. C. (2005). Measurement in the psychology of religion and spirituality: Current status and evaluation. In R. F. Paloutzian & C. L. Park (Eds.), *Handbook of the psychology of religion and spirituality* (pp. 43–61). New York: Guilford.
- Hill, P. C., & Pargament, K. I. (2003). Advances in the conceptualization and measurement of religion and spirituality: Implications for physical and mental health research. *American Psychology, 58*, 64–74.
- Hill, P. C., Pargament, K. I., Hood, R. W., McCullough, M. E., Swyers, J. P., Larson, D. B., et al. (2000). Conceptualizing religion and spirituality: Points of commonality, points of departure. *Journal for the Theory of Social Behavior, 30*, 51–77.
- Hood, R. W., Jr. (1975). The construction and preliminary validation of a measure of reported mystical experience. *Journal for the Scientific Study of Religion, 14*, 29–41.
- Hooper, C. J., Luciana, M., Conklin, H. M., & Yarger, R. S. (2004). Adolescents' performance on the Iowa Gambling Task: Implications for the development of decision making and ventromedial prefrontal cortex. *Developmental Psychology, 40*, 1148–1158.
- Inhelder, B., & Piaget, J. (1958). *The growth of logical thinking from childhood to adolescence: An essay on the construction of formal operational structures*. New York: Basic Books.
- Jessor, R., & Jessor, S. L. (1977). *Problem behavior and psychological development: A longitudinal study of youth*. New York: Academic.
- Kass, J. D., Friedman, R., Leserman, J., & Zuttermeister, P. C. (1991). Health outcomes and a new index of spiritual experience. *Journal for the Scientific Study of Religion, 30*(2), 203–211.
- Kelley, B. S., & Miller, L. (2007). Life satisfaction and spirituality in adolescents. *Research in the Social Scientific Study of Religion, 18*, 233–261.
- Kerestes, M., Youniss, J., & Metz, E. (2003). Longitudinal patterns of religious perspective and civic integration. *Applied Developmental Science, 8*, 39–46.
- King, P. E., & Roeser, R. W. (2009). Religion and spirituality in adolescent development. In R. M. Steinberg & R. W. Roeser (Eds.), *Handbook of adolescent psychology* (pp. 435–478). Hoboken: Wiley.
- Koenig, H. G. (2008). Concerns about measuring “spirituality” in research. *The Journal of Nervous and Mental Disease, 196*, 349–355.
- Koenig, L. B., McGue, M., & Iacono, W. G. (2008). Stability and change in religiousness during emerging adulthood. *Developmental Psychology, 44*, 532–543.
- Kox, W., Meeus, W., & Hart, H. (1991). Religious conversion of adolescents: Testing the Lofland and Stark model of religious conversion. *Sociological Analysis, 52*, 227–240.
- Kroger, J. (1996). *Identity in adolescence*. New York: Routledge.

- LaBar, K. S., & Cabeza, R. (2006). Cognitive neuroscience of emotional memory. *Nature Reviews. Neuroscience*, 7, 54–64.
- Larson, R. W., & Ham, M. (1993). Stress and “storm and stress” in early adolescence: The relationship of negative events with dysphoric affect. *Developmental Psychology*, 29, 130–140.
- Larson, R. W., Csikszentmihalyi, M., & Graef, R. (1980). Mood variability and the psychosocial adjustment of adolescents. *Journal of Youth and Adolescence*, 9, 469–490.
- Levenson, M. R., Aldwin, C. M., & D’Mello, M. (2005). Religious development from adolescence to middle adulthood. In R. F. Paloutzian & C. L. Park (Eds.), *The psychology of religion and spirituality* (pp. 144–161). New York: Guilford.
- Lippman, L. H., & Keith, L. M. (2005). The demographics of spirituality among youth: International perspectives. In E. C. Roehlkepartain, P. E. King, L. Wagener, & P. L. Benson (Eds.), *The handbook of spiritual development in childhood and adolescence* (pp. 109–123). London: SAGE.
- Lips-Wiersma, M. (2002). The influence of spiritual “meaning making” on career behavior. *Journal of Management Development*, 21, 497–520.
- Luciana, M. (2006). Cognitive neuroscience and the prefrontal cortex: Normative development and vulnerability to psychopathology. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology* (Developmental Neuroscience, Vol. 2, pp. 292–331). New York: Wiley.
- Mariano, J. M., & Damon, W. (2008). The role of spirituality and religious faith in supporting purpose in adolescence. In R. M. Lerner, R. W. Roeser, & E. Phelps (Eds.), *Positive youth development and spirituality: From theory to research* (pp. 210–230). West Conshohocken: Templeton Foundation Press.
- Miller, A. S., & Nakamura, T. (1996). On the stability of church attendance patterns during a time of demographic change: 1965–1988. *Journal for the Scientific Study of Religion*, 35, 275–284.
- Miller, W. R., & Thoresen, C. E. (2003). Spirituality, religion, and health. *The American Psychologist*, 58, 24–35.
- Moshman, D. (1998). Cognitive development beyond childhood. In W. Damon (Ser. Ed.), D. Kuhn, & R. S. Siegler (Vol. Eds.), *Handbook of child psychology* (Cognition, Language, and Perception, Vol. 2, pp. 947–978). New York: Wiley.
- Newberg, A. B., & Newberg, S. K. (2005). The neuropsychology of religious and spiritual experience. In R. F. Paloutzian & C. L. Park (Eds.), *The psychology of religion and spirituality* (pp. 199–215). New York: Guilford.
- Overton, W. F., Ward, S. L., Noveck, I. A., Black, J., & O’Brien, D. P. (1987). Form and content in the development of deductive reasoning. *Developmental Psychology*, 23, 22–30.
- Ozorak, E. W. (1989). Social and cognitive influences on the development of religious beliefs and commitment in adolescence. *Journal for the Scientific Study of Religion*, 28, 448–463.
- Perez, J. E., Little, T. D., & Henrich, C. C. (2009). Spirituality and depressive symptoms in a school-based sample of adolescents: A longitudinal examination of mediated and moderated effects. *The Journal of Adolescent Health*, 44, 380–386.
- Persinger, M. A. (1993). Vectorial cerebral hemisphericity as differential sources for the sensed, mystical experiences and religious conversions. *Perceptual and Motor Skills*, 76, 915–930.
- Persinger, M. A. (1997). “I would kill in God’s name”: Role of sex, weekly church attendance, report of a religious experience and limbic lability. *Perceptual and Motor Skills*, 85, 128–130.
- Regnerus, M. D. (2003). Linked lives, faith, and behavior: Intergenerational religious influence on adolescent delinquency. *Journal for the Scientific Study of Religion*, 42, 189–203.
- Rew, L., & Wong, Y. J. (2006). A systematic review of associations among religiosity/spirituality and adolescent health attitudes and behaviors. *The Journal of Adolescent Health*, 38, 433–442.
- Richards, J. M., & Gross, J. J. (2006). Personality and emotional memory: How regulating emotion impairs memory for emotional events. *Journal of Research in Personality*, 40, 631–651.
- Ritt-Olson, A., Milam, J., Unger, J. B., Trinidad, D., Teran, L., Dent, C. W., et al. (2004). The protective influence of spirituality and “health-as-a-value” against monthly substance use among adolescents varying in risk. *The Journal of Adolescent Health*, 34(3), 192–199.
- Roehlkepartain, E. C., Benson, P. L., King, P. E., & Wagener, L. M. (2006). Spiritual development in childhood and adolescence: Moving to the scientific mainstream. In E. C. Roehlkepartain, P. E. King, L. Wagener, & P. L. Benson (Eds.), *The handbook of spiritual development in childhood and adolescence* (pp. 1–15). London: SAGE.
- Schwartz, S. J. (2001). The evolution of Eriksonian and neo-Eriksonian identity theory and research: A review and integration. *Identity*, 1, 7–58.
- Serow, R. C., & Dreyden, J. I. (1990). Community service among college and university students: Individual and institutional relationships. *Adolescence*, 25, 553–566.
- Shahabi, L., Powell, L. H., Musick, M. A., Pargament, K. I., Thoresen, C. E., Williams, D. E., et al. (2002). Correlates of self-perceptions of spirituality in American adults. *Annals of Behavioral Medicine*, 24, 59–68.
- Simpson, J. A., & Harris, B. A. (1994). Interpersonal attraction. In A. L. Weber & J. H. Harvey (Eds.), *Perspective on close relationships* (pp. 45–66). Boston: Allyn and Bacon.

- Smith, C., & Denton, M. L. (2005). *Soul searching: The religious and spiritual lives of American teenagers*. Oxford: Oxford University Press.
- Spear, L. P. (2000). The adolescent brain and age-related behavioral manifestations. *Neuroscience and Biobehavioral Review*, 24, 417–463.
- Spika, B., Hood, R. W., Hunsberger, B., & Gorsuch, R. (2003). *The psychology of religion. An empirical approach* (3rd ed.). New York: Guilford.
- Steinberg, L. (2004). Risk taking in adolescence: What changes, and why? In R. E. Dahl & L. P. Spear (Eds.), *Adolescent brain development: Vulnerabilities and opportunities* (Annals of the New York Academy of Sciences, Vol. 1021, pp. 51–58). New York: New York Academy of Sciences.
- Stepoe, S. (2006). In touch with Jesus. *Time*. Retrieved from <http://www.time.com>.
- Tsang, J., & McCullough, M. E. (2003). Measuring religious constructs: A hierarchical approach to construct organization and scale selection. In S. J. Lopez & C. R. Snyder (Eds.), *Positive psychological assessment: A handbook of models and measures* (pp. 345–360). Washington, DC: American Psychological Association.
- Underwood, L. G., & Teresi, J. A. (2002). The daily spiritual experiences scale: Development, theoretical description, reliability, exploratory factor analysis and preliminary construct validity using health-related data. *Annals of Behavioral Medicine*, 24, 22–33.
- Vaidya, J. G., Grippo, A. J., Johnson, A. K., & Watson, D. (2004). A comparative developmental study of impulsivity in rats and humans: The role of reward sensitivity. In R. E. Dahl & L. P. Spear (Eds.), *Adolescent brain development: Vulnerabilities and opportunities* (Annals of the New York Academy of Sciences, Vol. 1021, pp. 395–398). New York: New York Academy of Sciences.
- Ward, S. L., & Overton, W. F. (1990). Semantic familiarity, relevance, and the development of deductive reasoning. *Developmental Psychology*, 26, 488–493.
- Wills, T. A., Yaeger, A. M., & Sandy, J. M. (2003). Buffering effect of religiosity for adolescent substance use. *Psychology of Addictive Behaviors*, 17, 24–31.
- Zinnbauer, B. J., & Pargament, K. I. (1998). Spiritual conversion: A study of religious change among college students. *Journal for the Scientific Study of Religion*, 37(1), 161–180.
- Zinnbauer, B. J., & Pargament, K. I. (2005). Religiousness and spirituality. In R. F. Paloutzian & C. L. Park (Eds.), *Handbook of the psychology of religion and spirituality* (pp. 21–42). New York: Guilford.
- Zinnbauer, B. J., Pargament, K. I., Cole, B., Rye, M. S., Butter, E. M., Belavich, T. G., et al. (1997). Religion and spirituality: Unfuzzifying the fuzzy. *Journal for the Scientific Study of Religion*, 36, 549–564.
- Zinnbauer, B. J., Pargament, K. I., & Scott, A. B. (1999). The emerging meanings of religiousness and spirituality: Problems and prospects. *Journal of Personality*, 67, 889–919.

Sport and the Development of Family, School, Peer, and Community Strengths

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Overview

This chapter explores ways in which sport involvement builds valuable family, school, peer, and community strengths which in turn support adolescent healthy development.

Educators, mental health practitioners, youth pastors, coaches, after-school program staff, and other adult leaders are challenged with creating positive social settings that promote healthy youth outcomes. One such social setting is sport, defined as organized, recreational, and skillful physical activity that has an element of competition (Rogers 1977; Siedentop et al. 2004). Participation in sport contributes to adolescents' physical, psychological, emotional, intellectual, and social development (Anderson-Butcher et al. 2016; Shields and Bredemeier 1995; Fraser-Thomas et al. 2005; Eccles and Barber 1999; Eccles et al. 2003; Ewing and Seefeld 2002; Gould and Carson 2008; Hansen et al. 2003; Hedstrom and Gould 2004; Hellison and Cutforth 1997; Gould and Weiss 1987; Larson et al. 2006; Marsh and Kleitman 2003; McNeal 1995; Petitpas et al. 2005; Smoll et al. 1993; Vella et al. 2014). Sport also may be a context that further supports youth outcomes by addressing certain environmental factors and influences that relate to adolescent development. As such, this chapter explores ways in which sport involvement builds valuable individual, peer, family, school, and community strengths using a risk and resilience framework.

Positive Youth Development

A risk and resilience framework provides a useful method for investigating how specific conditions

relate to positive youth development (Anderson-Butcher et al. 2003b; Anthony et al. 2009; Guerra and Bradshaw 2008; Jensen and Fraser 2006). Within the framework, *risks* or *risk factors* are defined as characteristics or experiences that increase the likelihood of the occurrence of problem behaviors (Hawkins et al. 1992; Jensen and Fraser 2006). *Protective factors*, also called *assets*, are characteristics or experiences that decrease the likelihood of the occurrence of problem behaviors and/or minimize risks (Benard 2004; Jensen and Fraser 2006; Rutter 1987). Protective factors buffer or ameliorate risks and indicate the possession of the skills or resources needed to help a person cope with a challenging circumstance. The interplay of risk and protective factors impact how individuals cope with stressors and how they respond and adapt through positive or negative behaviors (Corwin 2002).

A growing literature base documents the mediating and moderating influences of both risk and protective factors on a host of behavioral outcomes such as academic failure, substance use, prosocial conduct, and juvenile delinquency (Hawkins et al. 1992; Smith and Carlson 1997; Cash and Anderson-Butcher 2006; Dryfoos 1990; Benson 1997; Jensen and Fraser 2006; Jessor et al. 1995; Rutter 1987; Sameroff and Seifer 1990; Werner and Smith 1982; Fraser 2004; Lawson and Anderson-Butcher 2001). Table 1 highlights example influences present within the individual, peer, family, school, and community systems. It showcases specific risk and protective factors known to influence positive youth development outcomes.

Given that these multiple individual, peer, family, school, and community conditions or experiences contribute to adolescent development, social settings that reduce risk factors and promote protective factors have special relevance. Indeed this is why positive youth development programs, in general, have grown in importance. Research suggests participation in these social settings in turn contributes to higher academic achievement and overall child well-being (e.g., Catalano et al. 2002; Durlak and Wells 1997; Greenberg et al. 2001; Hawkins et al. 1999; National Research Council and Institute of Medicine

2002; Roth et al. 1998; Leffert et al. 1996). Moreover, positive youth development programs may be especially important for adolescents, as research suggest participation may nullify risks typically associated with increasing age (i.e., substance use, delinquency, gang membership, etc.; Anderson-Butcher and Fink 2006; Anderson-Butcher et al. 2003b). For adolescents, positive youth development programs also provide a platform for youth to develop peer friendships, engage in extracurricular activities, and establish extrafamilial adult relationships (Resnick 2000).

Positive Youth Development Through Sport

Sport is one social setting that contributes to positive outcomes for youth. Example sport settings include recreational games, physical education classes, organized sport leagues, sporting events, fitness-related programs, play-based therapeutic strategies, after-school programs, and school-based extracurricular activities. Chapter Sports and youth development of this issue of the *Encyclopedia of Adolescence* examines the relationships among sport participation and multiple risk and protective factors at the individual system level. There also are multiple ways in which sport involvement builds valuable peer, family, school, and community strengths which in turn support overall healthy youth development. Research supporting the importance of sport for addressing risks and building protective factors in these broader systems are explored in the following.

Sport and the Peer System

There are ample opportunities, as well, to address risk and build protective factors in the peer system through sports. Sports afford youth with opportunities to establish positive peer relationships and prosocial behaviors.

Peer-to-peer relationships developed and nurtured through sport serve as positive social support systems for adolescents (Amorose 2007; Anderson-Butcher 2008; Eccles et al. 2003; Smith 1999; Weiss and Stuntz 2004). Adolescents

Sport and the Development of Family, School, Peer, and Community Strengths, Table 1 Example risk and protective factors (Expanded from Anderson-Butcher et al. 2004; Cash and Anderson-Butcher 2006; Lawson and Anderson-Butcher 2001)

| System | Example risk factors | Example protective factors |
|------------|--|---|
| Individual | Youth are rebellious, impulsive, and alienated | Youth display social competence |
| | Youth are involved in risk-taking behaviors | Youth have effective problem-solving, decision-making, resistance, and anger management skills |
| | Youth display sensation-seeking behaviors | Youth are involved in faith-based institutions |
| | Youth have mental health needs or other disabilities | Youth have high intelligence |
| | Youth have favorable attitudes toward antisocial behaviors | Youth have high self-esteem, self-confidence, and self-efficacy |
| Peer | Peer group is involved in antisocial or problem behaviors | Youth have positive peer relations and prosocial networks |
| | Peer group has adopted favorable attitudes toward antisocial behaviors such as substance use | Peer group is characterized by prosocial norms, attitudes, and behaviors |
| | The peer system rewards and reinforces antisocial behaviors | |
| Family | There is a history of conflict and child maltreatment within the family | Family members feel connected and attached to each other |
| | Poor management and discipline techniques are used within the family | There are positive parent/caregiver-child relationships |
| | Parents/caregivers provide little supervision and monitoring of children | Family members provide reinforcement and rewards for involvement in prosocial activities and the display of prosocial behaviors |
| | The family has a history of problem behaviors or mental health needs | Opportunities exist to contribute to the family in meaningful ways |
| | The family is isolated and has limited support in the community | Functional parenting styles and communication patterns exist within the family |
| | The family is unable to meet their basic needs | Family members have their basic needs met |
| School | Youth feel little connection with and commitment to school | Youth have opportunities for participation in meaningful activities at school involving service, leadership, extracurriculars, sports, classroom activities, etc. |
| | Youth do not enjoy school | The school rewards and provides recognition of youth involvement in prosocial behaviors |
| | Youth experience early academic failure | The school's climate is welcoming and responsive |
| | Rules for behavior are not clearly defined | The school is safe and supportive and bully-free |
| | Rules for behavior are inconsistently enforced | Teachers and school staff have high expectations for student achievement |

(continued)

Sport and the Development of Family, School, Peer, and Community Strengths, Table 1 (continued)

| System | Example risk factors | Example protective factors |
|--|--|---|
| | The school does not monitor student behaviors well | Youth have strong relationships with teachers and other school staff |
| | The school has inadequate resources and systems-level barriers exist | Teachers and school staff are committed to the school |
| | | Youth have strong, caring relationships with teachers |
| | | The school encourages positive parent/family involvement |
| Community | The community is disorganized and characterized by high mobility of families and organizations | There are multiple opportunities for involvement in prosocial activities such as faith-based programs, extracurricular activities, and social events in the community |
| | Laws inadequately deter and/or may foster problem behaviors | The community reinforces and rewards youth for their involvement in prosocial activities |
| | Problem behaviors (i.e., gang involvement) are promoted via community norms and values | There are caring adults in the community who are invested in youth and in the neighborhood |
| | Drugs, alcohol, and weapons are readily available in the community | The community is safe and supportive |
| | The media portrays violence and other antisocial behaviors | The community has quality and accessible services and supports available for its constituents |
| | Broader societal discriminatory practices impede the community’s progress and/or increase marginalization and social exclusion | The community is a place where people feel a sense of attachment and belonging |
| | | Informal social support networks (i.e., neighborhood groups, etc.) are present within the community |
| | | The community has high expectations for its members, especially youth |
| | | The community views youth as valuable assets |
| | | The community celebrates cultural diversity |
| | | Community members feel little attachment and connection to their neighborhood and each other |
| The community norms reinforce prosocial behaviors | | |
| The community is characterized by prosocial cultural norms and peace | | |
| | The economic development of the community is thriving | |



satisfy needs for belonging and connectedness by seeking out these friendships and social networks through sport. Additionally, peer relationships and interactions often are maximized as youth develop through sport interpersonal skills such as cooperation, team problem-solving, conflict resolution, sportsmanship, cooperation, and group mastery (Anderson-Butcher et al. 2011; Findlay and Coplan 2008; Newcomb and Bagwell 1995; Wiersma and Fifer 2008). Supportive relationships with peers developed through sport are further paralleled with positive developmental

outcomes such as social competence and self-esteem (Mahoney et al. 2009).

Together team members comprise prosocial peer groups who share similar experiences and goals (Eccles et al. 2003; Weiss and Smith 2002b). Friendships developed through sport often last a lifetime and allow youth to establish intimacy and trust (Smith 2003). Furthermore, as sport creates a social context for friendships to evolve, youth mitigate risks for social isolation. Peer groups, overseen and facilitated by a coach or adult leader, often result in positive norms and

values that guide membership (Mahoney et al. 2006). For instance, norms for the peer group may result in the adoption of an activity-based culture, high expectations for academic success, and clear socialization toward involvement in postsecondary education (Eccles et al. 2003). Organized sport also serves as a context to learn and interact with peers from differing backgrounds, exposing youth to different points of view (Smith 2003). For this reason, peer interactions facilitated through sport enhance opportunities for positive psychological and social competencies among youth.

Adult-to-peer relationships also are developed in this important social setting. In fact, research shows that sport participants have access to a broader range of supportive adults as compared to non-sport participants (Eccles et al. 2003). Indeed these adult leader-youth relationships may contribute to a host of long-term developmental outcomes (Anderson-Butcher et al. 2006). Safe and supportive environments fostered by coaches, youth workers, and other sport leaders increase prosocial behaviors and decrease antisocial behaviors among youth (Gould et al. 2012). Furthermore, caring relationships with adults serve as sources of empathy and acceptance, allowing youth to regulate their emotions and have an outlet to effectively deal with threats to their self-esteem (Gould et al. 2012).

Sport also may serve as a context where adolescents form social identities (Eccles and Barber 1999), as participants become athletes, fans, team members, and spectators. In fact, youth may try out different activities as they search for social identity matches (i.e., I'm a gymnast, I'm a Boys & Girls Club member, I'm a Buckeye, etc.). These social identity groups, especially ones characterized by prosocial attitudes and norms, positively relate to developmental outcomes (Eccles et al. 2003; Anderson-Butcher and Cash (2005, 2010)).

Additionally, organizational structures within sport govern what members do with their time, as well as control exposure to competing norms and values (Eccles et al. 2003; Youniss and Yates 1997). In other words, sport organization helps to control the amount of unsupervised time to

which adolescents and their peer networks are exposed (Mahoney et al. 2006). Many organizations also have specific rules, regulations, and guidelines, as well as emphasize positive social norms among peers. For instance, organizations may have policies that students engaged in sport refrain from substance use and uphold specific academic standards in order to maintain eligibility to participate. In turn, youth are more likely to engage in prosocial behaviors with their peers as opposed to filling their unstructured time with less optimal experiences.

In the end, sport settings afford adolescents many opportunities for enhancing peer-related protective factors. Relationships and support networks created through sport, resultant prosocial norms adopted and endorsed, and sports' organization and supervision provided are important protective factors that support adolescents' healthy development overtime.

Sport and the Family System

Sport involvement may support the strengthening of multiple family-related assets. In essence, sport offers family members ample opportunities to positively interact with each other. Research showcases examples of such opportunities, as well as the benefits resulting from these experiences.

There are multiple benefits to parents and children playing sports together. These hands-on, play-based interactions allow parents to pay full attention to their children (Ginsburg 2007). Within these family activities, parents show their children that they care and are willing to join with children "on their level." Additionally, parents use sport as a medium to engage in "teachable moments" and reinforce expectations for their children (Neely and Holt 2014). For example, parents who encourage their children to practice and work toward developing greater skills in sport can similarly translate and model these messages to other contexts (i.e., home, school, and community).

Children's involvement in sport is influenced by their parents in several additional ways. Children look to their parents as providers, interpreters, and role models to determine their

motivations and desired achievements in sport. Notably, parents provide funding, transportation, encouragement, and support to their children as they engage in sport (Green and Chalip 1998; Wuerth et al. 2004; Neely and Holt 2014). Children interpret their abilities in sport based on their parents' attitudes and beliefs, as well as use immediate feedback from parents to assess their physical competencies (Fredricks and Eccles 2004; Neely and Holt 2014). As children participate in sport, parents also act as role models. Evidence suggests active parents, exhibiting positive attitudes and behaviors toward sport, positively impact their children's retention in sport-based activities and physical activity levels (Welk et al. 2003). Altogether, parents influence how children develop and benefit from their participation in sport.

The influence of families, including parents, siblings, and other relatives, is also important to consider as children engage in sport. Some suggest family sport-based activities may serve as less stressful family settings, ones where parents often are more able to practice effective parenting techniques (Ginsburg 2007). In fact, family management techniques are improved as families organize their daily schedules around sport (Dorsch et al. 2009). Furthermore, sport involvement during the out-of-school time may support working parents, as adult-led sport activities in turn assist further with family supervision and management (Lawson and Anderson-Butcher 2001). Family attachment and sense of belonging also may be enhanced as families participate in, attend, and/or watch community and professional sporting events together. Family outings to local Friday night football games, college games, tailgating experiences, and professional sporting events all serve as important mediums where families convene and interact in prosocial environments.

Other opportunities exist within sport for parents to be involved in their children's lives. To support sport participation, parents often arrange sport activities and observe their children's play and games (Ginsburg 2007). Families also participate together in family events and activities sponsored by sport leagues and agencies. Together, the

time and energy spent by parents in support of sport involvement show adolescents that their parents care. Parents show through their participation that they are interested in how their children spend their time. Indeed, there is some evidence to suggest that parent-child relationships improve as families spend time together via sport (Dorsch et al. 2009).

Family social networks also develop through sport (Eccles et al. 2003; Dorsch et al. 2009). For instance, parents support each other through car pools, team dinners, and other organized family-based activities. Parents also support each others' children in meaningful ways via sport. Parents of peers on teams develop strong relationships with adolescents, serving as caring adults who monitor behaviors, provide reinforcement and encouragement, and serve as sources of adult support. Additionally, parents create strong peer networks among themselves, often socializing outside of sport in adult and family activities. These parent-to-parent support networks may contribute to other family- and parent-related outcomes (Anderson-Butcher et al. 2004; Dorsch et al. 2009).

Other benefits for families were noted in Dorsch et al.'s (2009) qualitative study involving parents of sport participants. Parents in their study reported that parent-child communication channels improved through sport experiences. Parents talked regularly to their children about their sport involvement. They provided reinforcement, encouragement, feedback, and advice. Parents in turn described how these communications improved the quality of their relationships with their children. Reciprocally, these enhanced parent-child relationships further improved parent-child communications.

Some sport organizations also provide additional supports for families. For instance, some sport and youth development organizations such as Boys & Girls Clubs offer parent education and support groups (Anderson-Butcher et al. 2002). Others, such as Ohio State University's Learning in Fitness and Education through Sports (LiFEsports; Anderson-Butcher et al. 2009) camp, offer quarterly booster sessions for families of youth involved in the program. LiFEsports also

provides each child with free physicals for youth participants who register for the program, clearly providing another family support mechanism. More on *LiFEsports* is discussed later in this chapter.

Indeed, sport may afford families ample opportunities to strengthen internal relationships and external support systems. As parents and children interact within this setting, several protective factors are built and perhaps risk factors deterred. These improved family conditions and experiences support broader positive youth development outcomes.

Sport and the School System

Involvement in school sports also promotes enhanced protection and reduced risk. For instance, several researchers have documented significant relationships between school connectedness and participation in school sports and related extracurricular activities (Eccles et al. 2003; Barber et al. 2001; Eccles and Barber 1999; Mahoney and Cairns 1997; Marsh 1993; Marsh and Kleitman 2002). In turn, school connectedness and related constructs (such as belonging) are related to child well-being and academic outcomes (McMahon et al. 2004; Resnick et al. 1997).

In essence, school sports often provide youth opportunities to satisfy their basic needs for relatedness, as well as support identity development (Anderson-Butcher 2008; Anderson-Butcher and Fink 2006; Eccles et al. 2003). Indeed, athletes often feel they are an important part of the matrix of the school. In fact, the school context provides opportunities for adolescents to have additional social interaction with teachers who often double as coaches or sponsors of school-based teams. Some suggest, as well, that the sense of school connectedness resulting from sport participation may also support the adoption of other prosocial norms and expectations related to school academic performance (Eccles et al. 2003). Rules for participation may also reduce the likelihood that youth engage in problem behaviors. For instance, as mentioned previously, curfews and substance use policies instituted by coaches and school administrators may contribute to reduced problem behaviors.

Policies, rules, and oversight mechanisms for sport participants, such as minimal grade point averages required for participation and study-group attendance policies, may also further promote academic success. Indeed, findings from the National Longitudinal Education Study support positive school performance outcomes resulting from sport involvement. More specifically, athletic participation resulted in enhanced educational aspirations, increased time spent in learning activities, and involvement in post-secondary education in this youth sample (Marsh and Kleitman 2003). School sporting events are also often hosted on college and university campuses, therein increasing adolescents' exposure to postsecondary institutions. Not only then are students exposed to higher education through sport, but known associations exist between school sports participation, higher academic performance, and a greater likelihood of attending college (Barber et al. 2001). Other benefits exist, such as increased access to postsecondary options as youth receive athletic scholarships at colleges and universities.

Furthermore, many schools also offer out-of-school time youth development programs that often incorporate sport within their overall designs. For instance, school-based after-school programs provide valuable prosocial opportunities such as recreational sport, as well as provide adolescents with supervision and positive reinforcement from adult leaders and coaches (Anderson-Butcher 2004). These programs are especially valuable for youth of color and those living in poverty, those who wouldn't otherwise have access to these valuable developmental opportunities. Many of these programs attract youth to their programs via sport activities but then provide important social development programs and academic support interventions.

In some cases, other residents of the community also benefit from sport activities offered at schools, as facilities are opened in the nonschool hours for recreational sport programs and other community events. Community members also experience a sense of attachment to local schools and their sporting teams as they serve in roles of the fan, booster, or volunteer. In fact, some school

districts across the country (such as Maysville Local School District in Ohio) have maximized these relationships to help with fostering community support for school levies and facility renovations.

Ultimately, involvement in school sports by adolescents and other community members contributes in multiple ways to increased protective factors among youth. Clearly adolescents experience academic and other healthy youth development outcomes as a result of these important opportunities. The community at large may also benefit.

Sport and the Community System

Sport also supports improvements in the community system. In turn, some of these benefits influence broader prosocial opportunities and experiences for youth, families, as well as community members. These experiences often contribute to promoting positive adolescent outcomes through indirect pathways.

Sporting events serve as prosocial opportunities in the community system. These are settings with individuals, families, and community members congregate together and experience fun and a sense of togetherness. There is some evidence to suggest that this sport involvement contributes to the well-being of a community. Belonging, social inclusion, and group membership are fostered when a cohesive community spirit toward sport is felt by community members (Skinner et al. 2008). In essence, sporting events foster a sense of connection among its participants, including its athletes, parents, families, sport organizers, and spectators (Misener and Mason 2009; Fink et al. 2009; Trail et al. 2003). Moreover, a sense of belonging to a socially recognized, valued group via sport often results in broad community development, crime prevention, and educational and economic benefits (Skinner et al. 2008).

Others point to the importance of engaging community groups (and sport consumers) through the organization of socially responsible sporting events (Babiak and Wolfe 2006; Ingham and MacDonald 2003). For instance, many sport organizations use citizen volunteers as a way to connect constituents further to sport-related

development strategies (Misener and Mason 2009). Others suggest the use of citizen volunteers and fan bases in sport as mechanisms for fostering commitment among constituents for broader social and political issues (Green 2001; Misener and Mason 2009). Some recommend the use of sport within the helping professions, especially when priorities involve marginalized populations (Lawson and Anderson-Butcher 2000). Still others have used sport to address trauma and grief in communities stricken by grief and loss (Martinek et al. 2006). If designed accordingly, sport indeed can be a tool for creating connections and mutual support, as well as a source of enjoyment for community members.

Beutler (2008) and others (Kidd 2008; Misener and Mason 2009; Eccles and Gootman 2002; Pelissero et al. 1991) highlight ways in which sport promotes economic and community development. For instance, the construction of sport stadiums in major cities may support urban economic development (Misener and Mason 2009; Eccles and Gootman 2002; Pelissero et al. 1991). As capital is brought to a community, more opportunities for safe, supportive, and community mobilization in turn result (Misener and Mason 2009). Investments made in the community for sport can further influence the broader health of community members. At the national level, it has been estimated that every 1 million dollars spent on sport and physical activity saved the US 3.2 million dollars in medical costs (International Ministerial Conference on Physical Education and Sport 1999).

Other community benefits have been described. For instance, once events are hosted and/or during non-season periods, sport facilities also are used for community events, social recreation, and health-related activities (Misener and Mason 2009). In host cities such as for the Olympics, revenues from sporting events have been reinvested, as well, in community activities and youth sport development efforts (Kidd 2008). These additional resources help bring sport infrastructure and programming to communities where reinvestments occur.

Additionally, some have noted the importance of sport for promoting individual empowerment, especially among girls and individuals with

disabilities. Key policies in sport related to gender equality and individuals with disabilities, for example, have influenced broader society norms and policies related to access and opportunities (Beutler 2008; Kidd 2008). Inclusion among these populations often marginalized due to social, ethnic, or religious barriers also may foster understanding and tolerance among the broader population. In fact, some suggest sport may promote peace and social capital as it brings individuals and communities together across cultural and ethnic divides (Beutler 2008; Kidd 2008).

Finally, sport involvement among the broader population also contributes to important public health outcomes. Community members' involvement in sport and physical activity is related to a host of health-related benefits, such as reduced obesity, diabetes, and cardiovascular disease (Gordon-Larsen et al. 2004; Pate et al. 1996). No doubt, the costs of not participating in sport and related physical activity to society are high. In the end, sport may be used in multiple ways to foster protective factors and strengths within the broader community. In turn these macro system influences support further youth engagement in sport and other positive experiences.

Benefits Yet Missed Opportunities

As showcased here, sport contexts offer a host of benefits for adolescents, as risk and protective factors in the peer, family, school, and community systems are addressed. Coupled with health and mental health-related benefits resulting from individual participation, sport is indeed an important social setting for youth.

Although there are multiple benefits, many adolescents do not profit from sport as much as they could. Multiple factors within the environment impact whether adolescents will have access and the opportunity to participate in sport. Additionally, oftentimes opportunities for positive youth development through sport are not fully maximized when youth do participate. Sport is often not organized in ways to maximize optimal development. Each of these issues is discussed in the following.

Many youth miss opportunities for benefiting from sport participation. For example, youth living in communities characterized by poverty and disadvantage often have limited opportunities for sport involvement due to limited funding, lack of facilities, safety issues, and fears of violence (Ainsworth et al. 2003; Casey et al. 2005; Fleury and Lee 2006; Ginsburg 2007; Hellison and Cutforth 1997; Pedersen and Seidman 2005). For youth from impoverished backgrounds, these community factors not only impact their participation in sport but also contribute to the health disparities due to a lack of opportunities to be physically active. According to the Centers for Disease Control (CDC 2015), obesity rates in the USA are high (22.4%), indicating two out of every ten Americans are obese. This is especially evident among minority youth as 22.4% of Hispanic youth, 20.2% of African-American youth, and 14.1% of Caucasian youth are identified as obese. Diabetes is another health issue that significantly impacts racial and ethnic minorities as 13.2% of African-American youth and 12.8% of Hispanic youth have diabetes, compared to 7.6% for their White counterparts (CDC 2015). One reason for the vast differences between racially diverse youth and their peers is 2/3 of youth from disadvantaged backgrounds do not engage in a recommended 60 min of physical activity each day. Unfortunately the availability of sport programs is inequitably distributed in the communities where adolescents are at most risk (Mahoney et al. 2005).

Research also showcases how some youth benefit from sport more so than others. For instance, minorities participate less in sport and related activities than nonminority peers (Ewing and Seefeldt 2002; Gordon-Larsen et al. 1999). Gender differences also exist, as females continue to participate in sport less often than males (Coakley 2004; Gordon-Larsen et al. 1999; Eccles and Barber 1999; Seefeldt et al. 1992). Socioeconomic status also is related to participation and access, and youth living in poverty or residing in less educated families participate in fewer sports and related activities (Fredericks and Eccles 2006; Casey et al. 2005; Lareau 2003). These findings suggest that the social construction of sport, as

well as the opportunities for sport involvement, may differ for certain groups and community sectors. Local, national, and global efforts are underway to address these racial, ethnic, gender, and socioeconomic disparities (Kidd 2008).

Recently, there also has been a reduction in sport opportunities even in middle-class communities. As the economy has struggled, communities are closing their doors to recreation centers, dropping extracurricular activities, and decreasing funding for out-of-school time programs. School districts also are challenged with passing levies, and many school sport programs are no longer being supported with district general revenue funds. New pay-to-play policies have also been instituted, further deterring youth sport participation. Costs are deterring youth from participating, and programs are becoming increasingly inaccessible to youth (Fraser-Thomas et al. 2005; Sallis et al. 1999). Ultimately, between the fees, snacks, uniforms, travel, lodging, and equipment, some families face numerous financial barriers to engaging their children in sport-based activities.

Within communities that are thriving economically, sport programs are becoming increasingly institutionalized, expensive, competitive, and focused on elite performance (De Knop et al. 1996; Kidd 2008). In fact, even international programs for youth, supported through the International Olympic Committee, devote most of their resources on helping high-performing athletes become even more competitive (Kidd 2008). Similarly in the USA, parents and coaches often anticipate sport participation will pay for future college expenses when youth receive athletic scholarships; however, a majority of athletes will not receive enough money to cover the cost of tuition (Hyman 2012). Unfortunately, many youth drop out of sport due to increased competitiveness and lack of enjoyment experiences associated with sport's design (Seefeldt et al. 1992).

There also is a need for improved sport setting designs and strategies. More specifically, when youth do participate in sport settings, in some cases the potential of these involvement experiences is not fully maximized. Oftentimes there are limited resources in place to support the overall infrastructure and organization of sport (Beutler

2008). This is even more the case in urban cities where organizations are often overburdened and underfunded (Hellison and Cutforth 1997). In low-income neighborhoods, fields, parks, and recreation centers may be absent or poorly maintained, contributing to limited accessibility and feasibility for sport participation (Merkel 2013). There are also issues related to program design. Sport and physical education programs directed at achieving developmental goals tend to be organized an ad hoc, informal, and isolated manner (Beutler 2008). This seems to also be the case within after-school settings. Programs often operate from a "safe haven" perspective, as opposed to an approach designed to fully maximize learning and related outcomes (Anderson-Butcher et al. 2004). There is less focus on whole child development within sports settings, as well as increased instruction on sport performance enhancement (Kidd 2008). In the end, participation in sport settings may not be maximized if programs are not implemented and managed in ways that fully maximize multiple pathways for impact.

There is some evidence that sport's organization and design may indeed negatively impact adolescents and other systems of support. To name a few, participation in some types of sports (team sports characterized by peer groups especially) has been found to be related to increased substance use (Eccles et al. 2003; Eccles and Barber 1999). In some families, the protective influences of both play and high-quality family time may be negatively affected by current trends toward highly scheduling children in sports, as well as increased pressures for youth to obtain college athletic scholarships (Ginsburg 2007; Hyman 2012). Community benefits of sport for parent socialization and broader social capital may depend on certain community qualities and norms (Dorsch et al. 2009). Evidence also suggests sporting events may lead to social exclusivity, further reinforcing cultural divides and social isolation (Schimmel 2006). No doubt better design strategies and training for coaches, youth workers, parents, and other adult leaders may help improve the quality of sport programming for youth.

Sport Across Multiple Systems

Sport has the utility to transcend multiple systems when programs impact a large number of youth and are valued in a community. As previously mentioned, sport has the ability to impact individuals, peers, families, schools, and communities. In addition to influencing these systems, broader social institutions such as colleges and universities, local businesses, social service agencies, and community partners can also play a role in the delivery of sport-based programs. One sport-based positive youth development that exemplifies the utility of sport to connect and integrate multiple systems is the Learning in Fitness and Education (LiFEsports) program at the Ohio State University (OSU).

LiFEsports is a positive youth development initiative at OSU that focuses on sport as a medium for research, teaching and learning, and service and outreach. The LiFEsports program was developed through a partnership with the Department of Athletics and College of Social Work. Central to the LiFEsports initiative is the tuition-free, summer camp which serves approximately 600 youth, aged 9–15, annually. A majority of LiFEsports campers return each year and come from low-income families, live in disadvantaged neighborhoods, and attend poorly resourced schools in Central Ohio. As a means to mitigate barriers related to sport participation, LiFEsports provides youth free transportation to and from camp over the summer, as well as breakfast and lunch. LiFEsports further offers year-round sport-based clinics and developed a youth leadership program for older youth, aged 16–18, to help them prepare for college and their future careers. Notably, all of these programs teach youth valuable life skills which support their healthy youth development.

LiFEsports provides opportunities for positive peer interactions, outreach to campers' families, and meets a crucial need in the community. As youth participate in the 19-day summer camp, they learn social skills via a sport-based curriculum. This curriculum focuses on four basic social skills, including self-control, efforts, teamwork, and social responsibility (i.e., "S.E.T.S."). Peer

relationships and the transfer of skills to other settings (i.e., home and school) are enhanced as youth learn and engage in sport. Positive outcomes such as increased perceptions of belonging, social competence, and athletic competence competencies have been documented among campers (Anderson-Butcher et al. 2013).

Parents and family members also attend the LiFEsports Olympics at the end of camp. Through this event, parents socialize with other families in the community and have opportunities to support their children as they participate in competitive sport activities. Outreach events such as healthy cooking workshops and financial literacy trainings are also provided to parents and families in the program. Additionally, the camp provides youth in the community with a safe, supportive out-of-school opportunity for youth during the summer months. Offering free summer programming not only prevents negative youth behaviors but can also help parents and families with the burden of child care or leaving youth unsupervised over the summer. All of these components contribute to positive developmental outcomes for youth.

As a campus-wide initiative, LiFEsports offers numerous opportunities for research, teaching, and learning, as well as service and outreach. College students at OSU work as counselors at the summer camp, volunteer at year-round clinics, and have opportunities to gain valuable research experience. Student athletes at the university partner with LiFEsports to provide the year-round, sport-based clinics. These events allow OSU students opportunities to engage in positive and meaningful community outreach activities.

OSU's involvement in the delivery of the program further integrates multiple sport contexts and promotes community service and outreach. The athletic department donates tickets to sporting events to families participating in LiFEsports. Similarly, local businesses, social service agencies, and community partners support LiFEsports by hosting outreach events, providing volunteers, and donating funds, equipment, and facilities to the initiative. Connections between the university, local businesses, and community agencies influence the social and economic support for youth, athletes, teams, and sports programs in the region.

Together, LiFEsports fosters a positive community climate toward sport and strengthens relationships across all systems.

In the end, LiFEsports uses sport as a tool to transcend systems and enhance feelings of pride, belonging, and investment in the community. While LiFEsports is a national model for university outreach and positive youth development, other successful programs also use sport to transcend multiple systems and enhance youth outcomes. In the USA, Girls on the Run, Boys & Girls Club, and 4-H are just a few of the national programs that focus on community outreach and positive youth development through sport. Internationally, programs such as Sports United to Promote Education and Recreation (SUPER), The Youth Sports Trust: Living for Sport Project, and the Outward Bound Partnership Project further reflect the emerging popularity and emphasis on sport as a pathway to positive outcomes for youth (Holt 2008). Indeed, sport creates a context that connects multiple systems to enhance protective factors for youth. To learn more about LiFEsports, visit <http://www.osulifesports.org>.

Conclusion

Although researchers have documented positive outcomes for youth, peers, families, schools, and communities, there is still much to learn. Few studies, to date, explore the interrelationships among risk and protective factors and problem behaviors, especially in relationship to understanding of the various mediating and moderating mechanisms operating within sport and other social settings (Anderson-Butcher and Cash 2010; Anthony et al. 2009). There is a need for longitudinal studies controlling for selection factors, therefore allowing for a better understanding of the relationship between sport participation and development to emerge (Eccles et al. 2003). Complex interrelationships among individual, peer, school, family, and community factors together predict whether adolescents will develop in healthy ways. Rigorous research will allow for the distillation of when sport works for whom and under what circumstances.

Nonetheless, sport as a context to promote broader development has recently gained more momentum. The United Nations (UN) formally recognized in the *Declaration of the 2030 Agenda for Sustainable Development* sport's role for social progress at the individual, community, national, and global level. Broadly, the UN views the international role of sport as a tool to strengthen individual development, impact health promotion and disease prevention, promote gender equality, and sustain economic growth. International sport initiatives can also address poverty, educational disparities, and environmental issues, build peace, and resolve conflicts (Beutler 2008). Dialogue, collaboration, and partnerships between countries can further be fostered using sport as a tool for development and peace.

In the last decade, the UN developed a youth leader program focused on providing training and guidance to youth aged 18–25 in developing countries to invoke change in their communities in the field of sport development and peace (SDP). Many of the youth participating in the program live in developing countries where few opportunities to learn best practices for increasing sport participation, and there is limited opportunities to gain leadership skills to implement sport-based programs. Another important development from the UN in the last decade was the appointment of a Special Adviser to the Secretary-General of the United Nations on Sport for Development and Peace. This advisor developed a formal Plan of Action on Sport for Development of Peace in 2005. This Plan is used to guide governmental policies, practices, and resource allocations related sport organization and programming for the broader society (Kidd 2008).

In essence, sport is emerging as a human right (Kidd 2008). Evidence is mounting in relation to the importance of sport for adolescent development, as well as for supporting improved conditions and assets within and across multiple systems, including the peer, family, school, and community. Clearly, sport when designed to fully maximize these multiple conditions and experiences can serve as a critical social setting that promotes adolescent development as well as other valuable macro outcomes.

References

- Ainsworth, B. E., Wilcox, S., Thompson, W. W., Richter, D. L., & Henderson, K. A. (2003). Personal, social, and physical environmental correlates of physical activity in African-American women in South Carolina. *American Journal of Preventative Medicine, 25*(3), 23–29.
- Amorose, A. J. (2007). Coaching effectiveness: Exploring the relationship between coaching behavior and self-determined motivation. In M. S. Hagger & N. L. D. Chatzisarantis (Eds.), *Intrinsic motivation and self-determination in exercise and sport* (pp. 209–228). Champaign: Human Kinetics.
- Anderson-Butcher, D. (2004). Transforming schools into 21st Century Community Learning Centers. *Children & Schools, 26*(4), 248–252.
- Anderson-Butcher, D. (2008). School-family-community coordination functions: The missing piece in partnership development and maintenance. *The Community Psychologist, 41*(3/4), 28–33.
- Anderson-Butcher, D., & Cash, S. (2005). *Capital kids evaluation: Overall and site specific results for 2003–2004*. Columbus: College of Social Work, The Ohio State University.
- Anderson-Butcher, D., & Cash, S. (2010). Participation in Boys & Girls Clubs, vulnerability, and problem behaviors. *Child and Youth Services Review, 32*(5), 672–678.
- Anderson-Butcher, D., & Fink, J. (2006). The importance of a sense of belonging to youth service agencies: A risk and protective factor analysis. *Journal of Child and Youth Care Work, 20*, 11–21.
- Anderson-Butcher, D., Lawson, H., Fallara, L., & Furano, G. (2002). Eliciting theories of change from youth care workers and youth participants. *Journal of Child and Youth Care Work, 17*, 130–150.
- Anderson-Butcher, D., Midle, T., Fallara, L., Hansford, C., Uchida, K., Grotevant, S., Munn, H., & Pinkston, B. (2003a). *Youth development programs in central Ohio: An evaluation report for the City of Columbus and United Way of Central Ohio*. Columbus: Center for Learning Excellence, College of Social Work, The Ohio State University.
- Anderson-Butcher, D., Newsome, W., & Ferrari, T. (2003b). Participation in Boys and Girls Clubs and relationships to youth outcomes. *Journal of Community Psychology, 31*(1), 39–55.
- Anderson-Butcher, D., Oliver, A., & Race-Bigelow, J. (2004). An in-depth examination of a mutual support group for long-term Temporary Assistance for Needy Families recipients. *Social Work, 49*(1), 131–140.
- Anderson-Butcher, D., Stetler, E. G., & Midle, T. (2006). A case for expanded school-community partnerships in support of positive youth development. *Children & Schools, 28*, 155–163.
- Anderson-Butcher, D., Iachini, A., Boester, A., Wade-Mdivanian, R., Davis, J., & Amorose, A. (2009). *2008 Ohio State University National youth sports program annual evaluation report*. Columbus: College of Social Work, Ohio State University.
- Anderson-Butcher, D., Riley, A., Iachini, A., Wade-Mdivanian, R., & Davis, J. (2011). Sports and youth development. In *Encyclopedia of adolescence* (pp. 2846–2859). New York: Springer.
- Anderson-Butcher, D., Iachini, A., Riley, A., Wade-Mdivanian, R., Davis, J., & Amorose, A. J. (2013). Exploring the impact of a summer sport-based youth development program. *Evaluation and Program Planning, 37*, 64–69.
- Anderson-Butcher, D., Riley, A., Iachini, A., Wade-Mdivanian, R., & Davis, J. (2016). Sports and youth development. In R. J. R. Levesque (Ed.), *Encyclopedia of adolescence* (pp. 2846–2859). New York, NY: Springer.
- Anthony, E. K., Alter, C. F., & Jensen, J. M. (2009). Development of a risk and resilience-based out-of-school time program for children and youths. *Social Work, 54*(1), 45–55.
- Babiak, K., & Wolfe, R. (2006). More than just a game? Corporate social responsibility and Super Bowl XL. *Sport Marketing Quarterly, 15*, 214–222.
- Barber, B. L., Eccles, J. S., & Stone, M. R. (2001). What-ever happened to the jock, the brain, and the princess? Young adult pathways linked to adolescent activity involvement and social identity. *Journal of Adolescent Research, 16*(5), 429–455.
- Benard, B. (2004). *Resiliency: What we have learned*. San Francisco: WestEd.
- Benson, P. L. (1997). *All kids are our kids: What communities must do to raise caring and responsible children and adolescents*. San Francisco: Jossey, Bass.
- Beutler, I. (2008). Sport serving development and peace: Achieving the goals of the United Nations through sport. *Sport in Society, 11*(4), 359–369.
- Casey, D. M., Ripke, M. N., & Huston, A. C. (2005). Activity participation and the well-being of children and adolescents in the context of welfare reform. In J. L. Mahoney, J. Eccles, & R. Larson (Eds.), *Organized activities as contexts of development: Extracurricular activities, after-school and community programs* (pp. 65–84). Mahwah: Erlbaum.
- Cash, S. J., & Anderson-Butcher, D. (2006). Support for young people and their families in the community in the U.S. In C. McCauley, P. Pecora, & W. Rose (Eds.), *Enhancing the well-being of children and families through effective interventions: UK and USA evidence for practice* (pp. 103–116). Philadelphia: Jessica Kingsley.
- Catalano, R. F., Berglund, M. L., Ryan, J. A. M., Lonczak, H. S., & Hawkins, J. D. (2002). Positive youth development in the United States: Research findings on evaluations of positive youth development programs. *Prevention and Treatment, 5*, Article 15.
- Center for Disease Control and Prevention. (2015). Child obesity facts. Retrieved from <http://www.cdc.gov/healthyschools/obesity/facts.htm>

- Coakley, J. L. (2004). *Sport and society: Issues and controversies* (8th ed.). St. Louis: Times Mirror/Mosby.
- Corwin, M. (2002). *Brief treatment in clinical social work practice*. New York: Brooks/Cole-Thomson Learning.
- De Knop, P., Engström, L. M., & Skirstad, B. (1996). Worldwide trends in youth sport. In P. De Knop, L. M. Engström, B. Skirstad, & M. Weiss (Eds.), *Worldwide trends in youth sport* (pp. 276–281). Champaign: Human Kinetics.
- Dorsch, T. E., Smith, A. L., & McDonough, M. H. (2009). Parents' perceptions of child-to-parent socialization in organized youth sport. *Journal of Sport and Exercise Psychology, 31*, 444–469.
- Dryfoos, J. G. (1990). *Adolescents at risk: Prevalence and prevention*. New York, NY: Oxford University Press.
- Durlak, J. A., & Wells, A. M. (1997). Primary prevention mental health programs for children and adolescents: A meta-analytic review. *American Journal of Community Psychology, 25*(2), 115–142.
- Eccles, J. S., & Barber, B. L. (1999). Student council, volunteering, basketball, or marching band: What kind of extracurricular involvement matters? *Journal of Adolescent Research, 14*(1), 10–43.
- Eccles, J., & Gootman, J. A. (2002). *Community programs to promote youth development*. Washington, DC: National Academy Press.
- Eccles, J. S., Barber, B. L., Stone, M., & Hunt, J. (2003). Extracurricular activities and adolescent development. *Journal of Social Issues, 59*(4), 865–889.
- Ewing, M. E., & Seefeld, V. (2002). Patterns of participation in American agency-sponsored youth sports. In F. L. Smoll & R. E. Smith (Eds.), *Children and youth in sport* (2nd ed., pp. 39–56). Dubuque: Kendall/Hunt Publishing.
- Findlay, L. C., & Coplan, R. J. (2008). Come out and play: Shyness in childhood and the benefits of organized sports participation. *Canadian Journal of Behavioral Science, 40*(3), 153.
- Fink, J. S., Parker, H. M., Brett, M., & Higgins, J. (2009). Off-field behavior of athletes and team identification: Using social identity theory and balance theory to explain fan reactions. *Journal of Sport Management, 23*, 142–155.
- Fleury, J., & Lee, S. M. (2006). The social ecological model and physical activity in African American women. *American Journal of Community Psychology, 37*(1–2), 129–140.
- Fraser, M. W. (Ed.). (2004). *Risk and resilience in childhood: An ecological perspective*. Washington, DC: NASW Press.
- Fraser-Thomas, J. L., Côté, J., & Deakin, J. (2005). Youth sport programs: An avenue to foster positive youth development. *Physical Education and Sport Pedagogy, 10*(1), 19–40.
- Fredericks, J. A., & Eccles, J. S. (2006). Is extracurricular participation associated with beneficial outcomes? Concurrent and longitudinal relations. *Developmental Psychology, 42*(4), 698–713.
- Fredricks, J. A., & Eccles, J. S. (2004). Parental influences on youth involvement in sports. In M. R. Weiss (Ed.), *Developmental sport and exercise psychology: A lifespan perspective* (pp. 145–164). Morgantown: Fitness Information Technology.
- Ginsburg, K. R. (2007). The importance of play in promoting healthy child development and maintaining strong parent-child bonds. *American Academy of Pediatrics, 119*(1), 182–191.
- Gordon-Larsen, P., McMurray, R. G., & Popkin, B. M. (1999). Adolescent physical activity and inactivity vary by ethnicity: The national longitudinal study of adolescent health. *The Journal of Pediatrics, 135*, 301–306.
- Gordon-Larsen, P., Nelson, M. C., & Popkin, B. M. (2004). Longitudinal physical activity and sedentary behavior trends: Adolescence to adulthood. *American Journal of Preventive Medicine, 27*, 277–283.
- Gould, D., & Carson, S. (2008). Life skills development through sport: Current status and future directions. *International Review of Sport and Exercise Psychology, 1*(1), 58–78.
- Gould, D., & Weiss, M. R. (Eds.). (1987). *Advances in pediatric sport sciences* (Behavioral issues, Vol. 2). Champaign: Human Kinetics.
- Gould, D., Flett, R., & Lauer, L. (2012). The relationship between psychosocial developmental and the sports climate experienced by underserved youth. *Psychology of Sport and Exercise, 13*(1), 80–87.
- Green, C. B. (2001). Leveraging subculture and identity to promote sport events. *Sport Management Review, 4*(1), 1–19.
- Green, C. B., & Chalip, L. (1998). Antecedents and consequences of parental purchase decision involvement to youth sport. *Leisure Sciences: An Interdisciplinary Journal, 20*, 95–109. <https://doi.org/10.1080/01490409809512268>.
- Greenberg, M. T., Domitrovich, C. E., & Bumbarger, B. (2001). The prevention of mental disorders in school-aged children: Current state of the field. *Prevention & Treatment, 4*(1), 1–62.
- Guerra, N. G., & Bradshaw, C. P. (2008). Linking the prevention of problem behaviors and positive youth development: Core competencies for positive youth development and risk prevention. *New Directions for Child and Adolescent Development, 122*, 1–17.
- Hansen, D. M., Larson, R. W., & Dworkin, J. B. (2003). What adolescents learn in organized youth activities: A survey of self-reported developmental experiences. *Journal of Research on Adolescence, 13*(1), 25–55.
- Hawkins, J. D., Catalano, R. F., & Miller, J. Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescent and early adulthood: Implications for substance abuse prevention. *Psychological Bulletin, 112*, 64–105.

- Hawkins, J. D., Catalano, R. F., Kosterman, R., Abbott, R., & Hill, K. (1999). Preventing adolescent health-risk behaviors by strengthening protection during childhood. *Archives of Pediatrics and Adolescent Medicine*, *153*, 226–234.
- Hedstrom, R., & Gould, D. (2004). *Research in youth sports: Critical issues status white paper summaries of existing literature*. East Lansing: Institute for the Study of Youth Sports.
- Hellison, D. R., & Cutforth, N. J. (1997). Extended day programs for urban children and youth: From theory to practice. In H. Walberg, O. Reyes, & R. Weissberg (Eds.), *Children and youth: Interdisciplinary perspectives* (pp. 223–249). San Francisco: Jossey-Bass.
- Holt, N. L. (2008). *Positive youth development through sport*. London: Routledge.
- Hyman, M. (2012). *The most expensive game in town. The rising cost of youth sports and the toll on today's families*. Boston: Beacon Press.
- Ingham, A. G., & MacDonald, M. G. (2003). Sport and community/communitas. In R. W. Wilcox, D. L. Andrews, R. Pitter, & R. I. Irwin (Eds.), *Sport dystopias: The making and meanings of urban sport cultures* (pp. 17–34). Albany: State University Press of New York.
- Jensen, J., & Fraser, M. (2006). *Social policy for children and families: A risk and resilience perspective*. Thousand Oaks: Sage.
- Jessor, R., Van Den Bos, J., Vanderryn, J., Costa, F. M., & Turbin, M. S. (1995). Protective factors in adolescent problem behavior: Moderator effects and developmental change. *Developmental Psychology*, *31*, 923–933.
- Kidd, B. (2008). A new social movement: Sport for development and peace. *Sport in Society*, *11*(4), 370–380.
- Lareau, A. (2003). *Unequal childhoods: Class, race, and family life*. Berkeley: University of California Press.
- Larson, R. W., Hansen, D. M., & Moneta, G. (2006). Differing profiles of developmental experiences across types of organized youth activities. *Developmental Psychology*, *42*(5), 849–863.
- Lawson, H. A., & Anderson-Butcher, D. (2000). The social work of sport. In C. Simard, G. Thibault, C. Goulet, C. Pare, & F. Bilodeau (Eds.), *Sport for all and governmental policies* (pp. 480–489). Quebec: International Olympic Committee.
- Lawson, H. A., & Anderson-Butcher, D. (2001). In the best interests of the child: Youth development as a child welfare support and resources. In A. L. Sallee, H. A. Lawson, & K. Briar-Lawson (Eds.), *Innovative practices with vulnerable children and families*. Dubuque: Eddie Bowers.
- Leffert, N., Saito, R. N., Blyth, D. A., & Kroenke, C. H. (1996). *Making the case: Measuring the impact of youth development programs*. Minneapolis: Search Institute.
- Mahoney, J. L., & Cairns, R. B. (1997). Do extracurricular activities protect against early school dropout? *Developmental Psychology*, *33*(2), 241–253.
- Mahoney, J. L., Larson, R. W., & Eccles, J. S. (Eds.). (2005). *Organized activities as contexts of development: Extracurricular activities, after-school and community programs*. Mahwah: Lawrence Erlbaum and Associates.
- Mahoney, J. L., Harris, A. L., & Eccles, J. S. (2006). Organized activity participation, positive youth development, and the over-scheduling hypothesis. *Social Policy Report*, *20*, 1–31.
- Mahoney, J. L., Vandell, D. L., Simpkins, S., & Zarrett, N. (2009). Adolescent out of school activities. In R. M. Lerner, & L. Steinberg (Eds.), *Handbook of adolescent psychology* (pp. 228–269). Hoboken, New Jersey: John Wiley & Sons, Inc.
- Marsh, H. W. (1993). Relations between global and specific domains of self: The importance of individual importance, certainty, and ideals. *Journals of Personality & Social Psychology*, *65*(5), 975–992.
- Marsh, H. W., & Kleitman, S. (2002). Extracurricular school activities: The good, the bad, and the nonlinear. *Educational Review*, *72*, 464–514.
- Marsh, H. W., & Kleitman, S. (2003). School athletic participation: Mostly gain with little pain. *Journal of Sport and Exercise Psychology*, *25*, 205228.
- Martinek, T., Hardiman, E., & Anderson-Butcher, D. (2006). Addressing trauma in children through physical activity. *Teaching Elementary Physical Education*, *17*(6), 34–38.
- McMahon, S. D., Singh, J. A., Garner, L. S., & Benhorin, S. (2004). Taking advantage of opportunities: Community involvement, well-being and urban youth. *Journal of Adolescent Health*, *34*, 262–265.
- McNeal, R. (1995). Extracurricular activities and high school dropouts. *Sociology Education*, *68*, 62–81.
- Merkel, D. L. (2013). Youth sport: Positive and negative impact on young athletes. *Open Access Journal Sports Medicine*, *4*, 151–160.
- Misener, L., & Mason, D. S. (2009). Fostering community development through sporting events strategies: An examination of urban regime perceptions. *Journal of Sport Management*, *23*, 770–794.
- National Research Council and Institute of Medicine. (2002). *Community programs to promote youth development*. Washington, DC: National Academy Press.
- Neely, K. C., & Holt, N. L. (2014). Parents' perspectives on the benefits of sport participation for young children. *Sport Psychologist*, *28*(3), 255–268.
- Newcomb, A. F., & Bagwell, C. L. (1995). Children's friendship relations: A meta-analytic review. *Psychological Bulletin*, *117*(2), 306.
- Pate, R. R., Heath, G. W., Doda, M., & Trost, S. G. (1996). Associations between physical activity and other health behaviors in a representative sample of U.-S. adolescents. *American Journal of Public Health*, *86*, 1577–1581.
- Pedersen, S., & Seidman, E. (2005). Contexts and correlates of out-of-school activity participation among low-income urban adolescents. In J. L. Mahoney, J. Eccles, & R. Larson (Eds.), *Organized activities as*

- contexts of development: *Extracurricular activities, after-school and community programs* (pp. 85–109). Mahwah: Erlbaum.
- Pelissero, J. P., Henschen, B. M., & Sidlaw, E. I. (1991). Urban regimes, sports stadiums, and the politics of economic development agendas in Chicago. *Review of Policy Research*, *10*(2–3), 117–129.
- Petitpas, A., Cornelius, A., Can Raalte, J., & Jones, T. (2005). A framework for planning youth sport programs that foster psychosocial development. *The Sport Psychologist*, *19*, 63–80.
- Resnick, M. D. (2000). Protective factors, resiliency, and healthy youth development. *Adolescent Medicine: State of the Art Reviews*, *11*(1), 157–164.
- Resnick, M. D., Bearman, P. S., Blum, R. W., et al. (1997). Protecting adolescents from harm: Findings from the National Longitudinal Study on Adolescent Health. *Journal of the American Medical Association*, *278*, 823–832.
- Rodgers, H. (1977). Rationalizing sports policies. In *Sport in the social context: Technical supplement*. Strasbourg, France: Council of Europe.
- Roth, J., Brook-Gunn, J., Murray, L., & Foster, W. (1998). Promoting healthy adolescents: Synthesis of youth development program evaluations. *Journal of Research on Adolescence*, *8*, 423–459.
- Rutter, M. (1987). Psychosocial resilience and protective mechanisms. *American Journal of Orthopsychiatry*, *57*, 316–331.
- Sallis, J. F., Alcaraz, J. E., McKenzie, T. L., & Hovell, M. F. (1999). Predictor's of change in children's physical activity over 20 months. *American Journal of Preventative Medicine*, *16*, 222–229.
- Sameroff, A. J., & Seifer, R. (1990). Early contributors to developmental risk. In J. E. Rolf, A. S. Masten, D. Cicchetti, K. H. Nuechterlein, & S. Weintraub (Eds.), *Risk and protective factors in the development of psychopathology* (pp. 52–66). New York: Cambridge University Press.
- Schimmel, K. (2006). Deep play: Sports mega-events and urban social conditions in the USA. In J. Horne & W. Mazenreiter (Eds.), *Sport mega-events: Social scientific perspectives of a global phenomenon* (pp. 160–174). Oxford, UK: Blackwell.
- Seefeldt, V., Ewing, M., & Walk, S. (1992). *Overview of youth sports programs in the United States*. Washington, DC: Carnegie Council on Adolescent Development.
- Shields, D. L., & Bredemeier, B. J. (1995). *Character development and physical activity*. Champaign: Human Kinetics.
- Siedentop, D., Hastie, P. A., & van der Mars, H. (2004). *Complete guide to sport education*. Champaign: Human Kinetics.
- Skinner, J., Zakus, D. H., & Cowell, J. (2008). Development through sport: Building social capital in disadvantaged communities. *Sport Management Review*, *11*(3), 253–275.
- Smith, A. L. (1999). Perceptions of peer relationships and physical activity participation in early adolescence. *Journal of Sport & Exercise Psychology*, *21*, 329–350.
- Smith, A. L. (2003). Peer relationships in physical activity contexts: A road less traveled in youth sport and exercise psychology research. *Psychology of Sport and Exercise*, *4*(1), 25–39.
- Smith, C., & Carlson, B. E. (1997). Stress, coping, and resilience in children and youth. *Social Service Review*, *71*, 231–256.
- Smoll, F. L., Smith, R. E., Barnett, N. P., & Everett, J. J. (1993). Enhancement of children's self-esteem through social support training for youth sport coaches. *Journal of Applied Psychology*, *78*(4), 602–610.
- Third International Ministerial Conference on Physical Education and Sport in Punta del Este. (1999). Retrieved October 12, 2005 from <http://www.unesco.org/education/educprog/mineps>
- Trail, G. T., Robinson, M. J., Dick, R. J., & Gillentine, A. J. (2003). Motives and points of attachment: Fans versus spectators in intercollegiate athletics. *Sport Marketing Quarterly*, *12*(4), 217–227.
- Vella, S. A., Cliff, D. P., Magee, C. A., & Okely, A. D. (2014). Sports participation and parent-reported health-related quality of life in children: Longitudinal associations. *The Journal of Pediatrics*, *164*(6), 1469–1474.
- Weiss, M. R., & Smith, A. L. (2002a). Moral development in sport and physical activity: Theory, research, and intervention. In T. Horn (Ed.), *Advances in sport psychology* (2nd ed., pp. 243–280). Champaign: Human Kinetics.
- Weiss, M. R., & Smith, A. L. (2002b). Friendship quality in youth sport: Relationship to age, gender, and motivation variables. *Journal of Sport & Exercise Psychology*, *24*, 420–437.
- Weiss, M. R., & Stuntz, C. P. (2004). A little friendly competition: Peer relationships and psychosocial development in youth sports and physical activity contexts. In M. R. Weiss (Ed.), *Developmental sport and exercise psychology: A lifespan perspective* (pp. 165–196). Morgantown: Fitness information Technology.
- Welk, G. J., Wood, K., & Morss, G. (2003). Parental influences on physical activity in children: An exploration of potential mechanisms. *Pediatric Exercise Science*, *15*, 19–33.
- Werner, E., & Smith, R. (1982). *Vulnerable but invincible*. New York: McGraw-Hill.
- Wiersma, L. D., & Fifer, A. M. (2008). “The schedule has been tough but we think it's worth it”: The joys, challenges, and recommendations of youth sport parents. *Journal of Leisure Research*, *40*(4), 505.
- Wuerth, S., Lee, M. J., & Alfermann, D. (2004). Parental involvement and athletes' career in youth sport. *Psychology of Sport and Exercise*, *5*, 21–33. [https://doi.org/10.1016/S1469-0292\(02\)00047-X](https://doi.org/10.1016/S1469-0292(02)00047-X).
- Youniss, J., & Yates, M. (1997). *Community service and social responsibility in youth*. Chicago: University of Chicago Press.

Sport and Youth Development

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Overview

This entry highlights the contribution of sport to positive adolescent development. Specifically, the research evidence on youth development outcomes associated with sport participation is synthesized. Eleven key design principles are then described that promote and maximize adolescent development in this important social setting. An example sport-based youth development program, Learning in Fitness and Education through Sports (*LiFEsports*), is then highlighted to illustrate each of these design principles. Finally, emergent practice issues and research priorities related to sport and adolescent development are discussed.

Youth Sport Participation

Adolescents in the USA spend more than half of their waking hours in leisure activities (Larson and Verma 1999). Many indeed spend this discretionary time in sport. Sport involvement often is defined by a primary activity, such as soccer, racing, football, tennis, golf, bowling, hunting, and basketball. The definition of sport, however, can be much broader than this. Sport is a recreational, skillful physical activity that has an element of competition and is organized in some manner (Rogers 1977; Siedentop et al. 2004).

Given this broad definition, sport may refer to games played on the playground, physical education in school, organized sport leagues, fitness-related programs, backyard pick-up games, play-based therapeutic settings, or even school-based extracurricular activities.

It is estimated that 51 million children and adolescents between the ages of six and seventeen participate in sport each year (American Sports Data, Inc. 2004 as cited in Danish et al. 2005). Of these youth, 54% report involvement in organized team sports, while the remaining 46% participate in pick-up games and other less structured sport activities. During the 2014–2015 school year alone, approximately 1,085,182 high school students in the USA participated in high school football, 970,983 were involved in basketball, and another 1,057,358 participated in outdoor track (National Federation of State High School Associations, NFHS 2016). In addition, 30% of US high school students participate in physical education classes each year (Center for Disease Control 2007). Given the number of youth who participate in sport, it is important to understand how sport contributes to positive adolescent development. To begin, this entry synthesizes the research on the youth development outcomes associated with sport participation. It then provides examples of effective programs, discusses issues related to the construction of sport, and highlights future areas of research.

Sport and Youth Development Outcomes

Many positive outcomes are associated with involvement in sport settings. For example, research documents the relationship between participation in these settings and enhanced emotional, intellectual, physical, psychological, and social development. Other benefits involve behavioral changes such as decreases in behavioral problems, delinquency, and substance abuse. Table 1 provides an extensive list of outcomes linked to participation in sport and related physical-activity-related settings. There are also several systematic reviews that recently have

Sport and Youth Development, Table 1 Youth development outcomes associated with participation in sport and physical activity

| Construct | Reference of support |
|---|---|
| <i>Emotional development</i> | |
| Enhanced mood | Berger and Owen 1988; Palermo et al. 2006 |
| Decreased loneliness | Page and Tucker 1994 |
| Decreased depression | Babiss and Gangwisch 2009; Collingwood et al. 1991; Mutrie and Biddle 1995; Piko and Keresztes 2006; Kremer et al. 2014 |
| Decreased stress/anxiety | Collingwood et al. 1991; Rostad and Long 1996; Dimech and Seiler 2011; |
| Decreased mental health issues | Gruber 1986; Steiner et al. 2000; Taliaferro et al. 2011; Babiss and Gangwisch 2009 |
| <i>Intellectual development</i> | |
| Higher school grades | Broh 2002; Eccles and Barber 1999; Eccles et al. 2003; Fredricks and Eccles 2006b; Mahoney et al. 2005; Knifsend and Graham 2012 |
| Lower dropout | McNeal 1995 |
| Increased likelihood to attend and complete college | Barber et al. 2001; Eccles et al. 2003; Fredricks and Eccles 2006b; Mahoney et al. 2003 |
| Increased standardized test scores | Eccles and Barber 1999; Mahoney et al. 2005 |
| Enhanced school attendance and performance | Collingwood et al. 1994; Landers and Landers 1978; Rees and Sabia 2010; Shulruf 2010 |
| Increased school connectedness and engagement | Eccles and Barber 1999; Faulkner et al. 2009; Knifsend and Graham 2012; Linver et al. 2009 |
| Higher educational aspirations | Marsh and Kleitman 2002; Rees and Sabia 2010 |
| <i>Physical development</i> | |
| Increased perceptions of athletic competence | Anderson-Butcher et al. 2013; Cliff et al. 2007; Donaldson and Ronan 2006; Harter 1981; |
| Increased physical self-perception | Daley 2002; Piko and Keresztes 2006; Babic et al. 2014 |
| Increased physical activity | Annesi 2006; Lubans and Sylva 2006; Weintraub et al. 2008; Hynynen et al. 2016 |
| Increased motor skill competence | Cliff et al. 2007; Hansen et al. 2003 |
| Reduced body mass index | Agbuga et al. 2007; Weintraub et al. 2008; Zarrett and Bell 2014 |
| Healthy dietary behavior | Baumert et al. 1998; Delisle et al. 2010; Taliaferro et al. 2010 |
| <i>Psychological development</i> | |
| Increased self-concept/self-worth | Annesi 2006; Bohnert et al. 2008; Collingwood et al. 1991; Babic et al. 2014; Linver et al. 2009; Ullrich-French and McDonough 2013 |
| Increased self-efficacy | Annesi 2006; Lubans and Sylva 2006; Carreres Ponsada et al. 2012 |
| Increased psychological well-being | Bohnert et al. 2008 |
| Increased self-esteem | Daley 2002; Gruber 1986; McHale et al. 2005; Pedersen and Seidman 2004; Findlay and Coplan 2008 |
| Increased moral development | Bredemeier et al. 1986; Miller et al. 1997 |
| <i>Social development</i> | |
| Enhanced interpersonal skills | Collingwood et al. 1994; Hattie et al. 1997; Weiss and Duncan 1992 |
| Increased initiative | Larson et al. 2006; |
| Increased emotional/self-regulation | Hansen et al. 2003; Larson et al. 2006; Findlay and Coplan 2008 |
| Enhanced psychosocial maturity | Fletcher et al. 2003 |
| Increased social competence | Donaldson and Ronan 2006; Fletcher et al. 2003; Larson et al. 2006; McHale et al. 2005; Anderson-Butcher et al. 2014 |
| Increased affiliation/belonging | Warner et al. 2015 |
| Enhanced peer relations | Larson et al. 2006; Weiss and Duncan 1992; Linver et al. 2009 |
| Enhanced parent relations | Collingwood et al. 1994 |

(continued)

Sport and Youth Development, Table 1 (continued)

| Construct | Reference of support |
|--|--|
| Enhanced leadership and responsibility | Hattie et al. 1997; Carreres-Ponsoda et al. 2012 |
| Enhanced coping and stress management techniques | Delisle et al. 2010; Rostad and Long 1996 |
| <i>Other outcomes</i> | |
| Decreased behavioral issues | Donaldson and Ronan 2006 |
| Decreased substance abuse | Aaron et al. 1995; Collingwood et al. 1991; Collingwood et al. 1994; Delisle et al. 2010; Fredricks and Eccles 2006b |
| Decreased delinquency | MacMahon 1990; Segrave et al. 1985 |
| Decreased vulnerability | Gruber 1986 |
| Decreased crime rates | Hartmann and Depro 2006 |

been published on the topic (see Eime et al. 2013; Lubans et al. 2012).

Although multiple benefits accrue through sport participation, research also links sport involvement to several other less desirable outcomes. For example, sport participation has been linked to increases in anxiety, decreases in motivation, and increases in negative affect (see Brustad et al. 2001). In addition to these negative psychological and physical outcomes, youth who play sports may also be more likely to engage in risky behaviors, such as substance abuse and aggression/violence in the sport context (Aaron et al. 1995; Eccles and Barber 1999; Eccles et al. 2003). To understand these conflicting results, attention must be paid to how the sport context is designed. The following section highlights features of the sport setting that maximize positive adolescent development.

Key Sport Design Principles to Maximize Outcomes

A variety of scholars suggest that the differential outcomes resulting from sport participation, as well as participation in other positive youth development settings, relate to how programs are designed and implemented by coaches, youth workers, educators, and other adult leaders. Several key sport design features have been identified as critical for maximizing adolescent developmental outcomes (Anderson-Butcher 2005;

Anderson-Butcher et al. 2004b; Anderson-Butcher and Cash 2010; Eccles and Gootman 2002; Fraser-Thomas et al. 2005; Gould and Carson 2008). The following is an overview of eleven key design principles that are important for ensuring maximal outcomes associated with participation. Key insights are provided, as well, in relation to how sport could be structured by adult leaders to maximize each relevant feature:

1. *Remember that sport is about more than elite performance and winning.* Sport for all is critical, especially given public health issues arising from lack of involvement in this and other play-based settings. Childhood obesity and overweight rates have tripled since the 1970s (CDC 2012), and currently 1/3 of all children are obese or overweight in the USA (Ogden et al. 2014). Lack of physical activity and involvement in sport (along with nutrition and diet) contributes to these alarming rates. In fact, only 42% of youth aged 6–11 and less than 10% of adolescents achieve recommended levels of physical activity each day (Troiano et al. 2008). Sport opportunities that are attractive to all adolescents is critical, and more focus needs to be placed on getting adolescents moving through engaging, movement-encouraged, public health-related activities.
2. *Organize activities that are structured, focused, and intentional.* Sport should be designed to maximize time-on-task and developmental opportunities. Too often,

- sport settings and other physical activity settings are characterized as unstructured, ad hoc, and informal (Anderson-Butcher et al. 2004a, 2003a; Beutler 2008). Placek's (1983) terminology of "busy, happy, good" is an adequate descriptor. Adult leaders should be planful in their sport design, implementing activities that are goal-directed and structured. The structure of activities may vary, however, dependent upon desired outcomes. Certainly most sport programs focus on tactical and technical skill outcomes. Effective instructional strategies incorporate cues, contingent feedback, scaffolding, and positive reinforcement should be used. Time on task should be maximized, and each session or practice should be designed to create a desired outcome or learning objective. Larson et al. (2005) found there are benefits for activities structured mostly by adults (i.e., adult driven) and other types of benefits for activities mostly structured by youth (i.e., youth driven). Adult-driven approaches target specific objectives and allow youth to develop specific skills and competencies (i.e., social skills, sport-specific skills). Youth-driven approaches, on the other hand, further support adolescents' leadership development and empowerment. As Larson et al. (2005) note, youth-driven and adult-driven approaches to structuring activities may not be "mutually exclusive choices" (p. 71). Adult leaders might consider using both approaches depending upon participant qualities and desired outcomes. The key is to individualize instruction and organization so that the instructional or process time within the sport context is maximized.
3. *Teach both sport and life skills.* Opportunities to learn and practice sport-specific skills are essential to any program design (Anderson-Butcher et al. 2013; Eccles and Gootman 2002). In addition to these skills, however, sport also provides an opportunity to teach other important life skills, such as responsibility, problem-solving, teamwork, and emotional regulation (Larson et al. 2006). Teaching these life skills might occur during the course of practicing sport-specific skills, or they might be taught as part of a social skills curriculum within a broader sport program, or they might be emphasized in both. Theokas et al. (2008) suggest integrating sport and life skills through the following approach: (1) introduce the life skill, including how it can be practiced in both the sport and non-sport setting, (2) provide opportunities to practice the skill within the sport setting, (3) provide opportunities to practice the skill in the non-sport setting, and (4) provide opportunities for youth to reflect on their successes and failures in practicing the new skill. In addition, Gass (1985) suggests that programs must involve significant others in the learning process (such as coaches, parents, etc.). For example, adult leaders should model these skills as they work with adolescents and encourage parent volunteers and others to do the same. By including significant others, generalization and maintenance of these skills outside of the sport context can be further enhanced.
 4. *Promote a mastery motivational climate.* Achievement-related contexts, such as sport, should be structured to promote effort, self-improvement, and skill mastery – the key facets of a mastery motivational climate (Smith et al. 2009; Weiss 2008). A mastery climate often is contrasted with an ego climate, where emphasis is placed on winning and comparing adolescents' skills to others. Adult leaders are central in fostering positive motivational climates and, subsequently, in constructing what it means for adolescents and/or a team to be successful. To promote mastery climates, adult leaders should encourage and reinforce sport participants for their dedication and effort, as well as their learning of new and/or improved sport and life skills (i.e., social skills, emotional regulation skills, etc.). Ample opportunity should be allowed for adolescents to practice and refine skills in safe environments (Eccles and Gootman 2002). Making comparisons between adolescents and using consequences to reprimand mistakes made during practice

and learning attempts should be minimized (Smith et al. 2009).

5. *Foster initiative through autonomy-supportive, meaningful, long-term strategies.* Larson (2000) suggests that sport is a prime setting for the development of initiative, defined as the “ability to be motivated from within to direct attention and effort toward a challenging goal” (p. 170). Empirical evidence corroborates these claims (Larson et al. 2006). Initiative results from three distinct elements – intrinsic motivation, engagement, and directed effort (Larson 2000). Intrinsic motivation, or being motivated to participate in sport for internal reasons (i.e., because you want to), can be promoted when adult leaders adopt and implement autonomy-supportive strategies (Mageau and Vallerand 2003). Example autonomy-supportive strategies include providing age-appropriate structure, providing boundaries, recognizing adolescent’s feelings, and giving adolescents choices (Eccles and Gootman 2002). External incentives and consequences, such as winning trophies or conversely, running laps, often decrease intrinsic motivation.

Engagement, another critical element of initiative, can be maximized when opportunities offered within the context of sport have meaning and relevance to adolescents inside and outside of sport (Larson 2000). For example, teaching adolescents how to set goals is important not only to sport but also to excelling in school and the workforce. Learning skills such as cooperation and teamwork also are vital across the multiple contexts in which adolescents are engaged. Adult leaders can maximize youth engagement in sport, as well as application of skills in other settings, by providing meaningful, relevant learning opportunities for participants.

The last critical component for fostering initiative, as defined by Larson (2000), is allowing adolescents an opportunity to apply their motivation and engagement over time toward some ultimate goal (Larson 2000). In comparison to other youth development settings, such as afterschool programs, sport by

its very nature often is designed for participants to achieve long-term goals. For example, qualifying for playoffs or end-of-season competitions can serve as ultimate goals that participants strive to achieve over the course of a season. Or, in the case of other less organized sport programs, adult leaders might organize a skills challenge or course for their participants. No matter what the goal, adult leaders should allow adolescents to have a voice in choosing activities and in overall individual and team decision-making (Rosewater 2009).

6. *Engage youth in roles beyond just players centered.* Youth should have opportunities to engage in leadership roles and participate in decisions relative to sport (Rosewater 2009; Eccles and Gootman 2002). In this way, participants’ voices are heard and programs are youth driven (Larson et al. 2005). As adult leaders acknowledge participants’ perspectives, allow them to make decisions, and adopt other autonomy-supportive strategies, they empower the adolescents to become responsible not only for themselves but for others (Hellison 2000; Mageau and Vallerand 2003). Ultimately, any programmatic decision should be based on the adolescent population being served and, if possible and relevant, should be made through a collaborative decision-making process.
7. *Engage school, family, and community partners.* Schools, families, and communities all have valuable resources to contribute to sport and other youth development programs. For example, communities have valuable indoor and outdoor space to implement programming. Schools might be able to assist in promoting and recruiting adolescents for programming. Also, when sport-based programs are intentionally linked to schools, youth are more likely to have positive educational outcomes (Rosewater 2009; Anderson-Butcher 2004). Suggestions for adult leaders fostering linkages between schools and sport-based programs include requiring school attendance for participation, employing teachers and other school staff in the sport-

based programs, and creating opportunities for coaches or other adult leaders to serve as liaisons within the schools (Rosewater 2009).

Families also are invaluable resources, as they may volunteer, provide links and connections to businesses and other stakeholders in local communities, and support the learning that takes place in sport by facilitating generalization to other settings (i.e., school, home, etc.). Adult leaders in sport settings should create ample opportunity for positive interactions with parents/guardians. In addition, important information should be shared with parents/guardians in a timely fashion and through diverse mechanisms, such as individual conversations, paper flyers, or email messages.

Tapping into these school, family, and community resources and maximizing their potential contribution to sport allow for a more comprehensive and holistic approach, one that prioritizes the multiple systems that impact adolescent development (Bronfenbrenner 1979). Additionally, creating these school-family-community partnerships also helps ensure youth participants have access to other types of resources. For instance, Lawson and Anderson-Butcher (2000) highlight the importance of coaches, youth workers, and educators for the identification of early risk factors among youth. These adult leaders often can connect adolescents and their families to valuable services and supports. Some research suggests that youth are more likely to follow-up on these linkages and receive the supports they need if referred by a caring adult (Anderson-Butcher and Fink 2006).

8. *Provide physical and emotional safety.* Sport programs must operate in facilities that are safe, clean, and free from hazardous obstacles or environments that could injure or harm adolescent participants (Eccles and Gootman 2002). Equipment also should be utilized that provides optimal protection for adolescents against injury (i.e., shin guards, helmets, pads, etc.). Beyond physical safety precautions, the emotional and psychological safety

of participants needs to be addressed (Eccles and Gootman 2002). Rules, norms, and healthy conflict resolution mechanisms should be developed to promote both positive adult-peer and peer-peer interactions. Bullying, intimidation, violence, and harassment should be met with consistent and age-appropriate consequences.

9. *Use data to drive decision-making.* Whether collected through structured evaluation strategies (e.g., surveys or focus groups) or more anecdotal in nature, decisions about programming should be grounded in data. Specifically, adult leaders should design and implement activities based on an assessment of the skill level and needs of the youth participants being served. For example, data may suggest that participants do not feel a sense of connection to other peers. As such, the coach might incorporate more team-building exercises and “team nights” into the following year’s programmatic design. The quality of the sport context also should be regularly assessed to help monitor the incorporation of these key design features. Programmatic effectiveness data also should be collected and used to inform other continuous improvements. Making decisions in this way ensures that the programmatic design is meeting the needs of the adolescent population served.
10. *Create opportunities for connectedness and belonging.* Adolescents should feel a sense of connection to their peers and adult leaders. Ullrich-French and Smith (2009) document the importance of peer relationships to continued participation in sport. Other researchers also highlight the importance of peer groups, teams, and member structures for the adoption of pro-social values and norms (Eccles et al. 2003). Adult-peer relationships also are instrumental to positive development. For instance, Anderson-Butcher et al. (2003a) found that youth who perceive adult leaders as encouraging and supportive are less likely to engage in problem behaviors such as fighting and more likely to engage in positive behaviors such as helping others.

Amorose (2007) and Anderson-Butcher (2005) have identified several strategies coaches and youth workers can implement to foster this sense of connection with significant others. Examples include providing opportunities for adolescents to socialize both inside and outside of the sport setting and using inclusive language that allows all adolescents to feel welcomed and supported. A recent qualitative study conducted by Iachini et al. (2010) revealed that many high school sport coaches already engage in these strategies as a means to foster relatedness.

Feeling a sense of belonging to the sport program itself also is important (Anderson-Butcher and Conroy 2002; Anderson-Butcher and Fink 2006; Anderson-Butcher et al. 2014). Anderson-Butcher (2005) suggests that feelings of belonging have strong implications for recruiting youth to participate in programs, as well as maintaining their participation once they become involved. In addition, research shows that youths' sense of belonging may serve as a mediator valuable to promote positive growth through sport participation (Anderson-Butcher et al. 2014).

To foster a sense of belonging, adult leaders should design and implement activities that minimize exclusion and allow all adolescents to have maximum participation. For example, participant involvement may be maximized by having practice equipment for all participants (one ball for each player so waiting time is reduced), using space that affords individual practice or structuring small-sided games (3-on-3 vs. 11-on-11) to increase the number of "touches" or engagement in the sport. Hiring practices of adult leaders should focus on employing qualified staff who reflect the demographics and diversity of the adolescent population being served. Adult leaders also can work to create a sense of identity, a connection to the team, or a strong affiliation with an organization so that belonging and attachment is fostered.

11. *Be enjoyable and fun.* Sport settings also have to be experienced as fun and enjoyable by

youth participants. Oftentimes, many youth participate in sport for the social and physical aspect of the activity (Aspen Institute 2015). They are not motivated by the high-pressure, competitive, or "win at all cost" environment. Therefore, adult leaders should design activities that engage youth in meaningful ways, allow for positive interactions with peers and adult leaders, and build on ideas and suggestions from youth. Activities also should be designed so that they match participants' skills and reflect "where the participants are." If an activity is too difficult, oftentimes youth will become discouraged. Ensuring that the sport setting provides optimal enjoyment for youth is critical for both recruitment and retention (Anderson-Butcher 2005).

Research indicates that the eleven principles discussed above can serve as a strong foundation for designing any sport program. As adult leaders design sport programs in this way, they can maximize the developmental outcomes afforded to youth through participation. To illustrate this point, the following section highlights how these design principles were incorporated into a four-week sport-based youth development summer program at the Ohio State University (OSU) called the Learning in Fitness and Education through Sports (LiFEsports) Program.

Program Example: LiFEsports

OSU's LiFEsports program was developed to enhance the social and athletic competence among youth living in poverty and of color during the summer months. LiFEsports is operated as administered by the OSU Athletic Department and the College of Social Work. Several other key units on campus (i.e., Recreational Sports, Office of Outreach & Engagement, etc.) and in the community (i.e., After School All-Stars of Ohio, United Way of Central Ohio, Ohio Department of Education) also are key partners (see www.osulifesports.org for more information). Specifically, the mission of LiFEsports is "to foster social competence among youth through their

involvement in sport, fitness, and education activities.” In order to achieve this mission, LiFEsports is designed to provide programming that is *structured, focused, and intentional*. The focus is broader than skill enhancement and winning.

To begin, key primary and secondary outcomes were identified by leaders within LiFEsports. Since LiFEsports aims to increase both social and athletic competence, primary and secondary outcomes were identified for the LiFEsports program in relationship to both of these areas. Table 2 provides an overview of both the primary and secondary outcomes anticipated for youth participating in LiFEsports.

Key activities were then identified that would lead to these targeted outcomes. Specifically, LiFEsports is designed so that youth participate in sport activities, such as basketball, soccer, football, and swimming, as well as a play-based LiFEsports chalk talk social skills activity each day. Specific social skills targeted are self-control, effort, teamwork, and social responsibility (SETS). Every activity has a specific curriculum to ensure both *sport and life skills* are being taught. SETS are taught in the chalk talk curriculum and then reinforced when practicing sport tactics and techniques.

Sport and Youth Development, Table 2 Primary and secondary objectives identified for youth participating in LiFEsports

| | |
|-----------------------------|---|
| Primary objectives | Increase social competence among youth participants Increase self-control, effort, teamwork, and social responsibility (SETS) Youth will demonstrate a sense of belonging and connection to the LiFEsports program and its staff |
| Secondary objectives | Increase perceptions of athletic competence Increase exposure to university/college life and interest in higher education Increase commitment to lifelong fitness and healthy nutrition Refer participants to other youth organizations and opportunities in the community |

These curricula also are designed to promote a *mastery motivational climate*. Specifically, activities within each curriculum are designed to allow for maximum participation from youth. Instead of an activity where youth are eliminated and forced to sit and watch, LiFEsports activities allow youth to be engaged and active for the duration of the activity. To support this, staff also are trained in how to implement the curriculum and how to encourage youth to focus on personal improvement (i.e., mastery) over winning.

The LiFEsports curriculum also is designed to *foster initiative*. Specifically, the last 2 weeks of the chalk talk social skills curriculum allows youth the opportunity to apply effort over time toward a culminating event, the LiFEsports Games. During these weeks, youth write invitations to stakeholders, develop program brochures, create advertisements, and color team banners. Additionally, youth have the opportunity to work together and practice the social skills they learned during the prior 2 weeks, by applying skills such as goal setting, teamwork, and cooperation, in preparation for the LiFEsports Games.

The Games also serve as an intentional event. The three-day event is *youth centered*. Youth fulfill the roles of coaches, athletes, and referees and also have the opportunity to decide which person on their team will serve in each role. This event also provides an opportunity to *engage family and community partners*, as parents, caregivers, and community members are invited to attend the event and celebrate the culmination of participants’ efforts over the 4 weeks of the program.

In order to ensure the *physical safety* of youth participants, all LiFEsports programming takes place on fields and in facilities maintained by professional recreational staff. In addition, an athletic trainer remains onsite during all LiFEsports events to handle any injuries or other threats to physical safety. Program staff also are provided with an action plan to be implemented in cases of emergency.

And not only are staff trained to ensure the physical safety of youth, but they also receive training to protect the *psychological safety* of the children and adolescents at LiFEsports. As part of the LiFEsports curricula, staff and youth establish



rules and norms for positive interactions. In addition, steps for conflict resolution also are addressed. This helps to reduce or eliminate instances of bullying and intimidations, which are clear threats to psychological safety.

As the *LiFEsports* program ends each year, leaders of the program meet to determine what programmatic improvements need to be made for the following year. To inform program improvements and to ensure *data-driven decision-making*, leaders of *LiFEsports* collect and analyze program data. Specifically, pre- and posttests are given to youth at the beginning and end of the program. These data showcase how the program performing in relation to increasing social and athletic competence and other outcomes desired from programming. Additionally, staff complete questionnaires designed to assess their reflections on curriculum implementation. This information is helpful in monitoring implementation fidelity and determining which activities were most successful in achieving the targeted objectives.

As an example of how data drives programmatic improvements, past *LiFEsports* pre- and posttest data have indicated limitations in the degree to which youth felt a strong sense of belonging to the overall program. Given that *belonging and connectedness* are important aspects of sport-based programs, several adjustments were made to the programmatic design the following year. For example, fewer youth were assigned to each group to maximize the opportunity for interaction among youth and camp counselors. Second, several activities were redesigned to be more inclusive and provide opportunities for maximum participation. Finally, in addition to the 4-week camp, ten sport clinics were added during the academic year to engage youth in *LiFEsports* activities year-round. These “booster sessions” provide additional opportunities for youth and their families to engage with *LiFEsports* staff and feel a sense of belonging to the program. Finally, *LiFEsports* also has expanded its programming to involve parents and caregivers in more activities, whether it be by engaging them in volunteerism at the Games or by offering clinics for families (i.e., not just focused on the kids) during the academic year. One such activity

was a “Preparing Healthy Snacks” clinic offered to 20 families one Saturday morning. These efforts to promote a sense of belonging among participants have been working, as now approximately 55% of *LiFEsports* youth re-enroll in the program the following year.

School-family-community partnerships also are intentionally maximized as part of *LiFEsports*. For example, some of the sport clinics have been held at the local Boys and Girls Club site. A partnership with the Ohio Department of Education also has allowed *LiFEsports* participants to receive snack/breakfast and a hot lunch each day of the program. *LiFEsports* families also serve an important role within the program. Specifically, *LiFEsports* has two parent consultants who are helping design strategies to encourage more parent involvement during the booster sessions and the summer program. *LiFEsports* also partners with several OSU departments and organizations. The Department of Recreational Sports provides facility space for *LiFEsports* programming. Additionally, Outreach and Engagement Office helps engaged over 20 different internal and external partners each year to highlight careers during the *LiFEsports* Career Day. These partnerships are essential to the overall success of the program as it relates to outcomes for youth.

Ultimately, a program with all of the design principles mentioned above will not make a difference for youth if they do not engage in the program. Therefore, it is critical to remember that youth want to have *fun* at *LiFEsports*! If youth are not having fun, they most likely will not be fully engaged in the program and may even eventually decide to drop out of the program completely. As such, *LiFEsports* activities are designed to provide optimal challenge, without the pressure of winning and intense competition. Youth also are given the opportunity to engage in the development of activities and make changes to enhance their enjoyment and satisfaction with the program.

Emergent Issues in Practice

As indicated, sport is an important medium that contributes to developmental outcomes. When

designed in accordance with the features listed above, these outcomes are maximized on behalf of the youth participant. Many programs, however, are not designed with these elements in mind. Youth continually drop out of this important developmental setting (Aspen Institute 2015). Approximately 35% of children are estimated to drop out of sport each year (Gould and Petlichkoff 1988). This trend is disconcerting, particularly because involvement in sport and other youth development settings may nullify the risk for engaging in problem behaviors typically associated with adolescent populations (Anderson-Butcher et al. 2003a, b).

There are several potential reasons for this lack of involvement. For example, lack of fun, emphasis on winning, and competing time of other activities can deter adolescents from continued participation in sport (Weiss and Ferrer-Caja 2002). There also has been a recent shift toward the “professionalization” of youth sports. Year-round training and early specialization are becoming commonplace in youth sport (Aspen Institute 2015; Feeley et al. 2015; Gould and Carson 2004). In fact, most youth (44%) only play one sport, and the majority of parents (76%) prefer that their children limit themselves to one sport. The added pressure of increased training and a one-sport focus, combined with the often violent and overly competitive nature of sport, often results in stress, injuries, and burnout (Scanlan et al. 2005; Shields and Bredemeier 1995). The pressure to win and the focus on physical competence in the sport context also can lead youth to feelings of low self-confidence and self-esteem (Martens 1993; Wankel and Kreisel 1985).

Because of these factors, adult leaders working in sport and other youth development settings must be adequately prepared for their critical role in these environments (Halpern 2000; Gould and Carson 2008). For example, these leaders should be prepared with the knowledge and skills to implement the key design strategies offered here, as well as provide quality instruction on tactics and techniques in their respective sports. Professional development opportunities and educational programs must be designed toward this end.

In addition, while there is evidence that some adolescents are dropping out, there also is research to suggest that not all adolescents even have a chance to begin. While some adolescents just may not be interested or may lose interest over time, many youth are not afforded with opportunities for sport involvement at all. Key environmental and family factors constrain their access. For example, economically disadvantaged neighborhoods are often characterized by poor lighting, limited facilities, and high rates of crime (Ainsworth et al. 2003). As such, many youth may have limited access to participate in sport outside due to fear of violence and inadequate physical space (Pedersen and Seidman 2005). In addition, neighborhoods characterized by poverty may not have adequate funding to support sport opportunities that could be located inside, such as in schools and community centers (Casey et al. 2005; Pedersen and Seidman 2005).

Beyond the influence of the environment, family income and structure also impact the adolescents’ access to participate in sport and other related youth development opportunities. Empirical evidence supports the unequal participation rates of adolescents from lower-income and/or less educated families in comparison to their more advantaged counterparts (Aspen Institute 2015; Fredricks and Eccles 2006a). In addition, family structure also influences adolescents’ opportunity to participate in sport. For example, Huebner and Mancini (2003) found that transportation issues often arise in single-parent households, particularly as work schedules may impact their ability to get their child to an activity (Casey et al. 2005).

Together, all or some combination of these environmental and family factors often limit the access and opportunity adolescents have to participate in sport and other youth development activities. The irony is that participation in these activities may actually benefit adolescents the most, especially given increased risk exposure during this developmental age. As such, adult leaders should develop an awareness and understanding of these factors, particularly as they are critical to the development of recruitment and retention strategies aimed at getting these

adolescents in the door and then keeping them engaged once they are there (Anderson-Butcher 2005).

Emergent Research Priorities

There also are several emergent research priorities in the area of sport. Currently, limitations exist within the sport literature in relationship to the specific characteristics that predict whether youth will engage in these social settings, as well as the mechanisms underlying the relationships among involvement and positive outcomes (Anderson-Butcher et al. 2003b, 2014; Anderson-Butcher and Cash 2010; Anthony et al. 2009; Eccles et al. 2003; Gould and Carson 2008; Weiss and Smith 2002).

There also is a need for longitudinal studies that examine selection factors, allowing for a better understanding of the degree to which outcomes are associated with participant characteristics or actual sport involvement (Eccles et al. 2003). As mentioned by Gould and Carson (2008), a great deal may be learned, as well, from the examination of different sport contexts (i.e., individual vs. team; recreational vs. highly competitive; type of sport such as soccer vs. basketball) and their related outcomes. More rigorous research designs are needed to further understand the different outcomes that may result based on the sport organization, type of sport, or other relevant characteristics. For example, many day treatment and residential programs use sport, recreation, and physical activity within their programs. One wonders about the added value of the use of sport settings in these therapeutic environments serving adolescents. Little research to date has examined the specific outcomes associated with these settings.

Researchers also have wondered whether outcomes are automatic by-products of participation (Weiss and Smith 2002) or if they can be maximized with more targeted, outcome-driven design strategies (Anderson-Butcher and Fink 2006). The emergence and subsequent research on sport-based positive youth development programs, such as the research on OSU's *LiFEsports*

(Anderson-Butcher et al. 2013, 2014), has helped advance knowledge in this area. Other models, such as Hellison's Teaching Personal and Social Responsibility in Sport (TPSR) model (Hellison 2003), are important, too. In TPSR, the sport context is designed strategically to create specific youth development outcomes (i.e., self-control, effort, etc.), as opposed to a sole focus on sport-related skill instruction. There is preliminary evidence to suggest the effectiveness of TPSR (Hellison and Walsh 2002), but more systematic research and extensive design strategies are again needed to further examine the potential of these settings.

Conclusion

Overall, sport is an important setting to maximize positive adolescent development. Regardless of whether sport is used on the playground, in physical education, in sporting leagues, in fitness programs, or in unstructured leisure time, when designed and implemented appropriately, the benefits for adolescents are numerous. As such, continued emphasis should be placed on preparing adult leaders to design these important settings, especially as maximizing adolescent involvement and impact are needed if the true value of sport is to be met.

References

- Aaron, D. J., Dearwater, S. R., Anderson, R. D., Olsen, T., Kriska, A. M., & Laport, R. E. (1995). Physical activity and initiation of high-risk health behaviors in adolescents. *Medicine and Science in Sports and Exercise*, 27, 1639–1645.
- Agbuga, B., Xiang, P., & McBride, R. E. (2007). Pedometer-assessed physical activity level and body composition among minority children in an after-school physical education program. *Research Quarterly for Exercise and Sport*, 1, 88.
- Ainsworth, B. E., Wilcox, S., Thompson, W. W., Richter, D. L., & Henderson, K. A. (2003). Personal, social, and physical environmental correlates of physical activity in African-American women in South Carolina. *American Journal of Preventive Medicine*, 25, 23–29.
- Amorose, A. J. (2007). Coaching effectiveness: Exploring the relationship between coaching behavior and

- self-determined motivation. In M. S. Hagger & N. L. D. Chatzisarantis (Eds.), *Intrinsic motivation and self-determination in exercise and sport* (pp. 209–228). Champaign: Human Kinetics.
- Anderson-Butcher, D. (2004). Transforming schools into 21st century community learning centers. *Children and Schools, 26*(4), 248–252.
- Anderson-Butcher, D. (2005). Recruitment and retention in youth development programming. *The Prevention Researcher, 12*(2), 3–6.
- Anderson-Butcher, D., & Cash, S. (2010). Participation in boys & girls clubs, vulnerability, and problem behaviors. *Children and Youth Services Review, 32*(5), 672–678.
- Anderson-Butcher, D., & Conroy, D. (2002). Factorial and criterion validity of scores of a measure of belonging in youth development programs. *Educational and Psychological Measurement, 62*(5), 857–876.
- Anderson-Butcher, D., & Fink, J. (2006). The importance of a sense of belonging to youth service agencies: A risk and protective factor analysis. *Journal of Child and Youth Care Work, 20*, 11–21.
- Anderson-Butcher, D., Midle, T., Fallara, L., Hansford, C., Uchida, K., Grotevant, S., Munn, H., & Pinkston, B. (2003a). *Youth development programs in Central Ohio: An evaluation report for the City of Columbus and United Way of Central Ohio*. Columbus: Center for Learning Excellence and College of Social Work, The Ohio State University.
- Anderson-Butcher, D., Newsome, W. S., & Ferrari, T. (2003b). Participation in boys and girls clubs and relationships to youth outcomes. *Journal of Community Psychology, 1*(31), 39–55.
- Anderson-Butcher, D., Cash, S. J., Saltzburg, S., Midle, T., & Pace, D. (2004a). Institutions of youth development: The significance of supportive staff-youth relationships. *Journal of Human Behavior in the Social Environment, 9*(1/2), 83–99.
- Anderson-Butcher, D., Lawson, H. A., Bean, J., Boone, B., Kwiatkowski, A., Cash, S., et al. (2004b). *Implementation guide: The Ohio community collaboration model for school improvement*. Columbus: Ohio Department of Education.
- Anderson-Butcher, D., Iachini, A., Riley, A., Wade-Mdivanian, R., Davis, J., & Amorose, A. J. (2013). Exploring the impact of a summer sport-based youth development program. *Evaluation and Program Planning, 37*, 64–69.
- Anderson-Butcher, D., Riley, A., Iachini, A., & Wade-Mdivanian, R. (2014). Maximizing youth experiences in community sport settings: The design and impact of the LiFE Sports Camp. *Journal of Sport Management, 26*(2), 236–249.
- Annesi, J. J. (2006). Relations of physical self-concept and self-efficacy with frequency of voluntary physical activity in preadolescents: Implications for after-school care programming. *Journal of Psychosomatic Research, 61*, 515–520.
- Anthony, E. K., Alter, C. F., & Jenson, J. M. (2009). Development of a risk and resilience based out-of-school time program for children and youths. *Social Work, 54*(1), 45–55.
- Aspen Institute. (2015). Sport for all, sport for life: A playbook to get every kid in the game. Retrieved from <http://www.aspeninstitute.org/publications/sport-all-play-life-playbook-get-every-kid-game>
- Babic, M. J., Morgan, P. J., Plotnikoff, R. C., Lonsdale, C., White, R. L., & Lubans, D. R. (2014). Physical activity and physical self-concept in youth: Systematic review and meta-analysis. *Sports Medicine, 44*(11), 1589–1601.
- Babiss, L. A., & Gangwisch, J. E. (2009). Sports participation as a protective factor against depression and suicidal ideation in adolescents as mediated by self-esteem and social support. *Journal of Developmental and Behavioral Pediatrics, 30*(5), 376–384.
- Barber, B. L., Eccles, J. S., & Stone, M. R. (2001). What-ever happened to the jock, the brain, and the princess? Young adult pathways linked to adolescent activity involvement and social identity. *Journal of Adolescent Research, 16*(5), 429–455.
- Baumert, P. W., Henderson, J. M., & Thompson, N. J. (1998). Health risk behaviors of adolescent participants in organized sports. *Journal of Adolescent Health, 22*, 460–465.
- Berger, B. G., & Owen, D. R. (1988). Stress reduction and mood enhancement in four exercise modes: Swimming, body conditioning, hatha yoga, and fencing. *Research Quarterly for Exercise and Sport, 59*, 148–159.
- Bohnert, A. M., Kane, P., & Garber, J. (2008). Organized activity participation and internalizing and externalizing symptoms: Reciprocal relations during adolescence. *Journal of Youth and Adolescence, 37*, 239–250.
- Bredemeier, B. J., Weiss, M. R., Shields, D. L., & Shewchuk, R. M. (1986). Promoting moral growth in a summer sport camp: The implementation of theoretically grounded instructional strategies. *Journal of Moral Education, 15*, 212–220.
- Broh, B. A. (2002). Linking extracurricular programming to academic achievement: Who benefits and why? *Sociology of Education, 75*(1), 69–95.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.
- Brustad, R. J., Babkes, M. L., & Smith, A. L. (2001). Youth in sport: Psychological considerations. In R. N. Singer, H. A. Hausenblas, & C. M. Janelle (Eds.), *Handbook of sport psychology* (Vol. 2, pp. 604–635). New York: Wiley.
- Beutler, I. (2008). Sport serving development and peace: Achieving the goals of the United Nations through sport. *Sport in society, 11*(4), 359–369.
- Carreres-Ponsada, F., Carbonell, A. E., Cortell-Tormo, J. M., Fuster-Lloret, V., & Andreu-Cabrera, E. (2012). The relationship between out-of-school sport

- participation and positive youth development. *Journal of Human Sport & Exercise*, 7(3), 671–683.
- Casey, C. M., Ripke, M. N., & Huston, A. C. (2005). Activity participation and the well-being of children and adolescents in the context of welfare reform. In J. L. Mahoney, R. W. Larson, & J. S. Eccles (Eds.), *Organized activities as contexts of development* (pp. 65–84). Mahwah: Lawrence Erlbaum Associates.
- Center for Disease Control. (2007). YRBSS youth online: Comprehensive results. Retrieved on March 13, 2010, from <http://apps.nccd.cdc.gov/yrbss/QuestYearTable.asp?path=byHT&ByVar=C1&cat=6&quest=Q84&year=2007&loc=XX>
- Centers for Disease Control and Prevention. (2012). *Trends in the prevalence of obesity, dietary behaviors, and weight control practices national yrbs: 1991–2011*. Retrieved from http://www.cdc.gov/healthyyouth/yrbs/pdf/us_obesity_trend_yrbs.pdf
- Cliff, D. P., Wilson, A., Okely, A. D., Mickle, K. J., & Steel, J. R. (2007). Feasibility of SHARK: A physical activity skill-development program for overweight and obese children. *Journal of Science and Medicine in Sport*, 10, 263–267.
- Collingwood, T. R., Reynolds, R., Kohl, H., Sloan, S., & Smith, W. (1991). Physical fitness effects on substance abuse risk factors and use patterns. *Journal of Drug Education*, 21(1), 73–84.
- Collingwood, T. R., Sunderlin, J., & Kohl, H. (1994). The use of a staff training model for implementing fitness programming to prevent substance abuse with at-risk youth. *American Journal of Health Promotion*, 9(1), 20–23.
- Daley, A. J. (2002). Extra-curricular physical activities and physical self-perceptions in British 14-15-year-old male and female adolescents. *European Physical Education Review*, 8(1), 37–49.
- Danish, S. J., Forneris, T., & Wallace, I. (2005). Sport-based life skills programming in the schools. *Journal of Applied School Psychology*, 21, 41–62.
- Delisle, T. T., Werch, C. E., Wong, A. H., Bian, H., & Weiler, R. (2010). Relationship between frequency and intensity of physical activity and health behaviors in adolescents. *Journal of School Health*, 80(3), 134–140.
- Dimech, A. S., & Seiler, R. (2011). Extra-curricular sport participation: A potential buffer against social anxiety symptoms in primary school children. *Psychology of Sport and Exercise*, 12(4), 347–354.
- Donaldson, S. J., & Ronan, K. R. (2006). The effects of sports participation on young adolescents' emotional well-being. *Adolescence*, 41(162), 369–389.
- Eccles, J. S., & Barber, B. L. (1999). Student council, volunteering, basketball, or marching band: What kind of extracurricular involvement matters? *Journal of Adolescent Research*, 14(1), 10–43.
- Eccles, J., & Gootman, J. A. (Eds.). (2002). *Community programs to promote youth development*. Washington, DC: National Academy Press.
- Eccles, J. S., Barber, B. L., Stone, M., & Hunt, J. (2003). Extracurricular activities and adolescent development. *Journal of Social Issues*, 59(4), 865–889.
- Eime, R. M., Young, J. A., Harvey, J. T., Charity, M. J., & Payne, W. R. (2013). A systematic review of the psychological and social benefits of participation in sport for adults: Informing development of a conceptual model of health through sport. *International Journal of Behavioral Nutrition and Physical Activity*, 10, 135–149. <https://doi.org/10.1186/1479-5868-10-135>.
- Faulkner, G. E. J., Adlaf, E. M., Irving, H. M., Allison, K. R., & Dwyer, J. (2009). School disconnectedness: Identifying adolescents at risk in Ontario, Canada. *Journal of School Health*, 79(7), 312–318.
- Feeley, B. T., Agel, J., & LaPrade, R. F. (2015). When is it too early for single sport specialization? *The American Journal of Sports Medicine*, 44(1), 234–241.
- Findlay, L. C., & Coplan, R. J. (2008). Come out and play: Shyness in childhood and the benefits of organized sports participation. *Canadian Journal of Behavioural Science*, 40(3), 153.
- Fletcher, A. C., Nickerson, P., & Wright, K. L. (2003). Structured leisure activities in middle childhood: Links to well-being. *Journal of Community Psychology*, 31(6), 641–659.
- Fraser-Thomas, J. L., Cote, J., & Deakin, J. (2005). Youth sport programs: An avenue to foster positive youth development. *Physical Education and Sport Pedagogy*, 10(1), 19–40.
- Fredricks, J. A., & Eccles, J. S. (2006a). Extracurricular involvement and adolescent adjustment: Impact of duration, number of activities, and breadth of participation. *Applied Developmental Science*, 10(3), 132–146.
- Fredricks, J. A., & Eccles, J. S. (2006b). Is extracurricular participation associated with beneficial outcomes? Concurrent and longitudinal relations. *Developmental Psychology*, 42(4), 698–713.
- Gass, M. (1985). Programming the transfer of learning in adventure education. *The Journal of Experimental Education*, 8(3), 18–24.
- Gould, D., & Carson, S. (2004). Fun and games. *Youth Studies Australia*, 23, 19–26.
- Gould, D., & Carson, S. (2008). Life skills development through sport: Current status and future directions. *International Review of Sport and Exercise Psychology*, 1(1), 58–78.
- Gould, D., & Petlichkoff, L. (1988). Participation motivation and attrition in youth athletes. In F. L. Small, R. A. Magill, & M. J. Ash (Eds.), *Children in sport* (3rd ed.). Champaign: Human Kinetics.
- Gruber, J. J. (1986). Physical activity and self-esteem development in children: A meta-analysis. In G. A. Stull & H. M. Eckert (Eds.), *Effects of physical activity in children* (pp. 30–48). Champaign: Human Kinetics.
- Halpern, R. (2000). The promise of after-school programs for low-income children. *Early Childhood Research Quarterly*, 15(2), 185–214.

- Hansen, D. M., Larson, R. W., & Dworkin, J. B. (2003). What adolescents learn in organized youth activities: A survey of self-reported developmental experiences. *Journal of Research on Adolescence, 13*, 25–55.
- Harter, S. (1981). The development of competence motivation in the mastery of cognitive and physical skills: Is there still a place for joy? *Psychology of Motor Behavior in Sport, 1980*, 3–29.
- Hartmann, D., & Depro, B. (2006). Rethinking sports-based community crime prevention: A preliminary analysis of the relationship between midnight basketball and urban crime rates. *Journal of Sport and Social Issues, 30*(2), 180–196.
- Hattie, J., Marsh, H. W., Neill, J. T., & Richards, G. E. (1997). Adventure education and outward bound: Out-of-class experiences that make a lasting difference. *Review of Educational Research, 67*(1), 43–87.
- Hellison, D. R. (2000). Physical activity programs for underserved youth. *Journal of Science and Medicine in Sport, 3*(3), 238–242.
- Hellison, D. R. (2003). *Teaching responsibility through physical activity* (2nd ed.). Champaign: Human Kinetics.
- Hellison, D. R., & Walsh, D. (2002). Responsibility-based youth programs evaluation: Investigating the investigations. *Quest, 54*, 292–307.
- Huebner, A. J., & Mancini, J. A. (2003). Shaping structured out-of-school time use among youth: The effects of self, family, and friend systems. *Journal of Youth and Adolescence, 32*(6), 453–463.
- Hynynen, S. T., van Stralen, M. M., Sniehotta, F. F., Araújo-Soares, V., Hardeman, W., Chinapaw, M. J. M., Vasankari, T., & Hankonen, N. (2016). A systematic review of school-based interventions targeting physical activity and sedentary behaviour among older adolescents. *International Review of Sport and Exercise Psychology, 9*(1), 22–44.
- Iachini, A. L., Amorose, A., & Anderson-Butcher, D. (2010). Exploring the strategies used by high school coaches to facilitate athlete's psychological need satisfaction and motivation. *The International Journal of Sports Science and Coaching, 5*(2), 291–308.
- Knifsend, C. A., & Graham, S. (2012). Too much of a good thing? How breadth of extracurricular participation relates to school-related affect and academic outcomes during adolescence. *Journal of Youth and Adolescence, 41*(3), 379–389.
- Kremer, P., Elshaug, C., Leslie, E., Toumbourou, J. W., Patton, G. C., & Williams, J. (2014). Physical activity, leisure-time screen use and depression among children and young adolescents. *Journal of Science and Medicine in Sport, 17*(2), 183–187.
- Landers, D. M., & Landers, S. (1978). Socialization via interscholastic athletics: Its effects on educational attainment. *Research Quarterly, 47*, 75–83.
- Larson, R. W. (2000). Toward a psychology of positive youth development. *American Psychologist, 55*(1), 170–183.
- Larson, R., & Verma, S. (1999). How children and adolescents around the world spent time: Work, play, and developmental opportunities. *Psychological Bulletin, 125*, 701–736.
- Larson, R., Walker, K., & Pearce, N. (2005). A comparison of youth-driven and adult-driven youth programs: Balancing inputs from youth and adults. *Journal of Community Psychology, 33*(1), 57–74.
- Larson, R. W., Hansen, D. M., & Moneta, G. (2006). Differing profiles of developmental experiences across types of organized youth activities. *Developmental Psychology, 42*(5), 849–863.
- Lawson, H. A., & Anderson-Butcher, D. (2000). The social work of sport. In C. Simard, G. Thibault, C. Goulet, C. Pare & F. Bilodeau (Eds.), *Sport for all and governmental policies* (pp. 480–489). Quebec, CA: International Olympic Committee.
- Linver, M. R., Roth, J. L., & Brooks-Gunn, J. (2009). Patterns of adolescents' participation in organized activities: Are sports best when combined with other activities? *Developmental Psychology, 45*(2), 354.
- Lubans, D., & Sylva, K. (2006). Controlled evaluation of a physical activity intervention for senior school students: Effects of the lifetime activity program. *Journal of Sport & Exercise Psychology, 28*, 252–268.
- Lubans, D. R., Plotnikoff, R. C., & Lubans, N. J. (2012). A systematic review of the impact of physical activity programmes on social and emotional well-being in at-risk youth. *Child and Adolescent Mental Health, 17*(1), 2–13.
- MacMahon, J. R. (1990). The psychological benefits of exercise and the treatment of delinquent adolescents. *Sports Medicine, 9*, 344–351.
- Mageau, G. A., & Vallerand, R. J. (2003). The coach-athlete relationship: A motivational model. *Journal of Sport Sciences, 21*, 883–904.
- Mahoney, J. L., Cairns, B. D., & Farmer, T. W. (2003). Promoting interpersonal competence and educational success through extracurricular activity participation. *Journal of Educational Psychology, 95*(2), 409–418.
- Mahoney, J. L., Lord, H., & Carryl, E. (2005). An ecological analysis of after-school programming participation and the development of academic performance and motivational attributes for disadvantaged children. *Child Development, 76*, 811–825.
- Marsh, H. W., & Kleitman, S. (2002). Extracurricular school activities: The good, the bad, and the nonlinear. *Educational Review, 72*, 464–514.
- Martens, R. (1993). Psychological perspectives. In B. R. Cahill & A. J. Pearl (Eds.), *Intensive participation in children's sports*. Champaign: Human Kinetics.
- McHale, J. P., Vinden, P. G., Bush, L., Richer, D., Shaw, D., & Smith, B. (2005). Patterns of personal and social adjustment among sport-involved and noninvolved urban middle school children. *Sociology of Sport Journal, 22*, 119–136.
- McNeal, R. B. (1995). Extracurricular activities and high school dropouts. *Sociology of Education, 68*(1), 62–80.

- Miller, S. C., Bredemeier, B. J., & Shields, D. L. (1997). Sociomoral education through physical education with at-risk children. *Quest, 49*, 114–129.
- Mutrie, N., & Biddle, S. J. H. (1995). The effects of exercise on mental health in nonclinical populations. In S. J. H. Biddle (Ed.), *European perspectives on exercise and sport psychology* (pp. 50–70). Champaign: Human Kinetics.
- National Federation of State High School Associations. (2016). 2014–15 State high school athletics participation survey, Indianapolis. Retrieved April 8, 2016, from http://www.nfhs.org/ParticipationStatistics/PDF/2014-15_Participation_Survey_Results.pdf
- Ogden, C. L., Carroll, M. D., Kit, B. K., & Flegal, K. M. (2014). Prevalence of childhood and adult obesity in the United States, 2011–2012. *Journal of the American Medical Association, 307*, 483–490.
- Page, R. M., & Tucker, L. A. (1994). Psychosocial discomfort and exercise frequency: An epidemiological study of adolescents. *Adolescence, 29*(113), 183–191.
- Palermo, M. T., Di Luigi, M., Dal Forno, G., Dominici, C., Vicomandi, D., Sambucioni, A., & Pasqualetti, P. (2006). Externalizing and oppositional behaviors and karate-do: The way of crime prevention a pilot study. *International Journal of Offender Therapy and Comparative Criminology, 50*(6), 654–660.
- Pedersen, S., & Seidman, E. (2004). Team sports achievement and self-esteem development among urban adolescent girls. *Psychology of Women Quarterly, 28*, 412–422.
- Pedersen, S., & Seidman, E. (2005). Contexts and correlates of out-of-school activity participation among low-income urban adolescents. In J. L. Mahoney, R. W. Larson, & J. S. Eccles (Eds.), *Organized activities as contexts of development: Extracurricular activities, after-school, and community programs* (pp. 85–110). Mahwah: Lawrence Erlbaum Associates.
- Piko, B. F., & Keresztes, N. (2006). Physical activity, psychosocial health, and life goals among youth. *Journal of Community Health, 31*(2), 136–145.
- Placek, J. (1983). Conceptions of success in teaching: Busy, happy and good? In T. Templin & J. Olson (Eds.), *Teaching in physical education* (pp. 46–56). Champaign: Human Kinetics.
- Rees, D. I., & Sabia, J. J. (2010). Sports participation and academic performance: Evidence from the national longitudinal study of adolescent health. *Economics of Education Review, 29*(5), 751–759.
- Rogers, B. (1977). *Rationalising sports policies. Sport in the social context: Technical supplement*. Strasbourg: Council of Europe.
- Rosewater, A. (2009). *Learning to play and playing to learn: Organized sports and educational outcomes*. Oakland: Team Up for Youth.
- Rostad, F. G., & Long, B. C. (1996). Exercise as a coping strategy for stress: A review. *International Journal of Sport Psychology, 27*, 197–222.
- Scanlan, T. K., Babkes, M. L., & Scanlan, L. A. (2005). Participation in sport: A developmental glimpse at emotion. In J. L. Mahoney, R. W. Larson, & J. S. Eccles (Eds.), *Organized activities as contexts of development: Extracurricular activities, after-school and community programs* (pp. 275–310). Mahwah: Erlbaum.
- Segrave, J., Moreau, C., & Hastad, D. N. (1985). An investigation into the relationships between ice hockey participation and delinquency. *Sociology of Sport Journal, 2*(4), 281–298.
- Shields, D. L., & Bredemeier, B. J. L. (1995). *Character development and physical activity*. Champaign: Human Kinetics.
- Shulruf, B. (2010). Do extra-curricular activities in schools improve educational outcomes? A critical review and meta-analysis of the literature. *International Review of Education, 56*(5–6), 591–612.
- Siedentop, D., Hastie, P. A., & van der Mars, H. (2004). *Complete guide to sport education*. Champaign: Human Kinetics.
- Smith, R. E., Smoll, F. L., & Cumming, S. P. (2009). Motivational climate and changes in young athletes' achievement goal orientations. *Motivation and Emotion, 33*, 173–183.
- Steiner, H., McQuivey, R. W., Pavelski, R., Pitts, T., & Kraemer, H. (2000). Adolescents and sports: Risk or benefit? *Clinical Pediatrics, 39*(3), 161–166.
- Taliaferro, L. A., Rienzo, B. A., & Donovan, K. A. (2010). Relationships between youth sport participation and selected health risk behaviors from 1999 to 2007. *Journal of School Health, 80*(8), 399–410.
- Taliaferro, L. A., Eisenberg, M. E., Johnson, K. E., Nelson, T. F., & Neumark-Sztainer, D. (2011). Sport participation during adolescence and suicide ideation and attempts. *International Journal of Adolescent Medicine and Health, 23*(1), 3–10.
- Theokas, C., Danish, S., Hodge, K., Heke, I., & Forneris, T. (2008). Enhancing life skills through sport for children and youth. In N. L. Holt (Ed.), *Positive youth development through sport* (Vol. 6, pp. 71–81). London/New York: Routledge.
- Troiano, R. P., Berrigan, D., Dodd, K. W., Masse, L. C., Tilert, T., & McDowell, M. (2008). Physical activity in the United States measured by accelerometer. *Medicine and Science in Sports and Exercise, 40*(1), 181–188.
- Ullrich-French, S., & McDonough, M. H. (2013). Correlates of long-term participation in a physical activity-based positive youth development program for low-income youth: Sustained involvement and psychosocial outcomes. *Journal of Adolescence, 36*(2), 279–288.
- Ullrich-French, S., & Smith, A. L. (2009). Social and motivational predictors of continued youth sport participation. *Psychology of Sport and Exercise, 10*(1), 87–95.
- Wankel, L. M., & Kreisel, P. S. (1985). Factors underlying enjoyment of youth sports: Sport and age group comparisons. *Journal of Sport Psychology, 7*, 51–64.

- Warner, S., Dixon, M., & Leierer, S. (2015). Using youth sport to enhance parents' sense of community. *Journal of Applied Sport Management*, 7(1), 45–67.
- Weintraub, D. L., Tirumalai, E. C., Haydel, K. F., Fujimoto, M., Fulton, J. E., & Robinson, T. N. (2008). Team sports for overweight children. *Archives of Pediatric and Adolescent Medicine*, 162(3), 232–237.
- Weiss, M. R. (2008). 2007 C.H. McCloy Lecture, "Field of Dreams:" Sport as a context for youth development. *Research Quarterly for Exercise and Sport*, 79(4), 434–449.
- Weiss, M. R., & Duncan, S. C. (1992). The relationship between physical competence and peer acceptance in the context of children's sports participation. *Journal of Sport & Exercise Psychology*, 14, 177–191.
- Weiss, M. R., & Ferrer-Caja, E. (2002). Motivational orientations and sport behavior. In T. S. Horn (Ed.), *Advances in sport psychology* (2nd ed.). Champaign: Human Kinetics.
- Weiss, M. R., & Smith, A. L. (2002). Friendship quality in youth sport: Relationship to age, gender, and motivation variables. *Journal of Sport & Exercise Psychology*, 24, 420–437.
- Zarrett, N., & Bell, B. A. (2014). The effects of out-of-school time on changes in youth risk of obesity across the adolescent years. *Journal of Adolescence*, 37(1), 85–96.

Stalking

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Overview

Stalking is a prevalent crime in most industrialized, English-speaking countries. Stalking refers to a constellation of behaviors in which one person repeatedly inflicts on another unwanted contacts or communications that cause fear in the recipient. The preponderance of stalking research to date has only considered this behavior in adults. However, there is emerging recognition that stalking behavior is a salient problem among juveniles. This essay canvasses the major issues in this burgeoning field of research, examines the few

empirical studies that have considered the nature and context of stalking by juveniles, including gender differences, and provides guidance regarding the clinical management of juvenile stalkers.

Introduction

Stalking occurs when a person repeatedly intrudes upon another to such an extent that the recipient fears for their safety (Mullen et al. 2009). Stalking may be motivated by a range of intentions, including seeking to establish a relationship with a person, attempting to reconcile a previous relationship, exacting revenge for a perceived harm or as preparation for a planned assault, usually sexual (Mullen et al. 1999). The term "stalking" refers to a range of behaviors, such as persistently contacting the victim via phone, e-mail, or letters, keeping them under surveillance, loitering around their home or workplace, or intruding upon them in such venues or public places. While some stalking behaviors may seem innocuous when considered individually (e.g., telephoning a person), it is when such acts are repeated over time that they can become more ominous for the victim and constitute a damaging form of victimization (Pathé and Mullen 1997; Kamphuis and Emmelkamp 2001; Purcell et al. 2005).

Stalking is proscribed as a criminal offense in many English-speaking countries, including the USA, Canada, Australia, New Zealand, and the UK, as well as several European countries, including Germany and the Netherlands. The drafting of antistalking laws has not been without controversy (see Purcell et al. 2004a), particularly since stalking behaviors can overlap with interactions that, however unwelcome or inappropriate, are nonetheless part of many people's everyday experience, such as being pursued for a date or involved in a dispute with a neighbor or colleague. Research suggests that the overarching term "stalking" encompasses two separable phenomena: (1) brief, self-limited harassment that lasts for a few days and is largely confined to unwanted approaches by strangers and (2) persistent stalking by a known acquaintance that lasts for

weeks or months and can involve associated threats and violence. The watershed between these two forms is the continuation of the behaviors for more than 2 weeks (Purcell et al. 2004b).

Epidemiological studies suggest that stalking is a prevalent crime, affecting an estimated 10–15% of adults (Australian Bureau of Statistics 2005; Breiding 2014; Budd and Mattinson 2000; Hellmann and Kliem 2015; Purcell et al. 2002). These community-based studies indicate that the majority of victims are female (75%) and most perpetrators are male (80%). Victims are typically stalked by someone known to them (80%), including ex-intimate partners, acquaintances, estranged relatives and friends, and work-related contacts. Few studies have considered risk factors associated with stalking victimization, although age and gender appear to be significant predictors. Using data from the British Crime Survey, Budd and Mattinson (2000) found that women aged 16–19 years reported the highest annual rates of victimization, with 17% having been stalked in the previous 12 months. This suggests that stalking is a significant problem for young people, particularly females.

Stalking Among Juveniles: Key Issues

The overwhelming majority of stalking research has focused on adult perpetrators. Until recently, the extant literature on juvenile stalking consisted of a handful of media reports and case studies (e.g., Urbach et al. 1992; McCann 2000; Brewster 2003). This perhaps led some commentators to conclude that stalking by juveniles was “relatively rare” or “uncommon” (see Scott et al. 2007), despite the absence at that time of representative, prevalence studies. The latter are now emerging (see Fisher et al. 2014, below) and though based on only one published study to date indicate that the rates of stalking among juveniles are similar to those observed in adults.

The lack of scientific and popular attention to juvenile stalking may be explained in part by the tendency to conceptualize stalking behaviors in young perpetrators as harmless or otherwise inoffensive. For example, stalking following the

termination of an intimate relationship among juveniles has been trivialized – at least in the popular media – as the “throes of a broken heart” (e.g., Sydney Morning Herald 2003). Similarly, unwanted efforts to establish a relationship have often been labeled as merely “puppy love” or a “crush” when this involves a juvenile (see Brewster 2003). Trivializing such conduct does a serious disservice to those cases that genuinely constitute stalking and which inflict considerable harm on the victim. For example, the case that referred to the “throes of a broken heart” involved the attempted murder of a female secondary-school student by her teenage ex-boyfriend at an Australian school. Unwilling to accept the termination of their relationship, the youth took a crossbow to school and fired a volley of arrows at his ex-girlfriend, seriously wounding her and impaling her friend who was seated beside her. At trial, the youth was acquitted of attempted murder as the judge “was satisfied the boy was telling the truth when he said he wanted to maim but not kill his former girlfriend” (Sydney Morning Herald 2003).

The failure of many researchers and clinicians to acknowledge the potential seriousness of juvenile stalking may also reflect the desire to avoid pathologizing normal or developmentally appropriate behaviors in young people. This is a legitimate concern, and as such it is important to recognize that a *continuum* of behavior exists, from valid but misguided attempts to rekindle a terminated relationship, or inept efforts to establish a relationship, through to damaging forms of pursuit that constitute stalking (see Mullen et al. 2001). The challenge for those whose work brings them into contact with juvenile stalking cases is to determine what are developmentally appropriate and acceptable (albeit irritating and unwanted) behaviors and what is stalking. This is often far from straightforward and requires a comprehensive assessment of the context in which the behaviors have emerged, the perpetrator’s aims and motivations, how the behavior aligns with the perpetrator’s emotional and cognitive development, and whether psychological or mental disturbance (which have their peak onset during adolescence and young adulthood; Kessler

et al. 2005) are salient contributing factors. Awareness by the young perpetrator that their behavior is causing fear, and/or the continuation of the behavior after the victim has clearly expressed their desire that it stop, may also be useful indicators of when otherwise innocuous behavior has crossed the line into stalking.

Stalking among juveniles should not be unexpected. Many of the motivations for stalking that operate in adults are equally apparent in juveniles, such as managing disputes among peers or initiating or terminating a relationship. Negotiating the coming together and breaking apart of intimate relationships is especially challenging for many juveniles, particularly as they are likely to be experiencing their first romantic or sexual encounters. For example, research indicates that dating violence is common among young people (Carolyn Olson et al. 2004; Brown et al. 2009), with estimates during adolescence ranging from 9% to 65% (Howard et al. 2003; Kreiter et al. 1999). A recent interesting study of teenage dating violence *perpetration* showed that 6% of those who reported partner violence acknowledged having engaged in stalking (Niolon et al. 2015). The challenges of managing relationships or disputes are also arguably complicated in juveniles by developmental variations in social competence and emotional and cognitive maturity. Indeed, stalking behavior may be *even more* common in juvenile populations given that their impulse control and social decision-making are still in development (see Elkind 1998), although this is yet to be examined in empirical comparisons with adult samples.

Empirical Studies of Juvenile Stalkers

To date, only three studies have considered the nature of stalking behavior among juvenile perpetrators. The first was published by McCann (2000), who assembled 13 cases via legal case reports, mental health evaluations, and media articles published in the USA. The sample was aged between 9 and 18 years, with all but one of the perpetrators male and all but one of the victims female. Adults were pursued in seven cases and

six involved the stalking of peer-aged victims. Given the method of sampling, it is not surprising that clinical diagnoses were noted in 7 of the 13 cases, typically conduct disorder or psychosis. The perpetrators typically confined their stalking activities to seeking physical proximity to their victims – usually involving overt sexual advances – and making repeated phone calls. Some 61% made threats and 31% engaged in physically violent conduct. The primary motivation for stalking in this group was the desire for “sexual contact” with the victim, followed by revenge and resentment. These juveniles typically pursued known acquaintances (61%), such as classmates and teachers, although three pursued strangers. Only one case involved the stalking of an ex-intimate partner.

McCann’s (2000) small and selective sample represents the extreme end of the stalking spectrum, with the perpetrator’s behavior being sufficiently damaging or disordered in each instance to warrant mental health or criminal justice intervention. While this prevents meaningful generalizations, this work was nonetheless instrumental in drawing attention to the problem of juvenile stalking. Importantly, the findings indicated that stalking in juveniles can be motivated by a range of factors and that psychopathology contributes to this form of offending. That threats were common and physical assaults occurred in a third of cases clearly demonstrates that stalking by juveniles cannot merely be dismissed as harmless or otherwise innocuous.

Purcell and colleagues (2009) conducted the largest systematic study of juvenile stalking behaviors within a justice setting. The authors assembled a sample of 299 juvenile perpetrators from a metropolitan Children’s Court in Melbourne, Australia. The sample was obtained by a search of consecutive applications for an intervention order (IO) against a juvenile aged 18 years or less. Intervention orders (known as “restraining orders” in the USA and “injunctions” in the UK) are designed to protect the applicant by restricting the unwanted behavior of the perpetrator, including approaching, contacting, threatening, harassing, or assaulting the applicant. This methodology was used as the majority of juvenile

stalking cases are managed in the civil jurisdiction via applications for an IO, with few cases of criminal stalking processed annually in the Children's Court. This reflects the policy in Australia (and the UK) to avoid bringing juveniles into the criminal justice system whenever possible.

In Purcell et al.'s study (2009), a stalking case was defined as multiple unwanted intrusions that persisted for more than 2 weeks. Given the age group concerned, a distinction was made between bullying and stalking behaviors on the basis of where the behaviors occurred. Unwanted approaches and communications that occurred entirely within the premises of a school or public institution legitimately attended by both the victim and perpetrator were classified as bullying, but not stalking. When such behaviors extended *beyond* the school or shared institution into the victim's domestic and wider social situation, this was classified as stalking. The mean age of the juveniles in this sample was 15.4 years (range 9–18 years) and the majority were male (64%). The proportion of female juvenile perpetrators (36%) is notable for being higher than the rates previously observed in adult samples. For example, in clinical forensic samples, the rates of female stalking are 21–22% (Purcell et al. 2001; Harmon et al. 1998, respectively), while in community samples they range from 11% to 19% (Tjaden and Thoennes 1998; Budd and Mattinson 2000, respectively). Given the different methods of ascertainment across these studies, it cannot be concluded that stalking is more common among young females relative to their adult counterparts, but the rates in this juvenile justice context are sufficient to indicate that stalking by young females is a salient problem.

The majority of victims in Purcell et al.'s study were female (69%) and their mean age was 18.8 years (range 5–77 years). Almost all juvenile perpetrators pursued someone known to them (98%), most commonly a school peer, family or peer acquaintance, ex-boyfriend or girlfriend, estranged friend or a neighbor. Interestingly, more than half of the perpetrators in this study stalked someone of the same gender (57%), although same-gender stalking was significantly higher among females (86%) compared to male

perpetrators (40%). This likely reflects differences in the motivations for stalking (see below), with juvenile males more likely than females to be motivated by rejection and sexual predation, whereas females were more likely than their male counterparts to be motivated by bullying and retaliation (Purcell et al. 2010). Juvenile females were also more likely than males to recruit others to their efforts to harass the victim, a tactic referred to as "stalking by proxy" (Mullen et al. 2009). This perhaps reflects female adolescents' propensity to offend within the context of a peer group rather than as individuals.

The most common stalking behaviors in this sample were unwanted approaches (76%), telephone calls (42%), text messaging (15%), and following (16%). The duration of the stalking behaviors ranged from 16 days to a maximum of 6 years (median = 120 days). High rates of associated violence were observed, with 75% of victims reporting being threatened and 50% physically assaulted by their perpetrator. Serious sexual assaults were disclosed by five victims.

The motivation for the perpetrator's behavior and the context in which the stalking emerged were used to construct categories of stalking. The majority of juveniles in Purcell et al.'s sample engaged in *stalking as an extension of bullying* (28%) or *retaliation* (22%) for a perceived slight or injury. The latter category contrasts with resentful patterns of stalking in adults (see Mullen et al. 1999) in that the reprisal against the victim is far more *immediate* in juveniles, as opposed to adults, whose desire for retribution is usually sustained for longer periods of time. A significant proportion (22%) of cases were classed as *rejected* stalking, with the perpetrator seeking to reconcile a lost intimate relationship with the victim or to exact revenge for the rejection, or both. A further 20% involved *disorganized and disturbed* harassment by young people who were targeting multiple (often unconnected) victims within their environment, often neighbors. Of particular concern was the 5% of *sexually predatory* juvenile stalkers, the majority of whom (13 of 16) had sexually or physically assaulted their victim. These were not overeager or insensitive approaches, but persistent patterns of

following culminating in sexual assaults or violence and intimidation aimed at obtaining sexual contact.

Only 2% of Purcell et al.'s (2009) sample were categorized as *infatuated* or intimacy seeking. It is unlikely that the latter finding reflects a lower frequency of infatuation among juveniles compared to their adult counterparts, in whom intimacy-seeking patterns of stalking are common (Mullen et al. 1999). Rather, relational intrusions, even in their more extreme manifestations, appear to be regarded by their adolescent targets as within the range of normal, if unwanted, experience (Sinclair and Frieze 2000; Spitzberg and Cupach 2003). Since they tend to be normalized, relational intrusions in this age group are likely to evoke irritation rather than fear and therefore are unlikely to be sufficiently disturbing to induce victims or their parents to seek an intervention order.

As previously indicated, the motivations for juvenile stalking differed according to gender, with female perpetrators largely motivated by bullying and retaliation (Purcell et al. 2010). In the bullying cases, no clear precipitant for the behavior could be discerned other than the perpetrator's apparent desire to persecute and torment the victim, whereas in retaliatory cases, a precipitating incident or grievance could be identified in each instance. Anger, vengeance, and punishment permeated much of the stalking by juvenile females, which is consistent with the notion of relational aggression (Crick 1995), whereby damage to a relationship serves as the primary means of harm. The association with physical aggression was also present in almost half this group, which is not uncommon for young females (Crick and Nelson 2002).

In contrast, juvenile males exhibit a broader range of stalking motivations, which is consistent with their adult counterparts. Rejection following the breakdown of an intimate or dating relationship was the most common context in which the stalking emerged for young males, followed by retaliation, bullying, disorganized and disturbed stalking, as well as sexual predation. Juvenile males also showed a greater propensity than females for targeting a member of the opposite

gender, a pattern that is paralleled in adult male stalkers (Harmon et al. 1998; Mullen et al. 1999; Palarea et al. 1999).

The results of Purcell and colleagues (2009) study are strikingly consistent with the findings of the most recent and largest study on juvenile stalking, which is also the first to examine the incidence of both stalking victimization and perpetration, in this instance among a representative statewide high-school student sample in Kentucky, USA (Fisher et al. 2014). In this study, stalking was defined as three or more "pursuit tactics," such as following, spying, maintaining surveillance, as well as unwanted approaches (at home, school, or elsewhere) and unwanted contacts/messages experienced in the past 12 months, which caused fear for the victim's personal safety. Of the 18,013 respondents (aged 14–18 years), 16.5% reported stalking victimization, with 5.3% disclosing having engaged in stalking behavior. Victimization was more commonly reported by females (18.8%) than males (13.9%), whereas males were more likely than females to report having stalked another (6.5% vs. 4.2%), gender patterns that parallel the preponderance of the adult stalking literature.

The most common form of stalking victimization among students in Fisher et al.'s study (2014) was unwanted communication via phone or social media (89%); followed by unwanted approaches (50%); and spying, surveillance, or monitoring (37%). In contrast, among those who disclosed stalking *perpetration*, unwanted approaches were as commonly reported as unwelcome communications (65% and 62%, respectively). The latter is consistent with the results of Purcell et al.'s study (2009) in which unwanted approaches were the most commonly reported form of stalking behavior. Gender differences were also apparent here, with males significantly more likely to report making unwanted approaches toward their victims than females (73% vs. 55%), although the rates of following and surveillance, as well as unwanted communications, did not differ according to gender.

While Fisher and colleagues (2014) did not specifically enquire about the nature of the prior relationship (if any) between the victim and

perpetrator, the survey questioned who the victim “feared most,” being an ex-boyfriend or girlfriend in a third of cases (32.8%), or an acquaintance known from school (23%) or outside school (24%). In 7% of cases, a current partner was reported as being the most feared. Interestingly, while the definition of stalking required that the unwanted behavior cause fear for personal safety, almost 30% of respondents indicated that they did not fear their stalker, being a more common response among male victims (40%) than females (20%).

Fisher and colleagues’ study (2014) represents the most significant research to date on juvenile stalking, being based on a large, representative school-based sample that reported on both stalking victimization and perpetration experiences. The results build on the findings of the previous empirical work to demonstrate that stalking behavior among juveniles involves a range of unwelcome behaviors, predominantly perpetrated against known victims (as opposed to strangers), with gender differences evident in the methods of stalking and emotional responses to this form of violence.

Major Differences Between Juvenile and Adult Stalking

The picture of juvenile stalking emerging from the extant research differs to that observed among adults. Far higher levels of threats and violence are evident in Purcell et al.’s (2009) juvenile sample than is found in adult stalking (see McEwan et al. 2007), with over half subjected to physical attacks and five suffering a serious sexual assault. The extent to which this reflects an age-crime curve or other stalking-specific influences is at this stage of enquiry unclear. In adults, the lowest rate of violence is found among those who pursue strangers (Mohandie et al. 2006). That Purcell et al.’s sample had only a handful of juveniles who pursued strangers may explain part of the relative increase in the rates of violence, but does not reduce the level of concern that such high rates of violence should evoke. There is also greater involvement of female perpetrators

and more involvement by the stalker of accomplices in the stalking by juveniles. Stalking by ex-partners was less frequent in both Purcell et al.’s (2009) and Fisher et al.’s (2014) samples than in adult cohorts (Meloy and Gothard 1995; Harmon et al. 1998; Palarea et al. 1999; Mullen et al. 1999) though still makes a substantial contribution. Stalking as an extension of bullying is, not surprisingly, common in juveniles, though infrequently observed in adults.

In contrast to adults, who typically utilize a broad repertoire of (often covert) intrusive behavior, juvenile stalkers favor *direct* means of contact, mostly via unwanted approaches and phone calls. Overall, juvenile stalking behavior manifests as a more direct and immediate form of pursuit than that observed in adults, as evidenced by the comparatively lower rate of surveillance and following.

The Impact of Juvenile Stalking

The impact of the stalking on the psychosocial functioning of victims in Purcell et al.’s (2009) juvenile sample closely parallels that reported by adult victims (Pathé and Mullen 1997; Kamphuis and Emmelkamp 2001; Purcell et al. 2005). Chief among these were anxiety and pervasive fear that the perpetrator would “make good” on threats. Students subjected to stalking by peers and ex-partners attending the same school frequently indicated being unable to concentrate in class and fearing for their physical safety at school. Not unexpectedly, absenteeism and a decline in school performance were commonly reported. Severe depression or suicidal ideation was spontaneously reported in several dozen cases and one victim required hospitalization. Given that most victims were themselves juveniles at a critical phase in their psychosocial development, the long-term effects of stalking may well be even more serious than in most adult victims, although this is yet to be empirically examined. This argues not just for recognizing the seriousness of juvenile stalking but for establishing appropriate support and treatment services for these young and often vulnerable victims.

Managing Stalking

At this early stage of knowledge about juvenile stalkers, the clinical management strategies recommended for treating adult offenders should be used as a guide for responding to juvenile perpetrators (Scott et al. 2007). This includes a comprehensive psychiatric/psychological assessment that takes into account the perpetrator's emotional and cognitive development (especially as this may pertain to any legal requirements that the perpetrator be able to form intent to harm the victim), as well as peer influences and familial functioning. A general risk assessment for escalation to threats and physical violence against the victim is also recommended. Careful assessment of the risk of self-harm by the perpetrator may also be warranted, particularly given the high rates of suicidal ideation and attempts among juvenile offenders in general (e.g., Rohde et al. 1997).

Just as adult stalkers often have multiple deficits that benefit from intervention (e.g., impaired social skills, substance misuse; see Mullen et al. 2009), so do adolescent stalkers, some of whom may have significant histories of behavioral problems at home and school. It is also not uncommon to encounter significant deficits in verbal skills in young perpetrators, which in itself may be a risk factor for stalking at this age. Marked deficits in verbal intelligence have certainly been observed in an adult sample of stalkers (MacKenzie et al. 2010). In these cases, behavioral treatment approaches are more likely to be acceptable to the client and effective, rather than cognitive strategies. Irrespective of age, stalkers with emerging or manifest psychiatric illness (e.g., psychosis, depression) require assertive clinical treatment, and any contributing deficits in social skills and competence should be appropriately augmented.

It is important to note that the school environment is the venue for many forms of juvenile stalking. Many young victims in Purcell et al.'s study (2009) reported feeling vulnerable to ongoing intrusions and assaults both at school and in transit to and from school. Unfortunately, clinical experience suggests that many schools are ill-prepared to manage stalking behaviors, despite

the almost universal requirement for formal anti-bullying policies. Schools often claim to be powerless to act if the perpetrator is not one of their own students, or limited in the sanctions that they can apply to a student-perpetrator without compromising their educational entitlements. While the latter claim is valid, this should not equate to "no action," since reasonable restrictions on a student's movements around school (to avoid contact with the victim) or suspensions are unlikely to jeopardize a student's educational opportunities. Ironically, victims who have refused to attend school for fear of encountering their stalker have been threatened with expulsion for repeated truancy in several cases. Schools may require professional advice to not only manage a perpetrator's behavior (e.g., via setting boundaries, mediation, or other legal interventions) but to effectively support young victims who are frequently exposed to stalking in the school environment.

Case Study

Steve (16 years, 11 months) was convicted of stalking a female staff member at the vocational college he attended. He didn't have any direct interaction with the young woman, who worked in administration, but had occasionally seen her around campus. On the train home from college one day, Steve noticed her in the carriage and decided to follow her when she got off (several stations before his usual stop). He followed her to her home (a second floor apartment), being careful not to be noticed by the victim, and spent several hours watching her window from afar (behind trees on the ground level). He repeated this pattern for several weeks, hoping that he would see the victim naked in her apartment, the thought of which sexually excited him. On the night of his arrest, Steve was standing outside the victim's window trying to peer inside. When the victim observed him, she was terrified and called the police. Steve was apprehended and pleaded guilty to the stalking offense.

Steve was unable to state why he was attracted to this particular woman, other than her basic physical appearance (her blonde hair being the primary focus of his attention). His stalking

behavior did not appear to be motivated by any infatuation or desire to initiate a relationship with the victim, nor did he evince any intention to sexually harm or assault her. Instead, Steve indicated that he had been unable to sleep and “bored” on each occasion that he attended at the victim’s home. He had not engaged in following the victim or keeping her under surveillance in venues other than her home and had never attempted to communicate with her at college.

At interview, Steve presented as a pleasant and cooperative, but intellectually limited young man. He had an expressive language disorder and an IQ in the below average range. His mother was intellectually disabled and had been unable to care for Steve since his birth. He had been raised by various foster families, including the 65-year couple with whom he was living at the time of the offenses. Steve had struggled to complete high school and had commenced at a vocational college when he turned 16. He enjoyed this vocational environment and had made several new friendships with his classmates, although he did not engage in any socializing with them outside the school context. Steve’s main interests and activities outside of attending vocational college were going to lawn bowls with his elderly foster parents, watching TV, and playing video games in his room.

Steve indicated being attracted to girls, but he had never had a romantic or sexual relationship. His foster parents indicated that Steve had “poor boundaries” around females and frequently displayed sexualized behaviors in his dealings with female staff, including seeking inappropriately close physical contact and evidence of sexual arousal. Steve was unable to articulate any emotional or psychological states associated with his stalking and did not use alcohol or other substances.

Overall, Steve showed little insight into his inappropriate sexualized behavior or his ability to control his impulses, factors that were exacerbated by his paucity of expressive language. His stalking was driven largely by his social incompetence and developmental immaturity, in which he felt entitled to intrude upon the victim as she

had aroused his sexual interest. That he remained standing outside the victim’s window after she screamed and when the police arrived was indicative of his ability to ignore negative responses and the consequences of his actions. While Steve was able to concede that his behavior was unwanted and wrong, he remained perplexed about how else he could have managed his feelings toward the young woman. Steve was assessed as being at high-risk of continuing to stalk or otherwise inappropriately intrude on others who similarly attract his attention or sexual interest and was referred for behavioral treatment to reduce his stalking risk.

Conclusions

Stalking among juveniles is a serious but previously neglected issue. This is striking when one considers the crucial stage at which this behavior occurs in both the victim’s and the perpetrator’s social and emotional development. The experience of being stalked during childhood or adolescence is likely not only to compromise the victim’s emotional well-being, but potentially interfere with their educational functioning, the consequences of which may echo into future employment or higher-education opportunities. The developing personality of the young victim may also be influenced by the experience of being stalked, such that prominent themes of fear, mistrust, and isolation are incorporated, to the potential detriment of their social and interpersonal functioning.

While the potential impacts on the victim are cause enough for greater attention to juvenile stalking, it is the opportunity for prevention – or at least early intervention – with this group of offenders that makes the issue so especially compelling. Intervening at the first signs of stalking behaviors offers the best chance of reducing stalking recidivism in the perpetrator and arguably of stemming any progression to more entrenched or serious forms of interpersonal violence in later life (e.g., domestic abuse or sexual assault). Regrettably, early intervention in juvenile justice

and adolescent forensic mental health is sorely lacking, if not absent, in most countries. Such reform is urgently needed not only to promote the functional recovery of young offenders but to move to a more preventative approach in the management of offenders and offending. Further attention to and study of juvenile stalking offers a critical step forward in how this may be achieved.

References

- Australian Bureau of Statistics. (2005). *Personal safety survey 2005*. Canberra: Commonwealth of Australia.
- Breiding, M. J. (2014). Prevalence and characteristics of sexual violence, stalking, and intimate partner violence victimization – National Intimate Partner and Sexual Violence Survey, United States, 2011. *MMWR Surveillance Summaries*, *63*, 1–18.
- Brewster, M. (2003). Children and stalking. In M. Brewster (Ed.), *Stalking: Psychology, risk factors, intervention and law*. New York: Civil Research Institute.
- Brown, A., Cosgrave, E., Killackey, E., Purcell, R., Buckby, J., & Yung, A. R. (2009). The longitudinal association of adolescent dating violence with psychiatric disorders and functioning. *Journal of Interpersonal Violence*, *24*, 1964–1979.
- Budd, T., & Mattinson, J. (2000). *Stalking: Findings from the 1998 British Crime Survey* (Research Findings No. 129). Home Office Research Development and Statistics Directorate.
- Carolyn Olson, E., Rickert, V. I., & Davidson, L. L. (2004). Identifying and supporting young women experiencing dating violence: What health practitioners should be doing NOW. *Journal of Pediatric and Adolescent Gynecology*, *17*, 131–136.
- Crick, N. R. (1995). Relational aggression: The role of intent attributions, feelings of distress, and provocation type. *Development and Psychopathology*, *33*, 313–322.
- Crick, N. R., & Nelson, D. A. (2002). Relational and physical victimization within friendships: Nobody told me there'd be friends like these. *Journal of Abnormal Child Psychology*, *30*, 599–607.
- Elkind, D. (1998). Cognitive development. In S. B. Friedman, M. Fisher, S. K. Schinberg, & E. M. Alderman (Eds.), *Comprehensive adolescent health care* (2nd ed., pp. 34–37). St. Louis: Mosby.
- Fisher, B. S., Coker, A. L., Garcia, L. S., Williams, C. M., Clear, E. R., & Cook-Craig, P. G. (2014). Statewide estimates of stalking among high school students in Kentucky: Demographic profile and sex differences. *Violence Against Women*, *20*, 1258–1279.
- Harmon, R. B., Rosner, R., & Owens, H. (1998). Sex and violence in a forensic population of obsessional harassers. *Psychology, Public Policy, and Law*, *4*, 236–249.
- Hellmann, D. F., & Kliem, S. (2015). The prevalence of stalking: Current data from a German victim survey. *European Journal of Criminology*, *12*, 700–718.
- Howard, D., Qiu, Y., & Boekeloo, B. (2003). Personal and social contextual correlates of adolescent dating violence. *The Journal of Adolescent Health*, *33*(1), 9–17.
- Kamphuis, J. H., & Emmelkamp, P. M. G. (2001). Traumatic distress among support-seeking female victims of stalking. *The American Journal of Psychiatry*, *158*, 795–798.
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, *62*, 593–602.
- Kreiter, S. R., Krowchuk, D. P., Woods, C. R., Sinal, S. H., Lawless, M. R., & DuRant, R. H. (1999). Gender differences in risk behaviors among adolescents who experience date fighting. *Pediatrics*, *104*(6), 1286–1292.
- MacKenzie, R. D., James, D. V., McEwan, T. E., Mullen, P. E., & Ogloff, J. R. P. (2010). Stalkers and intelligence: Implications for treatment. *Journal of Forensic Psychiatry and Psychology*, *21*, 852–872.
- McCann, J. T. (2000). A descriptive study of child and adolescent obsessional followers. *Journal of Forensic Sciences*, *45*, 195–199.
- McEwan, T., Mullen, P. E., & Purcell, R. (2007). Identifying risk factors in stalking: A review of current research. *International Journal of Law and Psychiatry*, *30*, 1–9.
- Meloy, J. R., & Gothard, S. (1995). A demographic and clinical comparison of obsessional followers and offenders with mental disorders. *The American Journal of Psychiatry*, *152*, 258–263.
- Mohandie, K., Meloy, J. R., McGowan, M., & Williams, J. (2006). The RECON typology of stalking: Reliability and validity based upon a large sample of North American stalkers. *Journal of Forensic Science*, *51*, 147–155.
- Mullen, P. E., Pathé, M., Purcell, R., & Stuart, G. W. (1999). A study of stalkers. *The American Journal of Psychiatry*, *156*, 1244–1249.
- Mullen, P. E., Pathé, M., & Purcell, R. (2001). Stalking: New constructions of human behavior. *The Australian and New Zealand Journal of Psychiatry*, *35*, 9–16.
- Mullen, P. E., Pathé, M., & Purcell, R. (2009). *Stalkers and their victims* (2nd ed.). Cambridge: Cambridge University Press.
- Niolon, P. H., Vivolo-Kantor, A. M., Latzman, N. E., Valle, L. A., Kuoh, H., Burton, T., Taylor, B. G., & Tharp, A. T. (2015). Prevalence of teen dating violence and co-occurring risk factors among middle school youth in high-risk urban communities. *Journal of Adolescent Health*, *56*, S5–S13.

- Palarea, R. E., Zona, M. A., Lane, J. C., & Langhinrichsen-Rohling, J. (1999). The dangerous nature of intimate relationship stalking: Threats, violence, and associated risk factors. *Behavioral Sciences & the Law*, *17*, 269–283.
- Pathé, M., & Mullen, P. E. (1997). The impact of stalkers on their victims. *The British Journal of Psychiatry*, *170*, 12–17.
- Purcell, R., Pathé, M., & Mullen, P. E. (2001). A study of women who stalk. *The American Journal of Psychiatry*, *158*, 2056–2060.
- Purcell, R., Pathé, M., & Mullen, P. E. (2002). The prevalence and nature of stalking in the Australian community. *The Australian and New Zealand Journal of Psychiatry*, *36*, 114–120.
- Purcell, R., Pathé, M., & Mullen, P. E. (2004a). Stalking: Defining and prosecuting a new category of offending. *International Journal of Law and Psychiatry*, *27*, 157–169.
- Purcell, R., Pathé, M., & Mullen, P. E. (2004b). Editorial: When do repeated intrusions become stalking? *Journal of Forensic Psychiatry and Psychology*, *15*(4), 571–583.
- Purcell, R., Pathé, M., & Mullen, P. E. (2005). The association between stalking victimization and psychiatric morbidity in a random community sample. *The British Journal of Psychiatry*, *187*, 416–420.
- Purcell, R., Moller, B., Flower, T., & Mullen, P. E. (2009). A study of stalking among juveniles. *The British Journal of Psychiatry*, *194*, 451–455.
- Purcell, R., Pathé, M., & Mullen, P. E. (2010). Gender differences in stalking behaviour among juveniles. *Journal of Forensic Psychiatry and Psychology*, *21*(4), 555–568.
- Rohde, P., Mace, D. E., & Seeley, J. R. (1997). The association of psychiatric disorders with suicide attempts in a juvenile delinquent sample. *Criminal Behavior and Mental Health*, *7*, 187–200.
- Scott, C. L., Ash, P., & Elwyn, T. (2007). Juvenile aspects of stalking. In D. A. Pinals (Ed.), *Stalking: Psychiatric perspectives and practical approaches* (pp. 195–211). Oxford: Oxford University Press.
- Sinclair, H. C., & Frieze, I. H. (2000). Initial courtship behaviour and stalking: How should we draw the line. *Violence and Victims*, *15*, 23–40.
- Spitzberg, B. H., & Cupach, W. R. (2003). What mad pursuit? Obsessive relational intrusion and stalking related phenomena. *Aggression and Violent Behavior*, *8*, 345–375.
- Sydney Morning Herald*. (2003). Crossbow attack injures two schoolgirls, April 3.
- Tjaden, P., & Thoennes, N. (1998). *Stalking in America: Findings from the National Violence against Women Survey*. Washington, DC: National Institute of Justice and Centers for Disease Control and Prevention.
- Urbach, J. R., Khalily, C., & Mitchell, P. P. (1992). Erotomania in an adolescent. Clinical and theoretical considerations. *Journal of Adolescence*, *15*, 231–240.

Status Offenses and Offenders

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Overview

Status offenses are a class of transgressions considered offenses for minors but not considered crimes for adults. In the United States, state laws define what constitutes status offenses and who can be deemed status offenders. Given the focus placed on state law, this area is riddled with considerable variation. Variation exists both in terms of the label that would be attached to those who commit status offenses as well as the nature of the status offenses themselves. Variation also takes the form of the legal responses to behaviors deemed status offenses and efforts to treat them differently from delinquent or criminal acts. Despite that variation, this area of law reveals important themes. These themes and variations highlight the legal system's efforts to deal with issues particular to an adolescent's social status and the challenge of determining the extent to which adolescents should be treated unlike adults.

Laws Regulating Status Offenders

An examination of state laws regulating status offenders reveals that they tend to be difficult to find. The reason for that difficulty is that status offenders often are not even deemed status offenders but most likely a “person in need of supervision” (“PINS”) or a “child in need of supervision” (“CHINS”). Despite some states' tendency to designate status offenders as PINS and CHINS, a look at state laws reveals that other terms can be used in different states as well as within them. These other terms range widely, such as child in need of protection, child in need of services, family in need of services, family with service needs, unruly child, incorrigible child, ungovernable child, minor requiring authoritative intervention,

child in need of aid, child in need of care, child beyond the control of parents, youth in need of intervention, wayward child, undisciplined juvenile, dependent child, at-risk youth, and juvenile-family crisis. In addition to variation in the behaviors that may constitute status offenses, considerable variation exists in who can be labeled status offenders. The age of majority (18) tends to be the cutoff age for the commission of status offenses, although some statutes limit some status offenses according to age (such as 15 or 16). These variations in names and ages are important to highlight in that they reveal a fundamental point about status offenders. Status offenders become status offenders not only because of what they do but also because of their relationship to their families. Definitions highlight how the legal system treats status offending largely as a family issue, which has important repercussion in how the legal system treats status offenders.

Many types of behaviors can be considered status offenses. As there are many labels for status offenders, there are many types of behaviors that states do classify as status offenses. Despite wide variation, the majority of states recognize at least four major types of status offenses. The first is ungovernability (or sometimes called incorrigibility, unruliness, or misbehavior). That label can describe many behaviors, ranging from disobeying family rules to engaging in sexual activity (Kandel and Griffiths 2003). The second category includes runaways and throwaways. Although laws do not distinguish between running away and being thrown out, both are very much related in that they result in the same behavior. Running away means leaving without permission and staying out overnight and often involves a minimum age; typically only 14- or 15-year-olds and above can be deemed runaways (Loken 1995). The third group of status offenses involves truancy. Unlike other status offenses, states sometimes consider truancy a delinquent act, not just a status offense, given the close links between truancy and delinquent and criminal behavior (Spaethe 2000). Curfew violations tend to be the last major group of status offenses recognized across states. Curfew laws are ordinances that dictate hours after which juveniles may not loiter

on the streets. These are increasingly popular (and controversial) ways to control juvenile crime as they have replaced what used to be decisions made by families (Note 2005). Lastly, states also have defined other behaviors as status offenses, and these range from underage alcohol or nicotine consumption to wearing baggy pants, although these offenses most likely could have been subsumed by existing categories (for a review, see Matthews 2000).

Responding to Status Offenders

The variation found in labels used for offenders and behaviors of what would constitute status offenses continues in how courts respond to status offenders. One of the most remarkable developments in the legal history of status offenses has been efforts to remove them from the juvenile justice system. Many advocacy groups and legal organizations had long argued for the removal of status offenders from the jurisdiction of the courts in favor of entirely service-based programs and in hopes of decriminalizing the offenses (Feld 1999). The major law that was intended to assist in this regard, the *Juvenile Justice and Delinquency Prevention Act* (JJJPA), was enacted in 1974. As with other federal laws, this one provided financial incentives (grants) to states if they developed laws and programs consistent with federal mandates. Given the federal government's largess and the needs of states, states tend to comply, which they did in this case. Although the JJJPA has been thought of as the statute that decriminalized status offenses and separated them from delinquent acts (and thus really created status offenses by making offenses really only applicable to juveniles), the legislation actually did not do that. Rather, the legislation mandated the deinstitutionalization of status offenders or removal of status offenders from juvenile correctional facilities. The distinction is of significance, especially in terms of the services and rights adolescents retain, which would be part of determining the success of the legislation.

On its face, the JJJPA achieved important successes. Most notably, it reduced the number of status offenders (Feld 1997). Regrettably, it is

difficult to determine the extent to which the act actually succeeded in better providing for status offenders. It is likely that the changes meant that many adolescents are never served by the courts at all (rather than that there are actually fewer status offenders) (see, e.g., Feld 1997). If the youth are served, it could be when their actions turn into criminal or delinquent behaviors. It also could be that the behaviors have now shifted to being charged as delinquent or criminal acts rather as noncriminal status offenses. This would not be surprising given how some status offenses may be similar to or related to delinquent ones (see, e.g., Kedia 2007). The controversies are likely to continue given that this area is void of definitive research that could address controversies.

Assuming that the number of status offenders has been reduced, and that the reduction reflects a real change, it may not follow that those who are identified as status offenders are treated appropriately. One of the peculiarities of status offenses is that they do not require courts to respect as many of the offenders' constitutional rights that would need to be respected had they been deemed delinquents. Minors alleged to be delinquents have been granted many of the constitutional rights afforded by adults, while those alleged to be status offenders are subjected to much more discretionary decision-making by the courts on the grounds that the flexibility and discretion best serve adolescents' needs. The informality highlights the premise that, rather than determining innocence or guilt, interventions for status offenses are to guide and reform troubled children and their families. Given the discretion, it is not surprising to find that the system has been criticized for its improper use of discretion (Kedia 2007), which helps to confirm the challenges that society faces in identifying and addressing the needs of troubled and troubling adolescents.

Conclusion

Society, through its legal system, has long sought to deal with troubling and troubled youth. One of the most important responses to emerge during the last century is the recognition of the need to treat

them differently from adults, which has led to the development of status offenses. These offenses exist simply because those committing them are minors. Although status offense may have been developed with good intentions, their use remains complicated, challenging, and often problematic.

Cross-References

► [Runaway Youth](#)

References

- Feld, B. C. (1997). Abolish the juvenile court: Youthfulness, criminal responsibility, and sentencing policy. *Journal of Criminal Law & Criminology*, 88, 68–135.
- Feld, B. C. (1999). *Bad kids: Race and the transformation of the juvenile court*. New York: Oxford University Press.
- Juvenile Justice and Delinquency Prevention Act of 1974, Pub. L. No. 93-415, 88 Stat. 1109 (1974) (codified as amended at 42 U.S.C. § 5601).
- Kandel, R. F., & Griffiths, A. (2003). Reconfiguring personhood: From ungovernability to parent adolescent autonomy conflict actions. *Syracuse Law Review*, 53, 995–1065.
- Kedia, S. R. (2007). Creating an adolescent criminal class: Juvenile court jurisdiction over status offenders. *Cardozo Public Law, Policy & Ethics Journal*, 5, 543–566.
- Loken, G. A. (1995). “Thrownaway” children and throwaway parenthood. *Temple Law Review*, 68, 1715–1762.
- Matthews, H. T. (2000). Status offenders: Our children's constitutional rights versus what's right for them. *Southern University Law Review*, 27, 201–213.
- Note. (2005). Juvenile curfews and the major confusion over minor rights. *Harvard Law Review*, 118, 2400–2421.
- Spaeth, R. (2000). Survey of school truancy intervention and prevention strategies. *Kansas Journal of Law & Public Policy*, 9, 689–702.

Statutory Rape

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Overview

Statutory rape is a generic term that refers to sexual activity with an individual below the age required to legally consent to the behavior. It

typically is used to refer to adults' prohibited sexual activity with minors. The term, however, is rarely used in the legal system, as laws use terms such as sexual offending or sexual assault. Still, the acts that fall under conceptions of statutory rape offer important protections for adolescents, and they also happen to present important controversies relating to adolescent sexuality. Many states have responded to controversies by enacting Romeo and Juliet provisions that typically do not consider as criminal (or as sufficient for more punitive responses) sexual acts that occurred between individuals with a few years of age differences.

Statutory Rape

Statutory rape is a criminal offense that typically refers to prohibited sexual relations with a minor deemed unable to consent to certain types of sexual behavior. Generally, statutory rape applies to someone who is older than the minor and with minors who have reached puberty (often the age of 12 or 13 and up); otherwise, the law deems the offense as a variation of child molestation. Statutory rape implies coercion, which means that, unlike other forms of rape, a prosecution need not show that there was force (see Levesque 2000). Statutory rape, then, involves sexual acts that would be legal if not for the age of at least one of the parties.

In the United States, statutory rape is governed by state law, and those states typically do not use that term; they instead use terms such as sexual assault or sex offense. States vary considerably in their definitions of statutory rape (for a review, see Levesque 2000). The statutes are considerably nuanced. For example, some jurisdictions specify a minimum difference in age (often 3 years), minimum and maximum age of the victim, and minimum age of offenders, for the actions to constitute statutory rape. Similarly, statutory rape generally is viewed as a strict liability offense, which means that a defendant is responsible if it is found that they engaged in sexual relations and their ages fit within the boundaries of the statutes. Yet, several states permit exceptions, such as

whether the defendant was legitimately mistaken about the victim's age or the victim was married (see Levesque 2000). States also vary in terms of the punishments imposed on those found guilty of statutory rape.

Several rationales support the use of statutory rape laws. The laws broadly protect adolescents in that minors tend to be unable to consent to relationships due to their age; the law assumes the acts nonconsensual on the rationale that the assumption helps to protect minors. Statutory rape laws protect minors from adults who could have power over them and make it easier to prosecute cases without having to show that there was coercion by force. In addition, the need for statutory rape laws has been reinforced by concerns that adult men "prey" on minor women and that tougher enforcement would reduce rates of adolescent pregnancies and births, as well as welfare expenditures (see Donovan 1997). These protections are deemed necessary given that minors, as a group, do appear to be uniquely vulnerable to coercion and exploitation as it relates to their sexual decision-making.

Critics have challenged the rationales supporting statutory rape laws.

Some argue that statutory rape laws ignore the reality that some adolescents are mature enough to consent to sexual activity and that, as a result, the laws limit the sexual autonomy of some adolescents who otherwise might be able to engage in sexual activity without harm. Some also argue that focusing on statutory rape laws to address issues of adolescent pregnancy, for example, ignores the many complex reasons adolescents engage in sexual activity or wish to bear children (see Oberman 2000). More aggressive laws also could discourage some minors from obtaining needed reproductive health care given that disclosing information about their partners could lead to their prosecution and incarceration (Donovan 1997). In instances involving pregnancies, more aggressive enforcement also can run the risk of jeopardizing young women's support from their partners and reduce the chances that they will develop relationships with their children. These sentiments have been echoed by commentators who suggest that the laws reach too broadly, lead to selective prosecution, and run the

risk of prosecuting cases that are counterproductive and fail to advance society's broader goal of protecting youth (James 2009).

In response to criticisms, many states have enacted the equivalent of "Romeo and Juliet" provisions to protect a consensual sexual relationship between individuals who are close in age. The typical example is an individual who just became an adult and had an ongoing relationship with a minor. Other examples involve age exemptions that allow teens aged 14 and 15 to consent to partners under the age of 18. Some states simply lessen the severity of penalties for such offenses. Other states, making the Romeo and Juliet aspect even more conspicuous, do not hold individuals responsible if the adolescent was (or was ever) married.

Given that different states can have different laws, provisions can vary considerably from one state to the next. Still, the age differences are typically between 2 and 4 years and only applicable if minors have reached a specific age, often 15. Importantly, these provisions do not protect older individuals in abusive relationships or in positions of authority. Nor do they protect individuals accused of sexual acts that involve violence or threat of violence.

Cross-References

- ▶ [Date Rape](#)
- ▶ [Rape](#)

References

- Donovan, P. (1997). Special report: Can statutory rape laws be effective in preventing adolescent pregnancy? *Family Planning Perspectives*, 29(1), 30–34. 40.
- James, S. (2009). Romeo and Juliet were sex offenders: An analysis of the age of consent and a call for reform. *UMKC Law Review*, 78, 241–262.
- Levesque, R. J. R. (2000). *Adolescents, sex, and the law: Preparing adolescents for responsible citizenship*. Washington, DC: American Psychological Association.
- Oberman, M. (2000). Regulating consensual sex with minors: Defining a role for statutory rape. *Buffalo Law Review*, 48, 703–784.

Steroid Use

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Overview

Although relatively uncommon, adolescent abuse of anabolic-androgenic steroids (AAS) is a source of considerable public health concern. Approximately 2–3% of US teenagers have used steroids without a doctor's prescription, putting them at risk for a wide range of adverse physiological and psychological consequences. Abusers seek to build muscle tissue in order to enhance their athletic performance, to correct perceived deficits in their aesthetic appearance, or in some cases to cope with physical or sexual trauma. Steroid abuse is also associated with a complex of problem behaviors including other forms of substance abuse, physical violence, unsafe sex, suicidality, and disordered eating. Although conventional anti-drug approaches relying on scare tactics or drug testing have generally proven ineffective or even counterproductive, integrated approaches that include education, skills training, and peer influence have shown promise in preventing steroid abuse.

Anabolic-androgenic steroids (AAS) are synthetic drugs that mimic the functions of testosterone, the primary male sex hormone. These drugs are "anabolic" (promoting muscle development) and "androgenic" (causing masculinization in the body). Because most versions are designed with the intention of promoting the former effects while minimizing the latter, the name is often shortened to "anabolic steroids" or just "steroids." Combined with a program of high-intensity physical exercise and adequate nutrition, steroids can accelerate gains in muscular strength and lean body mass (National Institute on Drug Abuse [NIDA] 2006, 2016).

Steroids can have therapeutic value. Some steroids are approved by the Food and Drug Administration for use in treating conditions resulting from abnormally low testosterone (such as delayed puberty and some types of impotence),

as well as wasting conditions associated with AIDS and other diseases. Doctors sometimes use steroids to treat some types of anemia, breast cancer, osteoporosis, endometriosis, and other specific medical conditions as well (Hatton et al. 2014). Despite their potential medical benefits, however, steroids are considered a public health concern because they are frequently abused as a means of enhancing athletic performance or physical appearance. In addition, doses taken by abusers are often considerably stronger than doses used to treat medical conditions (American Academy of Pediatrics [AAP] 1997).

Steroids can be taken orally, injected intramuscularly, or absorbed through the skin. Frequently abused steroids include commercially available preparations such as nandrolone (aka Deca-Durabolin or Durabolin), oxandrolone (aka Oxandrin), or stanozolol (aka Winstrol), veterinary steroids such as boldenone (aka Equipoise) or trenbolone (aka Revalor), and a host of other variants not approved for use in the United States, such as ethylestrenol, methandriol, and methandrostenolone (aka Dianabol) (Cohen et al. 2007; U.S. Department of Justice [USDOJ] 2004). In addition, steroidal supplements such as DHEA (dehydroepiandrosterone) or Andro (androstenedione) are widely believed to increase testosterone levels in the body in a manner comparable to steroids, although less is known about their side effects. Until recently, most of these drugs were classified as dietary supplements and could be purchased legally without a prescription; with the notable exception of DHEA, steroidal supplements were designated as controlled substances in 2004 (NIDA 2006).

Steroid abusers have also developed a unique lexicon to describe their activities. *Cycling* refers to the practice of taking multiple doses over a specific period of time, discontinuing use temporarily, and then starting the pattern again. *Pyramiding* involves a progressive escalation of the number or frequency of steroids used, followed by a gradual tapering off. Also common is the practice of *stacking*, or combining different types of steroids in order to create a more powerful interaction effect (NIDA 2016; Yesalis 2000).

Physiological and Psychological Effects of Steroid Abuse

The primary effects sought after by most steroid abusers include alterations in body weight and composition. Accelerated protein synthesis leads to associated increases in muscle mass and strength and decreases in body fat that collectively result in increased strength, power, and endurance. Steroids are also commonly believed to reduce recovery time between workouts, making it possible to train harder and more frequently. However, these primary effects are commonly accompanied by a dismaying array of potential adverse side effects that range from inconvenient to debilitating or even lethal.

Physiological side effects fall into several categories:

Children and teenagers. Steroid abuse can affect height, particularly in boys, whose bones are designed to continue growing until testosterone levels reach a given level. When this level is artificially achieved with steroids, the growth plates at the ends of the bones ossify (stop developing). The resulting stunted growth is likely to be permanent (NIDA 2006). Both human and animal studies also suggest that exposure to steroids in adolescence can affect brain development, including neurotransmitter function, which may increase the risk for both neurological disorders and (under some conditions) maladaptive behaviors such as aggression (Cunningham et al. 2013).

Boys and men. Steroid abuse creates a hormone imbalance that can have several paradoxical effects. First, the androgenic functions result in excess virilization of multiple bodily systems. In the reproductive system, effects may include priapism (sustained, painful erections), painful urination, prostate enlargement, and prostate cancer. The chemical imbalance also signals the testes gland that it no longer needs to generate testosterone. The testicles accordingly shrink, leading to lowered sperm production, impotence, and possible sterility. The steroids eventually break down into estradiol, a female sex hormone, resulting in gynecomastia (enlarged breasts) that may be permanent even in the event of discontinued abuse (Hoffman and Ratamess 2006).

Girls and women. The androgenic effects of steroids are even more marked in female abusers, since women normally have less testosterone than men. Excess virilization of the reproductive system takes the form of clitoromegaly (enlarged clitoris), breast tissue shrinkage, and reproductive abnormalities. Steroid use has been linked to amenorrhea (loss of menstrual periods), cervical cancer, endometrial cancer, and infertility; moreover, use during pregnancy can affect the developing fetus, leading to mental retardation or pseudohermaphroditism. Further masculinizing effects may include deepened voice and a fat-to-muscle ratio that is abnormally low for women (Gruber and Pope 2000). Most of these effects are likely to be permanent, although a few (e.g., amenorrhea) may be reversed if steroid use is discontinued (Kutscher et al. 2002).

All steroid abusers. Regardless of gender, steroid abusers are subject to changing patterns of hair growth, including male pattern baldness and hirsutism (increased growth of facial and body hair). Increased oiliness of the skin leads to cysts and severe acne, particularly on the back and upper arms. More serious than these largely cosmetic effects, abusers risk impaired liver function from jaundice, cancer, and potentially fatal cysts in the liver. Cancerous tumors may also occur in the kidneys. In addition to fluid retention and general weakening of the immune system, elevated blood pressure and LDL (“bad”) cholesterol and decreased HDL (“good”) cholesterol may contribute to cardiovascular dysfunction, including blood clots, strokes, atherosclerosis, and heart attacks (Hatton et al. 2014; Hoffman et al. 2009). The most severe side effects, those with a measurable impact on mortality risk, are relatively uncommon.

For injection steroid abusers, a final category of physical risk stems from the use of nonsterile injection techniques, contaminated needle sharing, or use of illegal steroids manufactured under unsanitary conditions. At minimum, resulting infections can cause pain and abscesses at the injection site; at worst, infections such as HIV, hepatitis B and C, and bacterial endocarditis can be life threatening (NIDA 2006).

Psychological consequences of steroid abuse are more controversial in part because the

phenomenon of “roid rage” has been sensationalized (and to some extent mischaracterized) in popular media reports. The emerging evidence regarding the impact of these substances on brain development and subsequent aggression is strongly suggestive of a causal link (Cunningham et al. 2013; Hildebrandt et al. 2014). Reports of increased aggression are widely documented, often manifesting in violent or criminal behavior. In addition, steroid abusers variably report extreme mood swings ranging from depression to euphoria, altered libido, irritability, anxiety, distractibility, forgetfulness, and confusion (Hall et al. 2005; Pope and Katz 1994). In infrequent cases, paranoia, delusions, and other psychoses may severely impair normal functioning (Bahrke et al. 1998; Su et al. 1993). These effects are generally reversible and for the most part are not severe enough to require clinical treatment. Their incidence and strength depend on the composition and dosage of the steroid used.

There is some evidence to suggest that at least for some abusers, steroids may be addictive. Because steroid use is motivated not by an immediate psychoactive high but by a long-term, delayed goal or reward, some of the clinical criteria used to define drug dependence (e.g., steadily increasing the dosage taken over time or giving up other life activities to pursue drug access) may not precisely apply (Kanayama et al. 2009). However, many steroid abusers continue to use steroids despite negative physical, psychological, or social consequences, and users may experience withdrawal symptoms upon discontinuation (Brower 2002). Cessation of steroid use can be associated with depression, fatigue, loss of appetite, restlessness, insomnia, reduced libido, headache, or muscle and joint pain (USDOJ 2004; Wood 2006).

Prevalence of Adolescent Steroid Abuse

Adolescent steroid abuse is relatively uncommon. According to the Centers for Disease Control and Prevention’s Youth Risk Behavior Survey (YRBS), in 2013, 3.2% of all US high school students reported that they had ever taken steroid

pills or shots without a doctor's prescription (Kann et al. 2014). Other sources suggest a somewhat lower prevalence. The most recent findings from the Monitoring the Future (MTF) study (which serves as a primary source of US government estimates of adolescent drug use) indicate a combined lifetime steroid abuse rate of 1.5% for US 8th, 10th, and 12th grade students in 2015 (Johnston et al. 2016).

Most sources agree that steroid abuse, once largely the purview of elite athletes, began to make the transition to mainstream abuse in the 1980s. Illicit use of these drugs by adolescents increased markedly during the 1990s, peaked in the early 2000s, and has since declined somewhat. For example, according to the CDC, overall illicit steroid use by US high school students increased from a low of 2.7% in 1991 to a peak of 6.1% in 2003 before declining to current levels. Grade-specific, annual abuse rates over time, provided by the MTF study, confirm this general pattern. For example, the prevalence of past-year steroid abuse by high school seniors more than doubled between 1992 (1.1%) and 2004 (2.5%) before dropping to 1.7% in 2015.

Current declines in steroid abuse by adolescents may be accompanied by parallel declines in abuse by college athletes. In a series of studies conducted by the National Collegiate Athletic Association, self-admitted steroid use fell from 4.9% in 1989 (Anderson et al. 1993) to 1.5% in 2001 (National Collegiate Athletic Association [NCAA] 2001), 1.2% in 2005 (DeHass 2006), and 0.4% in 2009 (Bracken 2012), the most recent data available. However, these studies also highlighted a potential trend toward earlier initiation among those who do use performance-enhancing drugs.

Demographics of Adolescent Steroid Abuse

Teenage boys are significantly more likely than teenage girls to abuse steroids (Kann et al. 2014), and this gap tends to increase over the course of adolescence. In the MTF study, 10th grade boys were more than twice as likely as their female

counterparts ever to have used these drugs, and 12th grade boys were more than three times as likely to have done so (Johnston et al. 2016). Most researchers also continue to find much higher adult male/female use ratios (Pope et al. 2014). Although conventional wisdom therefore views this public health problem through a primarily masculine lens, it is notable that in national estimates, the trajectory of girls' steroid use has not declined as swiftly as the trajectory of boys' use over the past decade. In fact, self-reported male and female rates among 8th graders in the MTF study are now the same (Johnston et al. 2016).

Steroid abuse also varies by race and ethnicity, geographic region, and age. Hispanic adolescents report higher incidence of lifetime steroid abuse (4.2%) than white or Black adolescents (2.8% and 2.3%, respectively). The intersection of gender, race, and ethnicity reveals predictable patterns of steroid abuse, with rates highest for Hispanic boys (5.0%) and Hispanic girls (3.6%) and lowest for Black boys (3.3%) and Black girls (1.3%). The reasons for these differences are as yet unclear (Kann et al. 2014). Regionally, the highest lifetime rates of steroid abuse are found in the Northeast, somewhat lower rates in the Midwest, and the lowest rates in the South and West.

There is some evidence to suggest that the prevalence of steroid abuse declines with age; high school seniors report markedly higher rates than young adults aged 19–28 (Johnston et al. 2015). In contrast, some studies of adult users have found that the average age of onset for this behavior is in the mid-20s, with fewer than one in four users initiating before age 20 (Cohen et al. 2007; Pope et al. 2014). One way to reconcile these conflicting findings would be if most adolescent users are short-term experimenters only, who discontinue their steroid use after a relatively brief period and thus do not qualify for studies of adult users. A second possibility is that adolescents are more likely than adults to provide “false positive” responses when asked about steroid use, partly in confusion over the appropriate classification of over-the-counter nutritional supplements or corticosteroids, so that estimates are somewhat inflated at younger ages (Kanayama et al. 2007).

Motivations for Adolescent Steroid Abuse

Adolescents generally abuse steroids for one or more of the following three reasons: to enhance athletic performance, to improve physical appearance, or to cope with physical or sexual trauma. In addition, steroid use often occurs within the context of a broader constellation of problem behaviors.

Unlike most of the forms of substance abuse, steroid abuse is more likely to be committed by “occupational abusers” seeking a practical advantage in the commission of their work or vocational activities than by recreational users seeking a psychoactive high. Body builders, athletes, and fitness enthusiasts are well known to be at risk for steroid abuse, since this practice can enhance physical performance when combined with a rigorous exercise regimen. Construction workers, manual laborers, or firefighters and emergency services personnel may seek to enhance their physical strength; security or prison guards, law enforcement officers, or armed services personnel may seek to facilitate physical intimidation or aggression; actors or models may seek to promote the appearance of a well-defined physique (USDOJ 2004; Evans-Brown and McVeigh 2008; Hoberman 2015; Humphrey et al. 2008; Turvey and Crowder 2015).

Like adults, many adolescents abuse steroids in order to improve their athletic performance, with participants in strength-oriented sports and especially body builders at the highest risk. However, there is growing recognition in the research community that some abusers are motivated by other reasons (Sagoe et al. 2014; Wichstrom and Pedersen 2001). Pop culture and media images promote standards of beauty and fitness for both genders that can be difficult for most people to attain (Field et al. 2005). Adolescents are particularly vulnerable to the stigma associated with failure to meet these aesthetic standards. Some suffer additionally from a behavioral syndrome known as body dysmorphia or muscle dysmorphia, characterized by a severely distorted body image. Galvanized by an exaggerated perception of themselves as small, weak, or flabby, these adolescents may

respond by taking extreme measures to increase their muscle size (particularly boys) and/or reduce body fat (particularly girls), including disordered eating (Irving et al. 2002) and body-shaping drug use (Goldfield 2009; Rohman 2009).

Survivors of abuse or assault may also react to the traumatic experience by striving to enhance their own physical strength and size. Male weight lifters who abuse steroids are significantly more likely than their non-abusing peers to have been physically or sexually abused as children (Porcerelli and Sandler 1998; Skarberg and Engstrom 2007). This motivation may have particular relevance for women who have been sexually assaulted. One study of female weight lifters found that 13% had been raped as teenagers or adults; more than half of the rape survivors subsequently began abusing steroids or other anabolic drugs in order to gain muscle mass for self-defense (Gruber and Pope 1999). Bulking up provides a deterrent to future attacks by making the more physically competent and intimidating prospective victim a less inviting target.

Adolescent steroid abuse sometimes occurs as part of a broader pattern of problem behaviors (DiClemente et al. 2014). Among both girls (Elliot et al. 2007) and boys (Hallgren et al. 2015; Kindlundh et al. 2001), steroid users report higher rates of smoking (McCabe et al. 2007; Yesalis et al. 1993), problem drinking (Miller et al. 2005), illicit substance use (DuRant et al. 1993), unsafe sex (DiClemente et al. 2014), interpersonal violence (Beaver et al. 2008), suicidal ideation and/or behavior (Miller et al. 2002), and vehicular risk-taking (McCabe et al. 2007), as well as disordered eating and other forms of pathogenic weight control behavior (Irving et al. 2002). The co-occurrence of steroid abuse with such a variety of health-compromising activities may seem counterintuitive, since conventionally steroids are taken in order to improve physical performance and/or appearance. However, clusters of problem behaviors may play a common role in the social ecology of adolescent life; they tend to be learned together and are normatively expected to be performed together, with the primary purpose of asserting adult status and securing the approval of one’s peers (Jessor and Jessor

1977; Jessor 1992). Within this developmental context, steroids may effectively be interchangeable with other illicit drugs. In addition, given elevated rates of past steroid abuse among at least one sample of adult male drug addicts, some researchers have questioned whether steroid use may increase susceptibility to dependence on other drugs (Kanayama et al. 2003).

Legal and Historical Context of Steroid Abuse

First synthesized in the 1930s, reports of non-medical use of anabolic steroids in the United States go back as far as the 1950s when professional weight lifters and other strength-oriented elite athletes began using them to increase muscle mass and enhance performance (AAP 1997). By the late 1960s, steroid use by Olympic athletes had spread from strength and power sports to events emphasizing speed, agility, and endurance, becoming so prevalent that they were ironically nicknamed the “breakfast of champions” by the editor of *Track & Field News* (Hendershott 1969). Increasingly widespread use in Olympic, professional, and collegiate sports throughout the 1960s and 1970s (Todd 1987) led to increasing concern about the health effects of these drugs as well as the ethical implications of their use in competitions. Still, disagreements over the effectiveness of steroids on performance as well as technical difficulties with effective detection delayed serious enforcement of drug testing or sanctions until the early 1980s (Hoffman et al. 2009). Not until the 1988 Seoul Olympics, when champion sprinter Ben Johnson was stripped of his gold medal after testing positive for stanozolol, did the issue achieve international recognition as a serious social problem.

The US government soon banned the distribution or possession of anabolic-androgenic steroids for nonmedical reasons (Anabolic Steroids Control Act 1990). By this time, however, steroid abuse had begun to spread beyond the elite sports world, and nonathletes in search of body enhancement joined the black market for illegal steroids in large numbers. Many users commonly obtained

drugs smuggled from other countries, diverted from pharmacies, or produced in black market laboratories. Others sought legal alternatives to the drugs now on the banned list, including human growth hormone, steroid precursors such as Andro, or new “designer” steroids such as THG (tetrahydrogestrinone) (Rhea et al. 2008).

Steroid abuse by nonathletes, adolescents, and women continued to rise throughout the 1980s and 1990s, but this form of drug abuse remained inextricably linked to the world of sports. Thus the pattern of escalation continued unabated until the issue was reintroduced to the public spotlight with the 2003 Bay Area Laboratory Cooperative (BALCO) scandal, which exposed the continuing problem of sports doping via designer steroids. A subsequent, second round of hearings and new legislation (Anabolic Steroids Control Act 2004) added 26 new steroids and steroid precursors to the existing list of controlled substances (Hoffman et al. 2009), and more recently the Designer Anabolic Steroid Control Act (2014) expanded the definition further to include a number of specific over-the-counter body-building products containing synthetic testosterone. Nevertheless, new doping scandals arise on a near-annual basis: a title stripped from Tour de France winner Floyd Landis in 2006 (Macur 2007), gold-medalist runner Marion Jones’ 2007 admission of steroid abuse during the Sydney Olympic Games (Schmidt 2007), the release of the Mitchell Report documenting endemic abuse in professional US baseball (Mitchell 2007), and the stripping of Lance Armstrong’s seven Tour de France titles after his admission of long-term doping (USADA 2012). The public commentary surrounding these events has strongly emphasized the ethical implications of using steroids to gain an unfair advantage over one’s opponents, while simultaneously casting steroid abuse in the context of illicit drug use rather than physical enhancement via dietary supplementation. Perhaps as a result of this narrative framing, rates of adolescent steroid abuse have fallen somewhat in recent years. Whether this trend will continue remains to be seen.

Steroid abuse has been widely condemned by both health experts and professional sports

organizations, for reasons of both safety and fairness. The American Academy of Pediatrics' Committee on Sports Medicine and Fitness (AAP 2005), the American College of Sports Medicine (1987), the National Strength and Conditioning Association (Hoffman et al. 2009), the National Athletic Trainers' Association (Kersey et al. 2012), and the National Institute on Drug Abuse (NIDA 2006) have all issued position stands indicating that this practice is dangerous because of the risk of adverse immediate or long-term physiological and psychological effects. Nonmedical use of steroids has also been banned by the International Olympic Committee, National Collegiate Athletic Association, National Football League, National Basketball Association, Major League Baseball, National Hockey League, and most other major amateur or professional sports organizations (Hoffman et al. 2009).

Steroids are classified as a Schedule III drug with limited medicinal use, like narcotic painkillers and barbiturates (Anabolic Steroids Control Act 1990, 2004). Possession without a valid prescription is punishable by up to a year in prison and a fine of \$1000. Trafficking (sale or possession with intent to sell) is punishable by up to 5 years in prison and a \$250,000 fine. In both instances, penalties escalate for repeat offenses (Yeh 2015). Some states have supplemented the federal status with additional fines and penalties of their own. Steroid-related criminal convictions may also result in educational or employment consequences; for example, students may lose access to financial aid or health professionals may lose their medical licenses (Hoffman et al. 2009).

Prevention/Intervention Strategies Against Adolescent Steroid Abuse

Adolescent steroid abuse is an ongoing and intractable public health problem. The Healthy People 2020 initiative has identified this problem as a national priority, targeting a 10% reduction in prevalence (USDHHS 2013). Strategies both

past and present for achieving such a reduction have varied.

Educational approaches. Early efforts to reduce steroid abuse through education were largely a failure. Until the early 1980s, prevailing medical opinion denied the muscle-building and performance-enhancing effects of these drugs (Hoffman and Ratamess 2006). The serious loss of credibility associated with this denial was further exacerbated by prevention efforts that emphasized didactic discussions (that failed to address the practical experiences of current users) and scare tactics (exaggerating the frequency of the most serious negative side effects) (Barnes 2006). Already skeptical athletes and body builders dismissed these warnings as propaganda and relied on word-of-mouth and later Internet sources of black market drugs and information, creating a subcultural knowledge base comprised of individual observations and rumors (Pope et al. 2004; Todd 1987). Contemporary adolescents seeking access to steroids may turn to this subculture rather than unsympathetic health professionals. Even when the information presented is both accurate and balanced, educational programs alone are not sufficient to change immediate or long-term drug-related behavior (NIDA 2006). Biased or selective educational presentations ("scare tactics") are counterproductive in that they may actually increase the likelihood of abuse (Goldberg et al. 1991a, b).

Punitive approaches. Most current strategies for preventing steroid abuse in professional or collegiate sports are punitive. Oversight organizations (IOC, NCAA, NFL, etc.) use urinalysis to detect steroid abuse, including random testing out of season (USDOJ 2004). Penalties for a positive test may include fines, stripping of titles or awards, or temporary or permanent loss of playing privileges (AAP 2005). However, even at the elite level drug testing remains controversial. Urine-based drug tests can be made to yield false positives with the aid of masking agents, and blood-based drug tests are generally rejected as unacceptably invasive even at the Olympic level. Although the Supreme Court has declared random drug testing of student-athletes to be

constitutional (*Vernonia School District 47J v. Acton* 1995; *Board of Education v. Earls* 2002), few school districts do so (NIDA 2006); the practice has met with considerable resistance on grounds of safety, feasibility, and civil liberties (Bahrke 2015; Levy and Schizer 2015). The effectiveness of steroid testing for adolescents has not yet been thoroughly evaluated and preliminary results have been inconsistent (DuPont et al. 2013; Goldberg et al. 2007). One concern is that these programs may fail to deter steroid use and conversely may promote or reinforce the perceived effectiveness of steroids as body-shaping or performance-enhancing aids.

Integrated approaches. The most promising interventions to date have been multicomponent programs that combine drug education, drug refusal skills enhancement, and peer pressure. The Athletes Training and Learning to Avoid Steroids (ATLAS) program uses a team-centered, partly peer-led curriculum to provide male adolescent athletes with training in exercise, nutrition, and communications skills as well as education about the effects of steroid abuse. Evaluations have shown that participation in the ATLAS program is associated with reduced intentions to use steroids, lower odds of new steroid use, and reduced use of other illicit drugs (Goldberg et al. 2000). ATLAS' sister program Athletes Targeting Healthy Exercise and Nutrition Alternatives (ATHENA) employs a similar approach to the prevention of disordered eating and abuse of steroids and other body-shaping drugs in adolescent female athletes (Elliot et al. 2006). The ATLAS curriculum in particular has been endorsed by the National Institute on Drug Abuse (NIDA 2006), the US Department of Education (U.S. Department of Education 2001), and the National Strength and Conditioning Association (Barnes 2006). However, even these exemplary intervention strategies are limited in their efficacy, since they apply only to participants in organized sports and have not been demonstrated to reduce steroid use in the long term (GAO 2007).

Other approaches. Although few other coherent prevention or intervention strategies have yet

been tested, review of the existing literature suggests several avenues with potential promise. Adolescent access to illicit steroids might be reduced through more effective policing of the web-based black market or more stringent protocols to prevent inappropriate prescription by clinicians (Rhea et al. 2008). Recognition of the close association between steroid abuse and other problem behaviors militates in favor of supplemental interventions tailored to at-risk adolescent nonathletes (DiClemente et al. 2014; Miller et al. 2005). Alternatively, given the powerful cultural incentives (e.g., aesthetic or competitive norms) to continue abusing steroids despite potential adverse consequences, some researchers have called for a harm-reduction approach. Under this philosophy health practitioners would provide nonjudgmental guidance in minimizing the dangers of steroid abuse, such as sterile needles, small doses, short cycles, and self-monitoring for serious side effects (Evans-Brown and McVeigh 2008).

References

- American Academy of Pediatrics [AAP], Committee on Sports Medicine and Fitness. (1997). Adolescents and anabolic steroids: A subject review. *Pediatrics*, 99, 904–908.
- American Academy of Pediatrics [AAP], Committee on Sports Medicine and Fitness. (2005). Policy statement: Use of performance-enhancing substances. *Pediatrics*, 115, 1103–1106.
- American College of Sports Medicine. (1987). Position stand on the use of anabolic-androgenic steroids in sports. *Medicine & Science in Sports & Exercise*, 19, 534–539.
- Anabolic Steroids Control Act of 1990, Pub. L. No. 101-647, 101 Stat. 4789 (1990).
- Anabolic Steroids Control Act of 2004, Pub. L. No. 108-358, 118 Stat. 1661 (2004).
- Anderson, W. A., Albrecht, M. A., & McKeag, D. B. (1993). *Second replication of a national study of the substance use and abuse habits of college student-athletes*. Mission: National Collegiate Athletic Association.
- Bahrke, M. S. (2015). Drug testing U.S. student-athletes for performance-enhancing substance misuse: A flawed process. *Substance Use & Misuse*, 50, 1144–1147.
- Bahrke, M. S., Yesalis, C. E., & Brower, K. J. (1998). Anabolic-androgenic steroid abuse and performance-enhancing drugs among adolescents. *Child and*

- Adolescent Psychiatric Clinics of North America*, 7, 821–838.
- Barnes, M. (2006). Anabolic steroids: Education and awareness. *NSCA's Performance Training Journal*. Available online at <https://www.nasca.com/WorkArea/DownloadAsset.aspx?id=3417>
- Beaver, K. M., Vaughn, M. G., DeLisi, M., & Wright, J. P. (2008). Anabolic-androgenic steroid use and involvement in violent behavior in a nationally representative sample of young adult males in the United States. *American Journal of Public Health*, 98, 2185–2186.
- Board of Education of Independent School District 92 of Pottawatomie County v. Earls*. 536 U.S. 822 (2002).
- Bracken, N. M. (2012). *National study of substance use trends among NCAA college student-athletes*. Indianapolis: National College Athletic Association.
- Brower, K. J. (2002). Anabolic steroid abuse and dependence. *Current Psychiatric Reports*, 4, 377–387.
- Cohen, J., Collins, R., Darkes, J., & Gwartzney, D. (2007). A league of their own: Demographics, motivations and patterns of use of 1,955 male adult non-medical anabolic steroid users in the United States. *Journal of the International Society of Sports Nutrition*, 4, 12.
- Cunningham, R. L., Lumia, A. R., & McGinnis, M. Y. (2013). Androgenic anabolic steroid exposure during adolescence: Ramifications for brain development and behavior. *Hormones and Behavior*, 64, 350–356.
- DeHass, D. M. (2006). *NCAA study of substance use of college student-athletes*. Indianapolis: National College Athletic Association.
- Designer Anabolic Steroid Control Act of 2014, Pub. L. No. 113-260 (2014).
- DiClemente, R. J., Jackson, J. M., Hertzberg, V., & Seth, P. (2014). Steroid use, health risk behaviors and adverse health indicators among U.S. high school students. *Family Medicine & Medical Science Research*, 3, 127.
- DuPont, R. L., Merlo, L. J., Arria, A. M., & Shea, C. L. (2013). Random student drug testing as a school-based drug prevention strategy. *Addiction*, 108, 839–845.
- DuRant, R. H., Rickert, V. I., Ashworth, C. S., Newman, C., & Slavens, G. (1993). Use of multiple drugs among adolescents who use anabolic steroids. *New England Journal of Medicine*, 328, 922–926.
- Elliot, D. L., Moe, E. L., Goldberg, L., DeFrancesco, C. A., Durham, M. B., & Hix-Small, H. (2006). Definition and outcome of a curriculum to prevent disordered eating and body-shaping drug use. *Journal of School Health*, 76, 67–73.
- Elliot, D. L., Cheong, J., Moe, E. L., & Goldberg, L. (2007). Cross-sectional study of female students reporting anabolic steroid use. *Archives of Pediatric and Adolescent Medicine*, 161, 572–577.
- Evans-Brown, M. J., & McVeigh, J. (2008). An introduction to anabolic steroids. *SportEX Medicine*, 38, 20–26.
- Field, A. E., Austin, S. B., Camargo, C. A., Taylor, C. B., Striegel-Moore, R. H., Loud, K. J., et al. (2005). Exposure to the mass media, body shape concerns, and use of supplements to improve weight and shape among male and female adolescents. *Pediatrics*, 116, e214–e220.
- Goldberg, L., Bents, R. T., Bosworth, E. E., Trevisan, L., & Elliot, D. L. (1991a). Anabolic steroid education and adolescents: Do scare tactics work? *Pediatrics*, 87, 283–286.
- Goldberg, L., Elliot, D. L., Bosworth, E., & Bents, R. (1991b). Boomerang effects of drug education programs. *Pediatrics*, 88, 1079.
- Goldberg, L., Elliot, D. L., MacKinnon, D. P., Moe, E. L., Kuehl, K. S., Yoon, M., Taylor, A., & Williams, J. (2007). Outcomes of a prospective trial of student-athlete drug testing: The Student Athlete Testing Using Random Notification (SATURN) study. *Journal of Adolescent Health*, 41, 421–429.
- Goldberg, L., MacKinnon, D. P., Elliot, D. L., Moe, E. L., Clarke, G., & Cheong, J. (2000). The adolescents training and learning to avoid steroids program: Preventing drug use and promoting health behaviors. *Archives of Pediatric and Adolescent Medicine*, 154, 332–338.
- Goldfield, G. S. (2009). Body image, disordered eating and anabolic steroid use in female bodybuilders. *Eating Disorders*, 17, 200–210.
- Gruber, A. J., & Pope, H. G. (1999). Compulsive weight lifting and anabolic drug abuse among women rape victims. *Comprehensive Psychiatry*, 40, 273–277.
- Gruber, A. J., & Pope, H. G. (2000). Psychiatric and medical effects of anabolic-androgenic steroid use in women. *Psychotherapy and Psychosomatics*, 69, 19–26.
- Hall, R. C. W., Hall, R. C. W., & Chapman, M. J. (2005). Psychiatric complications of anabolic steroid abuse. *Psychosomatics*, 46, 285–290.
- Hallgren, M., Pope, H. G., Jr., Kanayama, G., Hudson, J. I., Lundin, A., & Källmén, H. (2015). Anti-social behaviors associated with anabolic-androgenic steroid use among male adolescents. *European Addiction Research*, 21, 321–326.
- Hatton, C. K., Green, G. A., & Ambrose, P. J. (2014). Performance-enhancing drugs. *Physical Medicine and Rehabilitation Clinics of North America*, 25, 897–913.
- Hendershott, J. (1969). Steroids: Breakfast of champions. *Track and Field News*, 22, 3.
- Hildebrandt, T., Langenbucher, J. W., Flores, A., Harty, S., & Berlin, H. (2014). The influence of age of onset and acute anabolic steroid exposure on cognitive performance, impulsivity, and aggression in men. *Psychology of Addictive Behaviors*, 28, 1096–1104.
- Hoberman, J. (2015). Police officers' use of anabolic steroids in the United States. In V. Moller, I. Waddington, & J. M. Hoberman (Eds.), *Routledge handbook of drugs and sport* (pp. 439–463). New York: Routledge.
- Hoffman, J. R., & Ratamess, N. A. (2006). Medical issues associated with anabolic steroid use: Are they exaggerated? *Journal of Sports Science and Medicine*, 5, 182–193.
- Hoffman, J. R., Kraemer, W. J., Bhasin, S., Storer, T., Ratamess, N. A., Haff, G. G., et al. (2009). National Strength and Conditioning Association. Position stand on androgen and human growth hormone use. *Journal of Strength and Conditioning Research*, 23(5), S1–S59.

- Humphrey, K. R., Decker, K. P., Goldberg, L., Pope, H. G., Jr., Gutman, J., & Green, G. (2008). Anabolic steroid use and abuse by police officers: Policy & prevention. *The Police Chief*, 75(6), 66–70, 72, 74.
- Irving, L. M., Wall, M., Neumark-Sztainer, D., & Story, M. (2002). Steroid use among adolescents: Findings from Project EAT. *Journal of Adolescent Health*, 30, 243–252.
- Jessor, R. (1992). Risk behavior in adolescence: A psychosocial framework for understanding and action. *Developmental Review*, 12, 374–390.
- Jessor, R., & Jessor, S. L. (1977). *Problem behavior and psychosocial development*. New York: Academic.
- Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Miech, R. A. (2015). *Monitoring the Future national survey results on drug use, 1975–2014: volume 2, College students and adults ages 19–55*. Ann Arbor: Institute for Social Research, The University of Michigan.
- Johnston, L. D., O'Malley, P. M., Miech, R. A., Bachman, J. G., & Schulenberg, J. E. (2016). *Monitoring the Future national results on adolescent drug use, 1975–2015: Overview, key findings on adolescent drug use*. Ann Arbor: Institute for Social Research, The University of Michigan.
- Kanayama, G., Boynes, M., Hudson, J. I., et al. (2007). Anabolic steroid abuse among teenage girls: An illusory problem? *Drug and Alcohol Dependence*, 88, 156–162.
- Kanayama, G., Brower, K. J., Wood, R. I., Hudson, J. I., & Pope, H. G., Jr. (2009). Issues for DSM-V: Clarifying the diagnostic criteria for anabolic-androgenic steroid dependence. *American Journal of Psychiatry*, 166, 642–644.
- Kanayama, G., Cohane, G. H., Weiss, R. D., & Pope, H. G. (2003). Past anabolic-androgenic steroid use among men admitted for substance abuse treatment: An underrecognized problem? *Journal of Clinical Psychiatry*, 64, 156–160.
- Kann, L., Kinchen, S., Shanklin, S., Flint, K., Hawkins, J., Harris, W., et al. (2014). Youth risk behavior surveillance – United States, 2013. *MMWR Surveillance Summaries*, 63(SS04), 1–172. Available online at <http://www.cdc.gov/mmwr/pdf/ss/ss6304.pdf>
- Kersey, R. D., Elliot, D. L., Goldberg, L., Kanayama, G., Leone, J. E., Pavlovich, M., & Pope, H. G., Jr. (2012). National Athletic Trainers' Association position statement: Anabolic-androgenic steroids. *Journal of Athletic Training*, 47, 567–588.
- Kindlundh, A. M. S., Hagekull, B., Isacson, D. G. L., & Nyberg, F. (2001). Adolescent use of anabolic-androgenic steroids and relations to self-reports of social, personality and health aspects. *European Journal of Public Health*, 11, 322–328.
- Kutscher, E., Lund, B. C., & Perry, P. J. (2002). Anabolic steroids: A review for the clinician. *Sports Medicine*, 32(5), 285–296.
- Levy, S., & Schizer, M. (2015). Adolescent drug testing policies in schools. Technical report to the American Academy of Pediatrics. *Pediatrics*, 135, e1107–e1112.
- Macur, J. (2007, September 21). Landis's positive doping test upheld. *New York Times*. Available online at <http://www.nytimes.com/2007/09/21/sports/sportsspecial1/21landis.html>
- McCabe, S. E., Brower, K. J., West, B. T., Nelson, T. F., & Wechsler, H. (2007). Trends in non-medical use of anabolic steroids by U.S. college students: Results from four national surveys. *Drug and Alcohol Dependence*, 90, 243–251.
- Miller, K. E., Barnes, G. M., Sabo, D. F., Melnick, M. J., & Farrell, M. P. (2002). Anabolic-androgenic steroid use and other adolescent problem behaviors: Rethinking the male athlete assumption. *Sociological Perspectives*, 45, 467–489.
- Miller, K. E., Hoffman, J. H., Barnes, G. M., Sabo, D., Melnick, M. J., & Farrell, M. P. (2005). Adolescent anabolic steroid use, gender, physical activity, and other problem behaviors. *Substance Use & Misuse*, 40, 1637–1657.
- Mitchell, G. J. (2007). *Report to the commissioner of baseball of an independent investigation into the illegal use of steroids and other performance enhancing substances by players in major league baseball*. Available online at <http://files.mlb.com/mitchrpt.pdf>
- National Collegiate Athletic Association. (2001). *NCAA study of substance use habits of college student-athletes*. Indianapolis: National College Athletic Association.
- National Institute on Drug Abuse. (2006). *Research report: Anabolic steroid abuse* (NIH Publication No. 06-3721). Bethesda: National Institute on Drug Abuse.
- National Institute on Drug Abuse. (2016). *DrugFacts: Anabolic steroids*. Available online at <https://www.drugabuse.gov/publications/drugfacts/anabolic-steroids>
- Pope, H. G., Kanayama, G., Athey, A., Ryan, E., Hudson, J. I., & Baggish, A. (2014). The lifetime prevalence of anabolic-androgenic steroid use and dependence in Americans: Current best estimates. *American Journal on Addictions*, 23, 371–377.
- Pope, H. G., Kanayama, G., Ionescu-Pioggia, M., & Hudson, J. I. (2004). Anabolic steroid users' attitudes towards physicians. *Addiction*, 99, 1189–1194.
- Pope, H. G., & Katz, D. L. (1994). Psychiatric and medical effects of anabolic-androgenic steroid use: A controlled study of 160 athletes. *Archives of General Psychiatry*, 51, 375–382.
- Porcerelli, J. H., & Sandler, B. A. (1998). Anabolic-androgenic steroid abuse and psychopathology. *Psychiatric Clinics of North America*, 21, 829–833.
- Rhea, M., Cabezuolo, P. J. M., Peterson, M., Alexander, J. L., Potenziano, B., Bunker, D. J., et al. (2008). Anabolic steroids. *Clinician Reviews*, 18(11), 26–31.
- Rohman, L. (2009). The relationship between anabolic androgenic steroids and muscle dysmorphia: A review. *Eating Disorders*, 17, 187–199.
- Sagoe, D., Andreassen, C. S., & Pallesen, S. (2014). The aetiology and trajectory of anabolic-androgenic steroid use initiation: A systematic review and synthesis of

qualitative research. *Substance Abuse Treatment, Prevention, and Policy*, 9, 27.

- Schmidt, M. S. (2007, October 9). Jones hands over her Olympic medals. *New York Times*. Available online at http://www.nytimes.com/2007/10/09/sports/othersports/09track.html?_r=1
- Skarberg, K., & Engstrom, I. (2007). Troubled social background of male anabolic-androgenic steroid abusers in treatment. *Substance Abuse Treatment and Prevention Policy*, 2, 20.
- Su, T.-P., Pagliaro, M., Schmidt, P. J., Pickar, D., Wolkowitz, O., & Rubinow, D. R. (1993). Neuropsychiatric effects of anabolic steroids in male normal volunteers. *JAMA*, 269(21), 2760–2764.
- Todd, T. (1987). Anabolic steroids: The gremlins of sport. *Journal of Sport History*, 14, 87–107.
- Turvey, B. E., & Crowder, S. (2015). *Anabolic steroid abuse in public safety personnel: A forensic manual*. Boston: Academic.
- U.S. Anti-Doping Agency [USADA]. (2012). *Reasoned decision of the United States Anti-Doping Agency on disqualification and ineligibility of Lance Armstrong*. Colorado Springs: USADA.
- U.S. Department of Education [USDOE], Office of Special Educational Research and Improvement, Office of Reform Assistance and Dissemination. (2001). *Safe, disciplined, and drug-free schools programs*. Washington, DC: USDOE.
- U.S. Department of Health and Human Services [USDHHS], Office of Disease Prevention and Health Promotion. (2013). *Healthy people 2020*. Washington, DC: USDHHS.
- U.S. Department of Justice [USDOJ], Drug Enforcement Administration, Office of Diversion Control. (2004). *Steroid abuse in today's society*. Washington, DC: USDOJ.
- U.S. Government Accountability Office. (2007). *Anabolic steroid abuse: Federal efforts to prevent and reduce anabolic steroid use among teenagers*. GAO-08-15. Report to the Committee on Oversight and Government Reform, House of Representatives.
- Vernonia School District 47J v. Acton*. 115 S. Ct. 2386 (1995).
- Wichstrom, L., & Pedersen, W. (2001). Use of anabolic-androgenic steroids in adolescence: Winning, looking good or being bad? *Journal of Studies on Alcohol*, 62, 5–13.
- Wood, R. I. (2006). Anabolic steroids: A fatal attraction? *Journal of Neuroendocrinology*, 18, 227–228.
- Yeh, B. (2015). *Drug offenses: Maximum fines and terms of imprisonment for violation of the Federal Controlled Substances Act and related laws*. Congressional Research Service report RL30722.
- Yesalis, C. E. (Ed.). (2000). *Anabolic steroids in sport and exercise* (2nd ed.). Champaign: Human Kinetics.
- Yesalis, C. E., Kennedy, N. J., Kopstein, A. N., & Bahrke, M. S. (1993). Anabolic-androgenic steroid use in the United States. *JAMA*, 270(10), 1217–1221.

Stigmatization

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Overview

Stigmatization refers to the development of biases against a person or group due to some of their characteristics that distinguish them from others. Those characteristics tend to be deemed problematic by those who stigmatize and also by those who feel stigmatization regardless of whether others are stigmatizing them. Much of this area of study, then, focuses on perceptions as well as, increasingly, ways to change them. In the study of adolescence, much of the research on stigmatization has focused on mental illnesses and how negative perceptions limit adolescents' ability to address their needs. Yet, there are important developments in other forms of stigmatization, with some forms that have been identified for quite some time but that now appear to be more deeply and broadly investigated.

The Nature of Stigmatization

Stigmatization involves the process of branding, labeling, or otherwise singling out individuals to signify their difference. Stigmatization manifests itself through discriminatory attitudes and stereotypes attached to labels that foster devaluing, discrediting, marginalizing, disempowering or excluding, and rejecting individuals (Goffman 1963). The process is of significance to the study of adolescence in that it relates directly to how adolescents can feel about themselves, how others treat them, and how they can seek and receive assistance to counter the negative effects of stigma.

The major source of research relating to stigmatization comes from research on mental health. The general conclusion that emerges from that research is that fear of being stigmatized remains

the most cited reason individuals, especially adolescents, avoid psychotherapy and other ways to receive assistance (Vogel et al. 2009). That research reveals that stigma evoked by mental illness results in significant consequences for the self-concept, quality of life, and economic opportunities of youth suffering from mental disorders (Pescosolido et al. 2007).

Although the stigma of mental illness and its negative effects has been shown to be pervasive in adolescents and to interfere with treatment and overall life quality, research remains undeveloped in many ways. For example, a leading model of mental health stigma adopts a tripartite conceptualization that views stigma as composed of three interrelated constructs: stereotypes, prejudice, and discrimination (Corrigan and Watson 2002). Yet, it until recently was not assessed in an adolescent population (see Silke et al. 2016). In addition, strategies for reducing stigma have been shown to promote help seeking for those with mental illnesses (see Romer and Bock 2008). Despite the understanding that stigma is the major barrier to the use of mental health and other services among youth, there continues to be limited research on this topic (Hinshaw 2005; Chandra and Minkovitz 2007). Studies of interventions specifically focusing on adolescents reveal that the most popular programs to reduce mental illness stigma by increasing health awareness are school based. Although reviews reveal that such studies do reveal improvement, they also conclude that existing studies generally lack empirical rigor (see Salerno 2016).

Expanding Research on Stigmatization

As researchers have been focused on mental illness and mental health, some have expanded research on stigmatization to new domains. For example, an important study examined how popular media sends stigmatizing messages about weight to adolescents (see Eisenberg et al. 2015). Others have explored the role of stigmatization and its impact on the psychological adjustment of adolescents with same-sex parents (van Gelderen et al. 2013). That area of research

actually has been emerging for quite some time. It complements research that addresses adolescent's stigmatization that comes with gender non-conformity (Van Beusekom et al. 2016), an area of research that also has long interested researchers focusing on adolescent sexual identity development (see Martin and Hetrick 1988). Others have sought to understand the nature of stigmatization of teen mothers and how to alleviate it (SmithBattle 2013; Smith et al. 2016). The stigmatization of young victims of sexual assault also has become an important area of research relating to adolescence (see Simon et al. 2016). And, it is important to highlight that research on stigmatization also has emerged to examine how it stifles gifted adolescents (Striley 2014) and how they manage the stigma of giftedness (Cross et al. 2014). If any conclusion about these areas of research can be had, it likely is that it is expanding dramatically as researchers increasingly pay attention to the harm that comes from stigmatization many aspects of adolescents' lives.

Conclusion

The study of stigmatization relating to adolescent development continues to grow quite dramatically. Some areas of study have attracted considerable attention, while some are now gaining recognition as researchers focus on adolescents' everyday experiences. Importantly, researchers have moved beyond the study of mental illness to study the nature and effects of other reasons for feeling stigmatized. Research also increasingly moves toward using that knowledge to develop effective intervention programs, which are increasing in effectiveness but still in need of research to identify the factors that ensure their effectiveness.

References

- Chandra, A., & Minkovitz, C. S. (2007). Factors that influence mental health stigma among 8th grade adolescents. *Journal of Youth and Adolescence, 36*, 763–774.
- Corrigan, P. W., & Watson, A. C. (2002). Understanding the impact of stigma on people with mental illness. *World Psychiatry, 1*(1), 16–20.

- Cross, T. L., Coleman, L. J., & Terhaar-Yonkers, M. (2014). The social cognition of gifted adolescents in schools: Managing the stigma of giftedness. *Journal for the Education of the Gifted*, 37(1), 30–39.
- Eisenberg, M. E., Carlson-McGuire, A., Gollust, S. E., & Neumark-Sztainer, D. (2015). A content analysis of weight stigmatization in popular television programming for adolescents. *International Journal of Eating Disorders*, 48(6), 759–766.
- Goffman, E. (1963). *Stigma: Notes on the management of spoiled identity*. Englewood Cliffs: Prentice Hall.
- Hinshaw, S. P. (2005). The stigmatization of mental illness in children and parents. *Journal of Child Psychology and Psychiatry*, 46, 714–734.
- Martin, A. D., & Hetrick, E. S. (1988). The stigmatization of the gay and lesbian adolescent. *Journal of Homosexuality*, 15(1–2), 163–183.
- Pescosolido, B. A., Perry, B., Martin, J., Mcleod, J., & Jensen, P. (2007). Stigmatizing attitudes and beliefs about treatment and psychiatric medications for children with mental illness. *Psychiatric Services*, 58, 613–618.
- Romer, D., & Bock, M. (2008). Reducing the stigma of mental illness among adolescents and young adults: The effects of treatment information. *Journal of Health Communication*, 13, 742–758.
- Salerno, J. P. (2016). Effectiveness of universal school-based mental health awareness programs among youth in the United States: A systematic review. *Journal of School Health*, 86(12), 922–931.
- Silke, C., Swords, L., & Heary, C. (2016). The development of an empirical model of mental health stigma in adolescents. *Psychiatry Research*, 242, 262–270.
- Simon, V. A., Feiring, C., & Cleland, C. M. (2016). Early stigmatization, PTSD, and perceived negative reactions of others predict subsequent strategies for processing child sexual abuse. *Psychology of Violence*, 6(1), 112.
- Smith, W., Turan, J. M., White, K., Stringer, K. L., Helova, A., Simpson, T., & Cockrill, K. (2016). Social norms and stigma regarding unintended pregnancy and pregnancy decisions: A qualitative study of young women in Alabama. *Perspectives on Sexual and Reproductive Health*, 48(2), 73–81.
- SmithBattle, L. I. (2013). Reducing the stigmatization of teen mothers. *MCN: The American Journal of Maternal/Child Nursing*, 38(4), 235–241.
- Striley, K. M. (2014). The stigma of excellence and the dialectic of (perceived) superiority and inferiority: Exploring intellectually gifted adolescents' experiences of stigma. *Communication Studies*, 65(2), 139–153.
- Van Beusekom, G., Bos, H. M., Kuyper, L., Overbeek, G., & Sandfort, T. G. (2016). Gender nonconformity and mental health among lesbian, gay, and bisexual adults: Homophobic stigmatization and internalized homophobia as mediators. *Journal of Health Psychology*, 1359105316643378.
- van Gelderen, L., Gartrell, N. N., Bos, H. M., & Hermanns, J. M. (2013). Stigmatization and promotive factors in relation to psychological health and life satisfaction of adolescents in planned lesbian families. *Journal of Family Issues*, 34(6), 809–827.
- Vogel, D. L., Wade, N. G., & Ascherman, P. L. (2009). Measuring perceptions of stigmatization by others for seeking psychological help: Reliability and validity of a new stigma scale with college students. *Journal of Counseling Psychology*, 56, 301–308.

Storm and Stress

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Overview

Adolescence has often been depicted as a period of “storm and stress,” a time in development in which trouble – with behavior, emotions, and relationships, especially with parents – is at a peak. Reasons for “storm and stress” have ranged from evolutionary considerations to hormones to accumulated life stresses. This entry reviews this conceptualization of “storm and stress,” evaluates current data relevant to “storm and stress” claims, and presents data suggesting that “storm and stress” expectations might contribute to actual or perceived “storm and stress.”

Storm and Stress Defined

Every essay on “storm and stress” begins with G. Stanley Hall (1904), the founder of developmental psychology, who gets credit for first describing adolescence as a time of “storm and stress.” As the first person in the modern era to write extensively and empirically about adolescent development, his views were influential. To say adolescence was a time of storm and stress was to say that it was a turbulent time, a time characterized by intense fluctuations in thinking, emotion, and behavior. Hall thought it was normal

for youth to exhibit extremes in both positive and negative behavior, the latter including behavior that could be considered quite problematic. Hall's descriptions of adolescence fill two long volumes, so that no brief set of quotes can do his views justice, but some example descriptions that define the original notion of storm and stress include:

...every step of the upward way is strewn with wreckage of body, mind, and morals (Vol. I, p. xiv)

Psychoses and neuroses abound in early adolescent years... This causes great emotional strain, which some have described as a kind of repressed insanity that is nevertheless normal at this period. (Vol., I, p. 266)

...normal children often pass through stages of passionate cruelty, laziness, lying and thievery... their vanity, slang, obscenity, contagious imitativeness, their absence of moral sense, disregard of property, and violence to each other, constitute them criminals in all essential respects, lacking only the strength and insight to make their crime dangerous to the communities in which they live. (Vol. I, p. 334–335)

All boys develop a greatly increased propensity to fight at puberty, and although most of them while pretending to give way completely seem very terrible in their rage... (Vol. I, p. 356)

The joys of life are never felt with so keen a relish... [yet] depressive are almost as characteristic as expansive states of consciousness. The sad Thanatopsis mood of gloom paints the world in black (Vol. 11, p. 79)

Self-feeling is increased, and we have all degrees of egoism and all forms of self-affirmation... The youth who has been amenable to advice and even suggestion, now becomes obstreperous, recalcitrant, filled with a spirit of opposition (Vol. II, p. 80)

Over the past century, ideas about adolescence as a time of storm and stress have been modified, but continue to reflect the idea that this developmental stage is marked by difficulty, particularly in the domains of risk-taking and rebelliousness, emotional disturbances, and parent–child conflict (Arnett 1999; Nichols and Good 2004).

Hypothesized Reasons for Storm and Stress

The emergence of turbulence during adolescence has had a variety of proposed explanations.

Influenced by Lamarckian theory, Hall believed the roots were in a recapitulation of a difficult stage in evolutionary development (Hall 1904; also see Arnett 1999). Hormonal changes of puberty have also been blamed, particularly by psychoanalytic scholars (see Buchanan et al. 1992, for a discussion). More recently, contextual and systems approaches emphasize an accumulation of life stresses, such as school changes, physical changes, cognitive changes, and changes in expectations from and relationships with adults and peers that make adolescence a challenging time (e.g., Schraml et al. 2011; Simmons et al. 1987).

Storm and Stress Stereotypes Among Parents and Other Adults

Although current scholarly conceptualizations of adolescence rarely embrace extreme “storm and stress” viewpoints, ideas about adolescence as a difficult and even turbulent time characterized by rebelliousness, emotional problems, and problematic parent–child relationships are not hard to find in “lay” conceptions of adolescence (e.g., Nichols and Good 2004). Portrayals of teenagers in the media are often negative (e.g., Amundson et al. 2005; Gilliam and Bales 2001; Dugan 2014; Dunham 2014), and these portrayals influence viewers' notions of what is normative for adolescents (Nichols and Good 2004). In one report, adults recognized that negative media views did not fit their personal experience with adolescents well, but rather than assuming the media images were unrepresentative of adolescents, they assumed their personal experience was unrepresentative (Aubrun and Grady 2000). Books and other resources intended to help parents, even when reporting research-based and useful advice, often reflect the stereotypes with titles such as *Yes, your teen is crazy: Loving your kid without losing your mind* (Bradley 2002), *My son is an alien: A cultural portrait of today's youth* (Danesi 2003), or *The teenage brain: A neuroscientist's survival guide to raising adolescents and young adults* (Jensen and Nutt 2015).

Although there are limited scientific data on popular views of adolescence, the data that exist suggest that many adults view youth negatively, as selfish, narcissistic, rude, and irresponsible (Nichols and Good 2004), or at least that adolescents often feel maligned by adults (e.g., Dugan 2014; Dunham 2014). Supporting the existence of negative stereotypes, mothers of young adolescents and college students rate adolescents as a group more negatively than they do younger children on a number of characteristics. For example, adolescents are believed to be significantly more risk-taking/rebellious, internalizing, and conforming and less active, friendly, or upstanding/prosocial (Buchanan and Holmbeck 1998). There are, of course, individual differences in the extent to which “storm and stress” ideas are endorsed as typical of adolescents, and factors such as one’s personal experience in adolescence (Buchanan and Holmbeck 1998), gender, and current experience with adolescents (Buchanan et al. 1990) matter. As Arnett (1999) noted, such data show that people “. . . see storm and stress as characteristic of adolescents taken as a group, not that it is characteristic of all adolescents without exception” (p. 324). However, there is no doubt that many adults and most likely many youth – given messages they receive from adults and from the media – hold beliefs similar to those of G. S. Hall that risk-taking, emotional problems, and parent–child distancing and conflict, even at high levels, are common and normal developments during adolescence. And it is possible that some adults see such developments as inevitable.

Evidence for Storm and Stress

Next, the debate over whether adolescence is accurately represented as a time of “storm and stress” is addressed using evidence regarding the three domains of “storm and stress” identified by Arnett (1999). Detailed treatments of adolescent risk-taking, emotional problems, and parent–child relationships are included at other points in this volume. Furthermore, Arnett (1999) presented a different and somewhat more detailed examination of evidence of storm and stress in these three

domains. Thus, the following review of relevant data is selective; the focus is on representative data in each of the three domains that either were not published at the time of Arnett’s review or were not mentioned in it. The emphasis in this entry is on illustrative data that speak directly to two specific questions critical to the debate concerning storm and stress: (a) how do adolescents compare to younger and older individuals (i.e., are negative characteristics at a developmental peak, relatively speaking, during adolescence?) and (b) what are the absolute levels of characteristics among adolescents (i.e., does the prevalence of characteristics suggest that negative characteristics are “normal” or “inevitable” at adolescence?)? After addressing these questions separately for each domain, two additional questions relevant to the debate are taken up: (c) how do “storm and stress” behaviors during adolescence relate to ultimate well-being (i.e., are negative characteristics “healthy” in the sense that they predict more positive development in the long run?) and (d) are there any positive developments characteristic of adolescent development (i.e., are typical developments all negative, or have we focused on the negative to the exclusion of the positive?)?

In this entry, adolescence is defined as between the ages of, roughly, 11–13 (or early middle school children) on the lower end and 18 (or high school seniors) on the upper end. College-aged students are not considered “adolescents” given that they are more likely to be living away from home and parents than are younger youth and given that for various reasons they are more legitimately characterized as “emerging adults” (Arnett 2000). Furthermore, because some “storm and stress” behaviors (e.g., sexual activity) are arguably more concerning, less accepted, and more amenable to adult influence prior to high school graduation, it is the years before high school graduation that are the focus.

Although the overall picture offered by the more recent data on risk-taking, emotional change, and parent–child relationships is similar to the picture offered by earlier data cited by Arnett (1999), the current review offers a somewhat different interpretation of this picture vis a

vis the “storm and stress” debate. Although Arnett agreed that “storm and stress” was neither universal nor inevitable, he concluded that research did support a “modified storm and stress” view, mainly because of relative increases in problems during adolescence compared to childhood. In contrast, we argue more strongly that “storm and stress” is an inaccurate and potentially harmful description of adolescence, because many adolescents do not exhibit significant problems in the three “storm and stress” domains, because significant problems do not signify normal or healthy development, and because adolescent development entails much that is positive.

Risk-Taking and Rebelliousness

There are many behaviors that might reflect risk-taking in an adolescent, and conclusions about changes in and prevalence of risk-taking vary depending on the specific behavior. Although risk-taking and minor “antisocial” behavior peak during adolescence (Moffitt 1993), a close look at absolute levels of delinquency reported in studies of adolescents shows clearly that most adolescents do not engage in serious delinquent or antisocial behavior (e.g., Kann et al. 2016; Hawk et al. 2013; Keijsers et al. 2011; Klahr et al. 2011). Few problem behaviors are normative in the sense of being present in the majority (i.e., >50%) of adolescents. The exceptions are drinking alcohol and having sex, which despite being considered “risk-taking” or “problem” behaviors for adolescents are acceptable – even glamorized – for adults (see also Nichols and Good 2004). Based on recent trends (Miech et al. 2016), the use of marijuana – at 45% among 12th graders – is approaching normative levels as it becomes increasingly accepted (i.e., legalized for medical or recreational use) among adults.

Both alcohol use and sexual activity are higher in adolescence than childhood, although both continue to increase into emerging adulthood (Arnett 2000; Substance Abuse and Mental Health Services Administration 2014a). Some experience with both of these risky behaviors is indeed normative – though not inevitable – by the end of high school. Regarding use of alcohol, in 2015

almost three-quarters of high school seniors reported having consumed alcohol at least once in their lifetimes and just under half report having been drunk at least once (Kann et al. 2016; Miech et al. 2016). Regular alcohol use, however, is not normative. Two national reports published in 2016 diverge somewhat in the incidence of reported use of alcohol within the past 30 days among high school seniors, with one placing it at 35% (Miech et al. 2016) and the other at 42.5% (Kann et al. 2016). Rates of binge drinking (consuming 5 or more drinks in a row) within the previous 2 weeks lie in the vicinity of 17% (Miech et al. 2016) to 25% (Kann et al. 2016) of high school seniors. Although the fact that one-fifth to one-quarter of teenagers have engaged in binge drinking in the past 2 weeks is and ought to be of concern, these statistics do not imply that risky or inappropriate alcohol use is normative or inevitable during adolescence. More than half of teenagers make it through adolescence without using alcohol regularly, without binge drinking, and without getting drunk. In a similar pattern to alcohol use, the majority of teenagers (i.e., just under 60%) of high school teens report having had sexual intercourse at least once in their lifetimes, but risky sexual behavior (e.g., with multiple partners; without a condom) is not normative (Kann et al. 2016).

It is relevant to note that rates of both alcohol use and sexual activity have substantially declined over the past two-and-a-half decades, with rates of alcohol use (including binge drinking) recently reaching “historic lows” (Miech et al. 2016). Additionally, significant subgroup variations exist in these and other risk behaviors, with factors such as gender, race, and state of residence affecting rates of engagement (Kann et al. 2016; Miech et al. 2016). The historical and subgroup variation provide further evidence that these forms of risk-taking are not fixed or inevitable, but instead fluctuate in relation to societal and subgroup norms as well as laws. The fact that the most prevalent “storm and stress” behaviors are behaviors that are highly encouraged and promoted for and by adults in American society suggests that these behaviors are less likely to be a result of inevitable biological or psychological turmoil,

moral wreckage, or an inclination to be “recalcitrant,” “obstreperous,” or “oppose adults” than they are of a desire to behave like adults and to engage in behaviors that society accepts or even values (see also Nichols and Good 2004).

Emotional Change

Rates of depression and other mood disorders rise during adolescence compared to childhood (Kessler et al. 2001). In one 2010 report, the percentage of youth who had experienced a mood disorder in their lifetime was 10.5% among 13–14-year-olds, 15.5% among 15–16-year-olds, and 18.1% among 17–18-year-olds (Merikangas et al. 2010). In 2014, the percentage of individuals who had experienced at least one major depressive episode (MDE) in the past year was 7.2% among 12–13-year-olds, 11.9% among 14–15-year-olds, and 14.6% among 16–17-year-olds (Substance Abuse and Mental Health Services Administration 2014b). The percentage of all youth ages 12–17 who had experienced a MDE in the past year was 11.4% in 2014, up from rates over several years from 2004 to 2012 (Center for Behavioral Statistics and Quality 2015). The prevalence of mental illness in adulthood, including depression, has typically been similar to that in adolescence (Merikangas et al. 2010), although in the most recent reports it appears that the rate of past year MDE in adolescents has risen to a level that exceeds somewhat that among adults (the rate of MDE was 9.3% among 18–25-year-olds, and gradually lower among even older adults, with the overall prevalence among adults at 6.6%; Center for Behavioral Statistics and Quality 2015). Rates of considering, attempting, and completing suicide are also higher in adolescence compared to childhood. Rates of nonfatal suicidal thoughts and behaviors decline again in adulthood, although rates of completed suicide continue to rise into adulthood (National Center for Injury Prevention and Control 2015; Curtin et al. 2016). Depression and other mood problems, and suicidal thoughts and behavior, pose serious problems for adolescents who experience them, and current rates of these problems present a critical public health issue given the overall numbers of adolescents affected. However, emotional problems are not

unique to adolescence, normative, or inevitable. The majority of adolescents, like the majority of adults, experience emotionally difficult days and periods, but do not exhibit persistent or debilitating emotional problems.

Beyond depression, everyday emotions differ somewhat during adolescence compared to before and after adolescence. Compared to younger children, adolescents experience fewer positive emotions and more negative emotions (Larson et al. 2002). Compared to adults, adolescents’ emotions are less muted: adolescents’ emotions are more variable and include more extremes in both the positive and the negative direction. Yet, in their study documenting change in daily moods over time among 5th–12th graders, Larson et al. (2002) found that, despite an overall change toward more negative emotions as children move from childhood into adolescence, the overall emotional profile for most adolescents was positive. Average affect remained positive from 5th through 12th grade, with the percent of positive affect reported in random experience sampling falling from 74% to 71%, and the average percent of negative affect rising from 13% to 20%. Thus, absolute levels of affect are overwhelmingly positive across adolescence. Individual differences in change were also apparent, with two-thirds of the sample reporting less positive affect at Time 2 than Time 1, but one-third actually showing more positive affect over these years.

Parent–Child Warmth and Conflict

The time that children spend with their parents declines across the teenage years (i.e., from 5th to 12th grade), more so because of the increasing opportunities outside of the home and the ability to take advantage of them (e.g., having a driver’s license) than because adolescents are fleeing a negative environment in the home (Larson et al. 1996). Time in some activities, such as “talking,” actually stays stable over these years. Negative affect increases in the home, as it does in general, but overall there is much evidence that relationships between parents and youth stay mostly good over the teenage years. The majority of teenagers report getting along with their parents well or very well (Horatio Alger Association

2003), and most high school students (80%) choose a family member (most often “mother”) as the most valuable and essential relationship in their lives (Wolniak et al. 2012). Contrary to stereotypes, “parents beat out peers 5–1 as the most influential and important relationship” (Wolniak et al. 2012, p. 10). The vast majority of teenagers (86%) spend time with family on a daily basis (Wolniak et al. 2012), and 50% of youth say that if they had more time they would spend that time with family (the most frequent of all choices; Horatio Alger Association 2003). Although reported parental warmth declines and parent–child conflict increases as children move from childhood into adolescence, levels of warmth remain high and levels of conflict remain low in an absolute sense (e.g., Barber 1994; Keijsers et al. 2011; Klahr et al. 2011; Shanahan et al. 2007a, b), and such changes vary by factors such as ethnicity and birth order. Thus, once again, although relative changes are in the direction of more trouble, significant problems in an absolute sense are not normative nor are they inevitable.

Relations Between “Storm and Stress” and Healthy Development

Storm and stress behaviors are not typically indicators of healthy development. High levels of risk-taking, emotional problems, and difficult parent–child relationships tend to be related to higher levels of psychiatric disorder (e.g., Rutter et al. 1976) and difficulty as a young adult. More delinquency and depressed mood early in adolescence predict more substance use later in adolescence (Mason et al. 2007). Alcohol use during adolescence raises the risk of academic and health problems, and early drinking predicts a variety of problems in young adulthood, ranging from employment problems to criminal involvement (Ellickson et al. 2003). Heavy alcohol use in adolescence also predicts more alcohol use and alcohol disorders in young adulthood (Osterle et al. 2008). Subclinical symptoms of depression during adolescence predict higher risk of major depression in adulthood (e.g., Fergusson et al. 2005; Pine et al. 1999). Many mental and behavioral disorders have their onset in childhood

or adolescence; significant psychological and behavioral problems in childhood or adolescence are predictive of problems that continue into adulthood (Merikangas et al. 2010). More positive relationships with parents during adolescence generally predict greater well-being and lower levels of both internalizing and externalizing (i.e., risk-taking) problems during adolescence and young adulthood (e.g., Allen et al. 2007; Coley et al. 2009; Gutman and Sameroff 2004). Although some adolescents emerge as healthy adults despite experiencing “storm and stress,” we found no evidence to suggest “storm and stress” is necessary for a healthy future or that lack of “storm and stress” forestalls healthy development.

Positive Developments During Adolescence

Positive developments during adolescence have been the focus of research less often than have problem, or “storm and stress” behaviors, although in more recent years, there has been an increasing examination of such possibilities (e.g., Geldhof et al. 2014; Lam et al. 2012; Lerner 2007). Adolescents in fact display many positive characteristics. For example, 76% of high school students do some sort of community service one or more times per month (Wolniak et al. 2012), a rate that far exceeds that of monthly drinking and also exceeds the rate of community service among high school graduates (62%). The most common reason given by youth for volunteering is that “it makes me feel like I am helping others”; only 6% report doing it because it is a school requirement (Horatio Alger Association 2003). Similarly, “helping others in difficulty” is the most important factor for high school students in thinking about their education and career goals (77% endorse it as essential or very important, as compared to 63% who say “being well-off financially” is essential or very important; Wolniak et al. 2012). Perspective taking (for both boys and girls) and empathy (for girls) have been shown to increase between middle childhood and later adolescence (Lam et al. 2012; Van der Graaff et al. 2014), and average scores on measures of these characteristics tend to indicate high rather than low absolute levels of these characteristics (e.g., above the

midpoint, at levels suggesting that adolescents view perspective taking and empathic concern as good descriptors of themselves). Over three-quarters of adolescents say they are motivated and inspired to work hard in high school, and 72% say they would work harder if expectations were higher (Horatio Alger Association 2005). Resistance to peer influence is steady between ages 10 and 14 years and then increases over the middle to late adolescent years; this trajectory holds for male and female adolescents and for adolescents from diverse backgrounds (Steinberg and Monahan 2007). Although the historical and popular focus on adolescence as a time of trouble might have limited our vocabulary about adolescence and our efforts to describe positive developments (Lerner et al. 2005), emerging theory and research suggests that there is much to be discovered.

Possible Impact of Expecting Storm and Stress

Given the abundance of messages endorsing “storm and stress” as pervasive in American society, and the lack of more nuanced information about adolescent behavior and well-being such as that presented above, it would not be surprising if parents and youth alike overestimate the extent to which storm and stress is normal or inevitable. For example, as stated earlier, individuals tend to believe that negative media images of adolescents are more representative of real adolescent behavior than are their own, more positive, experiences (Aubrun and Grady 2000) and adults (including parents) tend to downplay positive data about adolescents when it is given (Gilliam and Bales 2001; Nichols and Good 2004). Negative images also might lead parents to have more negative expectations for their own adolescents than they should based on the child’s history of behavior, and given adolescents’ capacity for positive change (Lerner et al. 2005). Buchanan (2003) found, for example, that negative generalized beliefs about adolescents predicted negative expectations for one’s own young adolescent child among

mothers, even after controlling for the child’s temperament and current functioning.

When parents expect their adolescent children to exhibit higher “storm and stress” behaviors – in other words, when they have expectations in line with negative generalized beliefs about adolescents – these expectations might contribute to a self-fulfilling prophecy. The same might be said for youths’ own expectations for behavior at adolescence. Thus, at least some of the actual or perceived “storm and stress” behaviors that youth exhibit might be the result of such expectations. Several emerging lines of recent longitudinal research point to this possibility.

Buchanan and Hughes (2009) report that both maternal and young adolescents’ expectations for higher risk-taking and rebelliousness predicted more adolescent-reported externalizing (i.e., risk-taking, rebellious, deviant behaviors) 1 year later, even after accounting for several other good predictors of externalizing behaviors. The results for adolescents’ expectations suggest, at minimum, that perceptual bias contributes to reports of risky behaviors among young adolescents; in other words, adolescents who expect to engage in more risk-taking later perceive themselves consistently with those expectations. However, adolescents’ reports of externalizing are believed to be valid indicators of actual problem behaviors (e.g., Huizinga and Elliott 1986), so the findings might also indicate a self-fulfilling prophecy. The results for mothers’ expectations are also consistent with a self-fulfilling prophecy, in that mothers’ expectations predict adolescents’ (i.e., a different, and arguably valid, reporter) reports of risk-taking. Other studies that focus specifically on alcohol use provide evidence for a self-fulfilling prophecy: mothers’ expectations for underage drinking predict their adolescents’ future underage drinking even after accounting for several established predictors of underage drinking (Maden et al. 2003), and these effects appear to accumulate over adolescence (Maden et al. 2006).

Young adolescents’ expectations concerning the extent to which they will feel “alienated” – angry, depressed, and distanced from parents – during adolescence also predict more distanced relationships with parents (i.e.,

less closeness, more conflict) 1 year later, as reported by the adolescent. Higher expectations for alienation also predict more self-reported susceptibility to peer pressure (Buchanan and Hughes 2009). As with risk-taking, several other good predictors of these outcomes (early parent-child relationships and susceptibility to peer pressure, parenting, adolescents' behavior and temperament) were controlled, so expectations for alienation predicted these outcomes above and beyond what one might expect based on existing relationships, parenting, or youth characteristics. The findings concerning alienation might reflect only a perceptual bias (and not a self-fulfilling prophecy) in that both expectations and outcomes were reported by the adolescent. They do not, however, preclude the possibility of a self-fulfilling prophecy. Furthermore, perceptual biases of this type might be important, in that adolescents' perceptions of their relationships with parents predict other aspects of behavioral and emotional well-being (e.g., Steinberg and Silk 2002).

In another line of research that addresses the potential self-fulfilling impact of beliefs and expectations regarding "storm and stress," Jacobs et al. (2005) found that parents' generalized stereotypes about adolescents' "social concern or peer focus" when children were in middle school predicted adolescents' self-reported orientation toward peers and involvement with deviant friends in high school. In sum, there is a small but significant body of evidence that parents' and youths' expectations for adolescence that are consistent with negative "storm and stress" ideas about adolescence might contribute to both perceptions of and actual adolescent behavior.

How might self-fulfilling prophecies with respect to "storm and stress" come about? Research indicates that self-fulfilling prophecies in the school classroom occur as a result of altered teacher behavior toward target children for whom teachers have differing expectations (e.g., Brophy and Good 1970). Similarly, the expectations of parents, youth, and other adults who interact with youth might influence how these individuals act toward one another, how they interpret one another's behavior or emotions, and the emotions

they experience during interactions as children move into and through the adolescent period (e.g., Harris 1993; Lindsey et al. 2015). Generally speaking, expectations that storm and stress is normal might lead problems to be seen as "an inescapable norm" (Schraml et al. 2011) and not amenable to prevention or intervention. In one recent study (Glatz and Buchanan 2015a), it was found that higher parental expectations for risk-taking during adolescence predicted decreases in parenting self-efficacy (PSE) as children transitioned into early and middle adolescence. Because PSE predicts parenting practices (e.g., Glatz and Buchanan 2015b), negative expectations might become self-fulfilling through their impact on PSE and parenting practices.

Self-fulfilling prophecies can also occur due to a self-verification process (Madon et al. 2011). Madon and her colleagues (Madon et al. 2008) have shown that the self-fulfilling prophecy with respect to underage drinking occurs at least in part because adolescents internalize their mothers' beliefs about their likelihood of underage drinking and then act in a fashion that verifies those internalized beliefs.

Furthermore, perceptual biases might lead to changes in behavior. For example, if youth expect that normal adolescents become more distanced from and more negative toward their parents as adolescents, they might be more likely to notice, perceive, and remember instances of such distancing and anger (e.g., Trope and Thompson 1997) that then become more prominent in their phenomenological experience. Such negative perceptions might increase the risk of mood and risk-taking problems that are more likely in youth who feel distanced from or angry toward adults.

Conclusions, Gaps in Knowledge, and Future Research

Research on adolescent behaviors that might be considered evidence of storm and stress is widespread. One can focus on negative developments, which of course occur. Some scholars have argued that it would be premature or misleading to characterize storm and stress view of

adolescence as wrong (e.g., Hollenstein and Loughheed 2013; Steinberg 2001). Certainly, the reality that there are higher levels, on average, of risk-taking, emotional problems, and parent–child conflict during adolescence as compared with childhood causes stress for some parents and some adolescents, as well as public health concerns for those who do develop serious emotional or behavioral problems during this time. Furthermore, Hollenstein and Loughheed (2013) have pointed out that examining a limited range of “storm and stress” behaviors in isolation – as is typically done in individual studies – might lead to an underestimation of the degree to which storm and stress occurs.

Nonetheless, although some negative behaviors increase in frequency during adolescence as compared to childhood, the concerning behaviors that become most common (e.g., sexual activity, regular drinking, tendency toward depression) typically stabilize or continue to increase into adulthood, indicating that the teenage years are a time in which individuals move toward more adult-like behavior. Furthermore, the majority of adolescents do not participate in excessive risk-taking, experience debilitating or disruptive emotional problems, or have distanced, difficult relationships with their parents. In fact, the majority of adolescents experience many positive moods, positive relationships – even with their parents, and are engaged in positive activities and contributions to their communities. Extreme risk-taking, mood disorders, and problematic parent–child relationships of the type described by G. S. Hall predict poor outcomes rather than a healthy trajectory of development. Adolescent behaviors have been studied in a wide variety of populations and contexts, and “storm and stress” behaviors indeed vary over individuals, by groups (e.g., ethnic, gender, socioeconomic status), and across history. These individual and group variations provide evidence that expectations, values, and environmental contexts matter with respect to “storm and stress” and that such behaviors are not an inevitable result of biological or psychological maturation. These variations across groups and times, along with the modern recognition brought about by the field of neuroscience that experiences

shape even our very biology (including neural connections in the brain, e.g., Hollenstein and Loughheed 2013), should lead us to reflect seriously on the ways in which culture and context produce the very behaviors that tend to be viewed as developmentally normal and inevitable during adolescence (see also Gilliam and Bales 2001). Such reflection might lead to the conclusion that at least some existing “storm and stress” is a product of societal expectations and that more could be done to reduce “storm and stress.”

Existing research suggests that expecting storm and stress works to increase storm and stress; it also suggests that some of the “storm and stress” behaviors witnessed in current data on adolescents might result from such expectations.

Arnett (1999) expressed concern that if “storm and stress” is not seen as normal, that some normal adolescent behavior would become pathologized. This would be a valid concern if “storm and stress” expectations were replaced with expectations that adolescents will do no wrong or have no problems. An alternative is that expectations for adolescents should be much like those we have for other developmental periods: expectations that people make mistakes and sometimes exhibit bad or unhealthy behavior, expectations that people sometimes experience difficult times and negative moods, and expectations that people sometimes feel distanced from and experience conflict with those to whom they are closest. With such expectations, when difficult situations arise, adults need not rush to pathologize, but might be more sympathetic (e.g., responding with feelings of sympathy for stress that precipitates a bad mood and responding with attempts to work out a parent–child misunderstanding) than if “storm and stress” notions are endorsed. Although it is a question for research, when adults hold “storm and stress” expectations, their responses to difficulty might be more dismissive or negative than they would be otherwise, because the source of the problem is seen to be mainly within the teenager and perhaps unavoidable. Some evidence exists that one reaction to such expectations is lower perceived efficacy among parents to influence their adolescents positively (Glatz and Buchanan 2015a).

Clearly, more research is needed to see whether and how any impact of “storm and stress” expectations varies across adolescence, for different behaviors or indices of well-being, by temperament of the youth or parents, by gender of youth or parent, or other contextual factors (ethnicity, socioeconomic status). It is of interest to know under what circumstances expecting storm and stress leads to negative results such as self-fulfilling prophecies or failing to intervene for youth who have treatable problems and under what circumstances such expectations result in realistic acceptance of normal difficulties (see Arnett 1999).

Because the link between expectations and behavior is likely to be reciprocal, and because it can reflect confounds of personal and contextual characteristics or reporting biases, studies addressing this issue must ultimately be quite comprehensive: measuring multiple variables from multiple reporters longitudinally. And because the role of expectations in and of themselves is likely to be relatively small – there are many important influences on adolescent behavior and well-being – it will typically be necessary to have large samples in order to achieve the power necessary to detect such effects. Researchers who are designing large studies of adolescent development would be advised to consider including some measures of expectations so that further illumination of the extent to which expectations create self-fulfilling prophecies can be studied more comprehensively. If indeed expectations are important, it might be possible to improve adolescent outcomes in part by educating parents and youth with more positive information about adolescence.

References

- Allen, J., Porter, M., McFarland, C., McElhaney, K., & Marsh, P. (2007). The relation of attachment security to adolescents' paternal and peer relationships, depression, and externalizing behavior. *Child Development, 78*, 1222–1239. <https://doi.org/10.1111/j.1467-8624.2007.01062.x>.
- Amundson, D. R., Lichter, L. S., & Lichter, S. R. (2005). *What's the matter with kids today?: Television coverage of adolescents in America*. Washington, DC: The Frameworks Institute. Retrieved 6 Nov 2009 from <http://www.frameworksinstitute.org/adolescence.html#research>
- Arnett, J. J. (1999). Adolescent storm and stress. *American Psychologist, 54*, 317–326. <https://doi.org/10.1037/0003-066X.54.5.317>.
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*, 469–480. <https://doi.org/10.1037/0003-066X.55.5.469>.
- Aubrun, A., & Grady, J. (2000). *How Americans understand teens: Findings from cognitive interviews* (pp. 1–27). Retrieved 6 Nov 2009 from <http://www.frameworksinstitute.org/Fkadolescence.html#research>
- Barber, B. K. (1994). Cultural, family, and personal contexts of parent-adolescent conflict. *Journal of Marriage and the Family, 56*, 375–386. <https://doi.org/10.2307/353106>.
- Bradley, M. J. (2002). *Yes, your teen is crazy: Loving your kid without losing your mind*. Gig Harbor: Harbor Press.
- Brophy, J., & Good, T. (1970). Teachers' communication of differential expectations for children's classroom performance: Some behavioral data. *Journal of Educational Psychology, 61*, 365–374. <https://doi.org/10.1037/h0029908>.
- Buchanan, C. M. (2003). Mothers' generalized beliefs about adolescents: Links to expectations for a specific child. *Journal of Early Adolescence, 23*, 29–50. <https://doi.org/10.1177/0272431602239129>.
- Buchanan, C. M., & Holmbeck, G. N. (1998). Measuring beliefs about adolescent personality and behavior. *Journal of Youth and Adolescence, 17*, 607–627. <https://doi.org/10.1023/A:1022835107795>.
- Buchanan, C. M., & Hughes, J. L. (2009). Construction of social reality during early adolescence: Can expecting storm and stress increase storm and stress? *Journal of Research on Adolescence, 19*, 261–285. <https://doi.org/10.1111/j.1532-7795.2009.00596.x>.
- Buchanan, C. M., Eccles, J. S., Flanagan, C. F., Midgley, C., Feldlaufer, H., & Harold, R. D. (1990). Parents' and teachers' beliefs about adolescents: Effects of sex and experience. *Journal of Youth and Adolescence, 19*, 363–394. <https://doi.org/10.1007/BF01537078>.
- Buchanan, C. M., Eccles, J. S., & Becker, J. B. (1992). Are adolescents the victims of raging hormones?: Evidence for activation effects of hormones on moods and behavior at adolescence. *Psychological Bulletin, 111*, 62–107. <https://doi.org/10.1037/0033-2909.111.1.62>.
- Center for Behavioral Health Statistics and Quality. (2015). *Behavioral health trends in the United States: Results from the 2014 National Survey on Drug Use and Health* (HHS publication no. SMA 15–4927, NSDUH series H-50). Retrieved from <http://www.samhsa.gov/data/>
- Coley, R. L., Votruba-Drzal, E., & Schindler, H. S. (2009). Fathers' and mothers' parenting predicting and responding to adolescent sexual risk behaviors. *Child Development, 80*, 808–827. <https://doi.org/10.1111/j.1467-8624.2009.01299.x>.

- Curtin, S. C., Warner, M., & Hedegaard, H. (2016). *Increase in suicide in the United States, 1999–2014* (NCHS Data Brief No. 241). Hyattsville: National Center for Health Statistics.
- Danesi, M. (2003). *My son is an alien: A cultural portrait of today's youth*. Lanham: Rowman and Littlefield.
- Dugan, E. (2014, February 18). Teenage job hopes ruined by negative media stereotypes. Retrieved 21 July 2016 from <http://www.independent.co.uk/news/business/news/teenage-job-hopes-ruined-by-negative-media-stereotypes-9137147.html>
- Dunham, D. (2014, August 30). Here's what the media is doing to teenagers today. Retrieved 21 July 2016 from http://www.huffingtonpost.com/deborah-s-dunham/heres-what-the-media-is-d_b_5541462.html
- Ellickson, P., Tucker, J., & Klein, D. (2003). Ten-year prospective study of public health problems associated with early drinking. *Pediatrics*, *111*, 949–955.
- Fergusson, D. M., Horwood, L. J., Ridder, E. M., & Beautrais, A. L. (2005). Subthreshold depression in adolescence and mental health outcomes in adulthood. *Archives of General Psychiatry*, *62*, 66–72. <https://doi.org/10.1001/archpsyc.62.1.66>
- Geldhof, G. J., Bowers, E. P., Mueller, M. K., Napolitano, C. M., Callina, K. S., & Lerner, R. M. (2014). Longitudinal analysis of a very short measure of positive youth development. *Journal of Youth and Adolescence*, *43*, 933–949. <https://doi.org/10.1007/s10964-014-0093-z>
- Gilliam, F. D., Jr., & Bales, S. N. (2001). Strategic frame analysis: Reframing America's youth. *Social Policy Report*, *15*(3), 1–14.
- Glatz, T., & Buchanan, C. M. (2015a). Change and predictors of change in parental self-efficacy from early to middle adolescence. *Developmental Psychology*, *51*, 1367–1379. <https://doi.org/10.1037/dev0000035>
- Glatz, T., & Buchanan, C. M. (2015b). Over-time associations among parental self-efficacy, promotive parenting practices, and adolescents' externalizing behaviors. *Journal of Family Psychology*, *29*, 427–437. <https://doi.org/10.1037/fam0000076>
- Gutman, L., & Sameroff, A. (2004). Continuities in depression from adolescence to young adulthood: Contrasting ecological influences. *Development and Psychopathology*, *16*, 967–984. <https://doi.org/10.1017/S095457940404009X>
- Hall, G. S. (1904). *Adolescence: Its psychology and its relations to physiology, anthropology, sociology, sex, crime, religion and education* (2 Vols.). New York: D. Appleton.
- Harris, M. J. (1993). Issues in studying the mediation of expectancy effects: A taxonomy of expectancy situations. In P. D. Blanck (Ed.), *Interpersonal expectations: Theory, research, and applications* (pp. 350–378). London: Cambridge University Press.
- Hawk, S. T., Keijsers, L., Branje, S. J. T., Van der Graaff, J., De Wied, M., & Meeus, W. (2013). Examining the Interpersonal Reactivity Index (IRI) among early and late adolescents and their mothers. *Journal of Personality Assessment*, *95*, 96–106. <https://doi.org/10.1080/00223891.2012.696080>
- Hollenstein, T., & Loughheed, J. P. (2013). Beyond storm and stress: Typicality, transactions, timing, and temperament to account for adolescent change. *American Psychologist*, *68*, 444–454. <https://doi.org/10.1037/a0033586>
- Horatio Alger Association of Distinguished Americans. (2003). *The State of Our Nation's Youth, 2003–2004*. Alexandria: Horatio Alger Association.
- Horatio Alger Association of Distinguished Americans. (2005). *The State of Our Nation's Youth, 2005–2006*. Alexandria: Horatio Alger Association.
- Huizinga, D., & Elliott, D. S. (1986). Reassessing the reliability and validity of self-report delinquency measures. *Journal of Quantitative Criminology*, *2*, 293–327.
- Jacobs, J. E., Chhin, C. S., & Shaver, K. (2005). Longitudinal links between perceptions of adolescence and the social beliefs of adolescents: Are parents' stereotypes related to beliefs held about and by their children? *Journal of Youth and Adolescence*, *34*, 61–72. <https://doi.org/10.1007/s10964-005-3206-x>
- Jensen, F. E., & Nutt, A. E. (2015). *The teenage brain: A neuroscientist's survival guide to raising adolescents and young adults*. New York: HarperCollins.
- Kann, L., McManus, T., Harris, W. A., Shanklin, S. L., Fint, K. H., Hawkins, J., et al. (2016). Youth risk behavior surveillance – United States, 2015. *MMWR Surveillance Summaries*, *65*, 1–174.
- Keijsers, L., Loeber, R., Branje, S., & Meeus, W. (2011). Bidirectional links and concurrent development of parent–child relationships and boys' offending behavior. *Journal of Abnormal Psychology*, *120*, 878–889. <https://doi.org/10.1037/a0024588>
- Kessler, R. C., Avenevoli, S., & Merikangas, K. R. (2001). Mood disorders in children and adolescents: An epidemiologic perspective. *Biological Psychiatry*, *49*, 1002–1014. [https://doi.org/10.1016/S0006-3223\(01\)01129-5](https://doi.org/10.1016/S0006-3223(01)01129-5)
- Klahr, A. M., McGue, M., Iacono, W. G., & Burt, S. A. (2011). The association between parent–child conflict and adolescent conduct problems over time: Results from a longitudinal adoption study. *Journal of Abnormal Psychology*, *120*, 46–56. <https://doi.org/10.1037/a0021350>
- Lam, C. B., Solmeyer, A. R., & McHale, S. M. (2012). Sibling differences and empathy across the transition to adolescence. *Journal of Youth and Adolescence*, *41*, 1657–1670. <https://doi.org/10.1007/s10964-012-9781-8>
- Larson, R. W., Richards, M. H., Moneta, G., Holmbeck, G., & Duckett, E. (1996). Changes in adolescents' daily interactions with their families from ages 10 to 18: Disengagement and transformation. *Developmental Psychology*, *32*, 744–754. <https://doi.org/10.1037/0012-1649.32.4.744>
- Larson, R. W., Moneta, G., Richards, M. H., & Wilson, S. (2002). Continuity, stability, and change in daily emotional experience across adolescence. *Child*

- Development*, 73, 1151–1165. <https://doi.org/10.1111/1467-8624.00464>.
- Lerner, R. M. (2007). *The good teen*. New York: Three Rivers Press.
- Lerner, R. M., Almerigi, J. B., Theokas, C., & Lerner, J. V. (2005). Positive youth development: A view of the issues. *The Journal of Early Adolescence*, 25, 10–16. <https://doi.org/10.1177/0272431604273211>.
- Lindsey, E. W., MacKinnon-Lewis, C., Frabutt, J. M., & Chambers, J. C. (2015). Cognitive attributions and emotional expectancies predict emotions in mother-adolescent interactions. *The Journal of Early Adolescence*, 35, 484–510. <https://doi.org/10.1177/0272431614540525>.
- Madon, S., Guyll, M., Spoth, R. L., Cross, S. E., & Hilber, S. J. (2003). The self-fulfilling influence of mother expectations on children's underage drinking. *Journal of Personality and Social Psychology*, 84, 1188–1202. <https://doi.org/10.1037/0022-3514.84.6.1188>.
- Madon, S., Willard, J., Guyll, M., Trudeau, L., & Spoth, R. (2006). Self-fulfilling prophecy effects of mothers' beliefs on children's alcohol use: Accumulation, dissipation, and stability over time. *Journal of Personality and Social Psychology*, 90, 911–926. <https://doi.org/10.1037/0022-3514.90.6.911>.
- Madon, S., Guyll, M., Buller, A. A., Scherr, K. C., Willard, J., & Spoth, R. (2008). The mediation of mothers' self-fulfilling effects on their children's alcohol use: Self-verification, informational conformity, and modeling processes. *Journal of Personality and Social Psychology*, 95, 369–384. <https://doi.org/10.1037/0022-3514.95.2.369>.
- Madon, S., Willard, J., Guyll, M., & Scherr, K. C. (2011). Self-fulfilling prophecies: Mechanisms, power, and links to social problems. *Social and Personality Psychology Compass*, 5(8), 578–590. <https://doi.org/10.1111/j.1751-9004.2011.00375.x>.
- Mason, W. A., Hitchings, J. E., & Spoth, R. L. (2007). Emergence of delinquency and depressed mood throughout adolescence as predictors of late adolescent problem substance use. *Psychology of Addictive Behaviors*, 21, 13–24. <https://doi.org/10.1037/0893-164X.21.1.13>.
- Merikangas, K. R., He, J., Burstein, M., Swanson, S. A., Avenevoli, S., Cui, L., et al. (2010). Lifetime prevalence of mental disorders in US adolescents: Results from the National Comorbidity Study-Adolescent Supplement (NCS-A). *Journal of the American Academy of Child and Adolescent Psychiatry*, 49(10), 980–989. <https://doi.org/10.1016/j.jaac.2010.05.017>.
- Miech, R. A., Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2016). *Monitoring the future national survey results on drug use, 1975–2015: Volume I, Secondary school students*. Ann Arbor: Institute for Social Research/The University of Michigan. Available at <http://monitoringthefuture.org/pubs.html#monographs>
- Moffitt, T. (1993). Adolescence-limited and life-course persistent antisocial behavior: A developmental taxonomy. *Psychological Review*, 100, 674–701. <https://doi.org/10.1037/0033-295X.100.4.674>.
- National Center for Injury Prevention and Control. (2015). *Suicide*. Centers for Disease Control. Retrieved 15 July 2016 from <http://www.cdc.gov/violenceprevention/pdf/suicide-datasheet-a.PDF>
- Nichols, S. L., & Good, T. L. (2004). *American's teenagers – Myths and realities: Media images, schooling, and the social costs of careless indifference*. Mahwah: Lawrence Erlbaum Associates.
- Osterle, S., Hill, K., Hawkins, J., & Abbott, R. (2008). Positive functioning and alcohol-use disorders from adolescence to young adulthood. *Journal of Studies on Alcohol and Drugs*, 69, 100–111.
- Pine, D., Cohen, E., Cohen, P., & Brook, J. (1999). Adolescent depressive symptoms as predictors of adult depression: Moodiness or mood disorder. *The American Journal of Psychiatry*, 156, 133–135.
- Rutter, M., Graham, P., Chadwick, O. F. D., & Yule, W. (1976). Adolescent turmoil: Fact or fiction? *Journal of Child Psychology and Psychiatry*, 17, 35–56. <https://doi.org/10.1111/j.1469-7610.1976.tb00372.x>.
- Schraml, K., Perski, A., Grossi, G., & Simonsson-Sarnecki, M. (2011). Stress symptoms among adolescents: The role of subjective psychosocial conditions, lifestyle, and self-esteem. *Journal of Adolescence*, 34, 987–996. <https://doi.org/10.1016/j.adolescence.2010.11.010>.
- Shanahan, L., McHale, S. M., Osgood, D. W., & Crouter, A. C. (2007a). Conflict frequency with mothers and fathers from middle childhood to late adolescence: Within- and between-families comparisons. *Developmental Psychology*, 43, 539–550. <https://doi.org/10.1037/0012-1649.43.3.539>.
- Shanahan, L., McHale, S. M., Crouter, A. C., & Osgood, D. W. (2007b). Warmth with mothers and fathers from middle childhood to late adolescence: Within and between-families comparisons. *Developmental Psychology*, 43, 551–563. <https://doi.org/10.1037/0012-1649.43.3.551>.
- Simmons, R. G., Burgeson, R., Carlton-Ford, S., & Blyth, D. A. (1987). The impact of cumulative change in early adolescence. *Child Development*, 58, 1220–1234. <https://doi.org/10.2307/1130616>.
- Steinberg, L. (2001). We know some things: Parent-adolescent relationships in retrospect and prospect. *Journal of Research on Adolescence*, 11(1–19), 1–19. <https://doi.org/10.1111/1532-7795.00001>.
- Steinberg, L., & Monahan, K. C. (2007). Age differences in resistance to peer influence. *Developmental Psychology*, 43, 1531–1543. <https://doi.org/10.1037/0012-1649.43.6.1531>.
- Steinberg, L., & Silk, J. S. (2002). Parenting adolescents. In M. H. Bornstein (Ed.), *Handbook of parenting: Vol. 1: Children and parenting* (2nd ed., pp. 103–133). Mahwah: Lawrence Erlbaum Associates.
- Substance Abuse and Mental Health Services Administration. (2014a). *Results from the 2013 National Survey on Drug Use and Health: Summary of National Findings* (NSDUH series H-48, HHS publication no. (SMA) 14–4863). Rockville: Author.

- Substance Abuse and Mental Health Services Administration. (2014b). *Results from the 2014 National Survey on Drug Use and Health: Mental health detailed tables*. Rockville: Author. Retrieved 13 July 2016 from <http://www.samhsa.gov/data/sites/default/files/NSDUH-MHDefTabs2014/NSDUH-MHDefTabs2014.htm#tab2-13b>
- Trope, Y., & Thompson, E. P. (1997). Looking for truth in all the wrong places? Asymmetric search of individuating information about stereotyped group members. *Journal of Personality and Social Psychology*, *73*, 229–241. <https://doi.org/10.1037/0022-3514.73.2.229>.
- Van der Graaff, J., Branje, S., De Wied, M., Hawk, S., Van Lier, P., & Meeus, W. (2014). Perspective taking and empathic concern in adolescence: Gender differences in developmental changes. *Developmental Psychology*, *50*, 881–888. <https://doi.org/10.1037/a0034325>.
- Wolniak, G. C., Neishi, K. M., Rude, J. D., & Gebhardt, Z. (2012). *The state of our nation's youth, 2012–2013*. Alexandria: Horatio Alger Association of Distinguished Americans, Inc.

these stressors prove overwhelming to an individual's capacity to cope, that person undergoes a psychologically and physically stressful experience. If a person encounters this type of situation repeatedly, they can become subject to longer-term effects that prove detrimental to their emotional and physical health. For youth, repeated exposure to stress can also inhibit healthy development, and those developmental effects are likely to be different depending on earlier and current stresses, all of which likely will affect those occurring during adulthood and the effects of those later stresses as well (see Lupien et al. 2009).

The reason for these later effects is increasingly well understood. As an example, many factors converge during adolescence that may make this stage of development a particularly sensitive period to stressors, especially in terms of neurobiological processes. For example, heightened sensitivity occurs due to continued maturation of stress-responsive brain regions, shifts in adolescents' hormonal reactivity, changes in the quantity and quality of stressors, and changes in the ability to respond to stressors (Eiland and Romeo 2013).

The above lines of research reveal that stressful events highlight the significance of biological systems in shaping development. Responding to physiological or psychological stressors involves releasing a number of hormonal signals that allow us to cope with stressful demands. The hypothalamic–pituitary–adrenal (HPA) axis and the sympathetic adrenomedullary (SAM) system exhibit normal patterns of stimulation in daily activities. These systems intercede in cases of stress responses as they control stress-induced hormonal secretions. A stressful experience inaugurates a hormonal and neurochemical response that raises individuals' levels of vigilance and arousal. Metabolically speaking, stressors induce the need for extra energy so individuals can deal with the present threat, and also, so they can suppress any unnecessary physiological activity and mobilize needed energy stores. These responses are vital to survival, as they allow organisms to cope with internal and external demands imposed by stressful events (see Sapolsky et al. 2000). These responses typically are healthy and expected, but prolonged or

Stress

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Overview

Adolescence is a critical time window for susceptibility to stress, which is often defined as a reaction to a stimulus that disturbs our physical or mental equilibrium. Stress may come from a variety of sources, and it may be normative, but it may have enduring consequences on mental health later in life. Although the impact tends to be viewed as negative, adolescents' responses to stress vary widely, and some of it may be positive. Developmentalists have devoted considerable time to understanding this variation and seeking to intervene and prevent risk for the development of mental health problems in adulthood.

The Nature of Stress Responses

People's daily lives require them to react to challenges, or stressors, that take place around them and that impact their development. At times, when

chronic exposures to stress, and the related stress hormones, can produce negative effects, including posttraumatic stress disorder, that could viably incite permanent alterations in the typical patterns of activity that appear on the HPA axis.

Stress and the Adolescent Period

Evidence indicates that stressors experienced during the adolescent period can have effects peculiar to that period (Romeo 2010). Although stress obviously can lead to deep psychological dysfunction in adulthood, adolescents do appear to be more susceptible to the effects of stress compared to adults. It also is just as likely that this period of vulnerability translates into an opportune developmental window for effective interventions (see Romeo 2010). Stressful experiences can be countered by possible resources available to youth that could allow them to cope more effectively. These potential protective factors include prior experience, cognitive skills, personality characteristics and tendencies, resiliency, social support, and available social networks.

Although research does show that some responses to stress can alleviate its effects, this area of research reveals an incredible complexity of factors. Stress can include normative, chronic, or acute stress, and multiple types of the same stressor can be present simultaneously in any given situation. For example, research proposes that maternal food insecurity poses a more rampant problem than child food insecurity. Even in prosperous nations like the United States, food insecurity has become an increasingly significant problem among the poor and even other social groups given the effects of unhealthy food on obesity and other excessive weight problems. But, even where there is food insecurity, other stressors play important roles as, for example, has been shown in research indicating that maternal stressors amplify a food insecure adolescent's probability of experiencing negative outcomes, such as being overweight or obese (Lohman et al. 2009).

As a concept, stress tends to be presented as signifying a negative influence on a person's health and overall quality of life. This idea proves

realistic when stressors negatively impact mental health and incite unhealthy responses like smoking or substance use/abuse. For example, researchers have proposed a stress–incubation/corticolimbic dysfunction model based on the interplay of exposure to stress, developmental stage, and neuromaturational events that may explain the seeking of specific classes of drugs later in life (Andersen and Teicher 2009). That model supports the view that the interaction of exposure during a sensitive period and maturational events produces a developmental cascade that leads to the initiation of substance use at younger ages and increases the likelihood of addiction by adolescence or early adulthood. Importantly, genetic and environmental factors interact dynamically, as each factor is inextricably affected by the presence of the other. Consequently, when coping resources become necessary to be used, and they prove viable enough to deal with the existing circumstances, then the act of experiencing and adapting to stressors can induce positive changes out of necessity for the person responding to the situation. Put simply, stress and vulnerability do not necessarily predict outcomes; they predict the chances of outcomes.

Available evidence highlights how early experiences play a significant role in the manner individuals respond to stress. Particularly significant are parents' and early caretakers' abilities to identify their needs and respond to them effectively. Much research has demonstrated that babies possess varying levels of coping capacities in response to changes that occur in their immediate environment, with some adapting more easily than others. Babies prove highly individual, and some may become upset at stressors that would not faze another child. The most effective parenting emerges when infants experience a consistent emotional base and receive positive, responsive, and individual attention that can feel secure and develop the tenacity and courage to investigate their physical environments and analyze new associations. If older children lack familiarity with this type of stable base, they might encounter difficulties in interpreting signals that represent a lack of security from relationships or their environment. They might not have developed

adequate skills or knowledge of how to protect themselves, so they might be particularly susceptible to bullying, or they may engage in such unacceptable deportment themselves. An extensive research body that encompasses longitudinal studies reveals the importance of early child–parent interactions, as well as the long-term ramifications of such associations. Children who do develop this much needed secure base early on possess a stronger capacity to adapt to environmental stress, cultivate friendships, and select appropriate companions. Children who receive this secure base cultivate a parallel resiliency that simultaneously serves as a predictor of the child’s capacity to acquire additional support sources later in life. An individual’s capacity to cope with stress thus remains highly dependent on early caretaking relationships.

Older children’s experiences of threats, as well as their capacity to gain confidence from multiple sources (from both domestic and other sources, such as schools and communities), become heavily influenced by their earlier experiences. Mentors can mitigate negative ramifications from early difficulties, by exerting a positive impact on children’s lives, as older children become more and more cognizant of and influenced by particular sources of chronic and acute stressors, both within and apart from their nuclear families (DuBois et al. 2002). Some examples of such stressors include economic challenges, social or familial violence, or abusive situations (see Kaplow and Widom 2007). Children who prove most tolerant of change and more easily adaptable (they possess “easy” temperaments) also prove more resilient to such challenges over the long term. However, such children may also withstand abusive conditions for a longer period before seeking assistance; this question remains unanswered. Still, resilience is more common than is often believed, and there are multiple and sometimes unexpected pathways to resilience (Bonanno 2004).

Children who undergo extended or long-term stressors can negatively impact children’s health and school performance. Representative symptoms include somatic difficulties (like headaches, abdominal discomfort, and sleep problems) or mental health issues (including depression and

anxiety) (see Kaplow and Widom 2007). Students can also exhibit problematic behavior and lower academic performance, and these issues can eclipse the true source of the child’s emotional upsets, so that it takes longer to uncover the actual underlying stressor. Children who have this type of experience also stand a higher risk of death, such as situations involving extreme cases of natural disasters (e.g., bombings or occurrences like Hurricane Katrina); they might also exhibit post-traumatic stress disorder indicators, especially if they have witnessed violence to a loved one (see, e.g., Kimhi et al. 2010).

Students who undergo this type of experience need support from a variety of resources, and that support must be implemented according to several factors. The child’s age proves a crucial element in selecting a coping resource, as young children must necessarily involve recuperation of the caregiver or parents. Specifically, if parents have their own issues, these must be handled to support the child (e.g., postpartum depression, considerable medical challenges, or anxiety about their own physical security); in some cases, parents need additional support to handle their own personal stressors. Older toddlers and elementary school-aged students might benefit from having an explanation of the situation presented to them, so that children can experience a greater locus of control in an often unpredictable and chaotic situation. In general, when students can become exposed to a safe and secure environment, this experience can produce great strengths as they allow them to gain access to a stable situation that includes emotional support and a strong network structure. All children, regardless of age, need to feel emotional security after exposure to extreme stressors, and that support can come from a variety of sources; for example, mentors can cultivate trust with such students, even if they cannot obtain this support from parents.

Youth need to develop a sense of control in order to be able to apply evaluative abilities to situations they face so as to devise useful coping strategies. This sense can be cultivated through individual or group interventions and prove most effective when students themselves can exert some control over the situation and their response to it; for example, at high levels of stress, adolescents

with poor problem-solving skills have been shown to experience elevated suicidal ideation and be at greater risk of making suicidal attempts (see, e.g., Grover et al. 2009). However, support structures that also allow youth to adapt to situations, when they cannot control them, also prove helpful. Students closer to adolescence exhibit a more developed tendency to be able to identify those circumstances over which they can maintain control and which responses prove most effective in managing the stressors. Ultimately, collaboration between youth, their families, and the larger community can produce a more positive outcome for future interventions (Dumont and Provost 1999).

Conclusion

One of the most important tasks of adolescence is to learn to develop coping skills to address a broad variety of stresses. The significance of these skills cannot be underestimated given the iniquitousness of stress in individuals' lives. Yet, research reveals that responding to stress involves much more than skills; it involves deep neurobiological responses that influence later responses. The broader understanding of the sources of stress and how adolescents respond to them now serves as the foundation of interventions to help youth move toward healthier responses to stress and healthier outcomes.

Cross-References

► [Stress Management](#)

References

- Andersen, S. L., & Teicher, M. H. (2009). Desperately driven and no brakes: Developmental stress exposure and subsequent risk for substance abuse. *Neuroscience and Biobehavioral Reviews*, *33*, 516–524.
- Bonanno, G. A. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events. *The American Psychologist*, *59*, 20–28.
- DuBois, D. L., Holloway, B. E., Cooper, H., & Valentine, L. C. (2002). Effectiveness of mentoring programs for

- youth: A meta-analytic review. *American Journal of Community Psychology*, *30*, 157–197.
- Dumont, M., & Provost, M. A. (1999). Resilience in adolescents: Protective role of social support, coping strategies, self-esteem and social activities on experience of stress and depression. *Journal of Youth and Adolescence*, *28*, 343–363.
- Eiland, L., & Romeo, R. D. (2013). Stress and the developing adolescent brain. *Neuroscience*, *249*, 162–171.
- Grover, K. E., Green, K. L., Pettit, J. W., Monteith, L. L., Garza, M. J., & Garza, A. (2009). Problem solving moderates the effects of life event stress and chronic stress on suicidal behaviors in adolescence. *Journal of Clinical Psychology*, *65*, 1281–1290.
- Kaplow, J. B., & Widom, C. S. (2007). Age of onset of child maltreatment predicts long-term mental health outcomes. *Journal of Abnormal Psychology*, *116*, 176–187.
- Kimhi, S., Eshel, Y., Zysberg, L., & Hantman, S. (2010). Postwar winners and losers in the long run: Determinants of war related stress symptoms and posttraumatic growth. *Community Mental Health Journal*, *46*, 10–19.
- Lohman, B. J., Stewart, S., Gundersen, C., Garasky, S., & Eisenmann, J. C. (2009). Adolescent overweight and obesity: Links to food insecurity and individual, maternal, and family stressors. *The Journal of Adolescent Health*, *45*, 230–237.
- Lupien, S. J., McEwen, B. S., Gunnar, M. R., & Heim, C. (2009). Effects of stress throughout the lifespan on the brain, behavior and cognition. *Nature Reviews Neuroscience*, *10*, 434–445.
- Romeo, R. D. (2010). Adolescence: A central event in shaping stress reactivity. *Developmental Psychobiology*, *52*, 244–253.
- Sapolsky, R. M., Romero, L. M., & Munck, A. U. (2000). How do glucocorticoids influence stress responses? Integrating permissive, suppressive, stimulatory, and preparative actions. *Endocrine Reviews*, *21*, 55–89.

Stress Management

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Overview

Adolescents have to deal with many stressors, which are associated with maladaptive psychosocial development during adolescence. Therefore, the attenuation of the adverse stress effects on

adolescent adjustment is of high importance. Internal resources are essential factors to diminish these stress effects. Coping capacities have been shown to be significant protective factors to the psychosocial adjustment to stressors. Recent coping research has suggested that two adaptive coping styles can be differentiated from a maladaptive coping style. Effective stress management trainings for adolescents have been designed as multimodal prevention programs addressing the modification of these coping styles. Thus, methods to employ (adaptive) emotion-focused coping skills such as relaxation are implemented in order to reduce stress in the short term. In addition, cognitive techniques such as positive self-instruction and problem-solving and skills training such as social skills training are incorporated in order to enable the long-term mastering of daily stressors. Furthermore, in the “Anti-Stress-Training” (AST) for children and adolescents (Hampel and Petermann 2003), which is presented further on in more detail, maladaptive coping is discussed, and its impact on the coping process is reflected. Prior research provided evidence that multimodal stress management trainings do improve coping abilities of adolescents and thereby support their psychosocial development.

Introduction

The transition from childhood to adolescence is a developmental period of high vulnerability mainly caused by an enormous increase in common and developmental stressors. On the one hand, common stressors such as interpersonal conflicts or school-related demands are more frequently and of higher intensity during adolescence (Seiffge-Krenke 2000, 2011; see also essay “► Stress”). On the other hand, adolescents have to deal with many developmental tasks such as adjusting to accelerated physical maturity, reaching autonomy from their parents, or experiencing first romantic relationships. Especially, common stressors are linked to psychological and physiological stress symptoms. Most importantly, stress-related internalizing problems

such as anxiety and depression and externalizing problems such as aggression have been found (Compas et al. 2001, 2014).

Nevertheless, further research has shown that coping abilities are important factors, which can influence the stressor-adjustment relationship (for review, see Compas et al. 2014; Zimmer-Gembeck and Skinner 2011). More specifically, current research provided evidence that maladaptive coping plays a major role in the development of internalizing and externalizing problems (e.g., Evans et al. 2015; for review, see Aldao et al. 2010).

According to Lazarus, coping consists of efforts, both action oriented and intrapsychic, to manage environmental and internal demands, and conflicts among them, which tax or exceed a person’s resources (Lazarus and Folkman 1984). In most concepts of coping, two coping styles are distinguished: more direct coping modes (i.e., problem focused, primary control, or approach coping) and more indirect coping efforts (i.e., emotion focused, secondary control, or avoidant coping). Some researchers mentioned that by using these dichotomized concepts, adaptive and maladaptive coping are confounded. For instance, the mainly adaptive coping strategy “distraction” and the maladaptive coping strategy “aggression” are both subsumed under emotion-focused coping. Therefore, some researchers suggested a three-dimensional concept of coping, comprising of two functional coping styles and one dysfunctional coping style (e.g., Seiffge-Krenke 2000). Referring to this concept and the classification of Lazarus and Folkman (1984), Hampel and Petermann (2005) differentiated between the two adaptive coping styles “emotion-focused coping” (minimization, distraction/recovery) and “problem-focused coping” (situation control, positive self-instructions, and social support). In addition to these two adaptive coping styles, a maladaptive coping style was suggested, including passive avoidance, rumination, resignation, and aggression. While adaptive coping was related to better psychological adjustment, maladaptive coping was associated with reduced adjustment (Compas et al. 2001; cf. Hampel and Petermann 2005).

Cross-sectional and longitudinal studies have demonstrated that the employment of coping strategies depends on the developmental stage of children and adolescents. Despite mixed results, it can be summarized that the adaptive emotion-focused coping strategy “distraction” decreased in 9- to 14-year-old children and adolescents, problem-focused strategies such as problem-solving showed a stable course, and higher cognitive strategies such as cognitive restructuring began to emerge during early adolescence (Compas et al. 2001; Hampel and Petermann 2005). In addition, maladaptive coping such as resignation, rumination, aggression, and avoidance enhanced during early and middle adolescence. These developmental changes in coping have to be taken into account while designing stress management programs for children and adolescents, emphasizing especially the adverse coping pattern during early and middle adolescence.

Stress Management Trainings

Stress management trainings for children and adolescents differ in their aim and complexity. Universal or primary preventive programs are based on a broad concept and are aimed to strengthen the health status of children and adolescents. For this reason, these programs include health-promoting methods such as relaxation or problem-solving. Based on comprehensive empirical data, this essay puts an emphasis on this type of program. Indicative or secondary preventive programs were designed to treat children and adolescents whose health status is impaired; specialized treatments are applied to cure their disease. Finally, selective or tertiary preventive programs were conceptualized to treat chronically ill children and adolescents, whose health status can be exacerbated by maladaptive coping; their disease management is promoted by even more specialized treatment regimens. Overall, the different types of preventive programs vary in the composition and broadness of the target population and selectivity of implemented treatment components. Regarding the complexity of programs, unimodal trainings

with relaxation or problem-solving only and multimodal training with a combination of different psychological methods were developed. Thus, cognitive elements like problem-solving and behavioral elements such as relaxation or social skills training were integrated in so-called cognitive-behavioral preventive programs.

Effective Elements of Cognitive-Behavioral Stress Management Trainings

Many stress management trainings were designed as unimodal programs, implementing relaxation or (social) problem-solving only, even though coping with stress could not be improved in the long term by these programs (cf. Hampel and Petermann 2003; Maag and Kotlash 1994). Hence, the inclusion of at least these two elements, relaxation and problem-solving, is suggested. Multimodal stress management trainings were designed with this proposal in mind (for a review, see Maag and Kotlash 1994) to reduce acute stress and to promote long-term mastering of stress by improving the perception of stress situations and stress symptoms, identifying maladaptive coping strategies, and acquisition or modification of adaptive coping strategies. Effective stress management trainings implemented a variety of different methods. In general, these programs incorporated:

- Cognitive restructuring
- Practicing relaxation
- Skills training such as acquisition of social skills and school-related or general problem-solving skills

Evaluation studies supported the effectiveness of cognitive-behavioral stress management trainings among children and adolescents. Nevertheless, Clarke (2006), who found the modest effect sizes for the prediction of psychosocial well-being by active coping, drew the conclusion that former intervention studies essentially focused on problem-oriented coping. Future conceptualizations should also include emotion-focused coping strategies to increase the flexible repertoire of adaptive coping. Therefore, exercises with the emphasis on the improvement of emotion-

regulating strategies, such as relaxation, recovery, and distraction, should be incorporated more explicitly into stress management trainings.

Most of the cognitive-behavioral stress management trainings addressing children and adolescents were based on the “Stress Inoculation Training” (SIT) developed by Meichenbaum (1985). There are several reasons why researchers suggested that the SIT is an appropriate approach for the conceptualization of stress management trainings among children and adolescents (cf. Maag and Kotlash 1994). First of all, the SIT is based on the psychological concept of stress according to Lazarus and Folkman (1984). Moreover, it is aimed to strengthen individuals’ resources and therefore follows the approach of learned resourcefulness. The SIT incorporates well-evaluated, effective methods of the cognitive-behavioral therapy and therefore measures up to the complex stress process. Thus, restructuring the stress and coping process are enabled by cognitive methods, regulation of emotions becomes possible due to relaxation, and behavior modifications are enabled by behavioral methods. Finally, the SIT guarantees generalized effects by focusing on the transfer of acquired coping strategies into daily life.

Stress Inoculation Training

Due to the fact that the “Anti-Stress-Training” (AST) for children and adolescents of Hampel and Petermann (2003) is also based on the SIT, this approach is presented here. The SIT is based on the idea that stress situations should not be evaluated as individual threats but as problems that can be solved. The SIT is structured in three consecutive stages: information, acquisition, and application. During the *information stage*, the psychological concept of Lazarus is explained, and the individual stress and coping process is explored. By applying these methods, the stress and coping process is reevaluated. Thus, stress situations are appraised as challenging rather than threatening situations. During the *acquisition stage*, effective coping skills are developed by strengthening already existing and learning new coping strategies. Divergent methods are applied such as relaxation, physical exercise, and

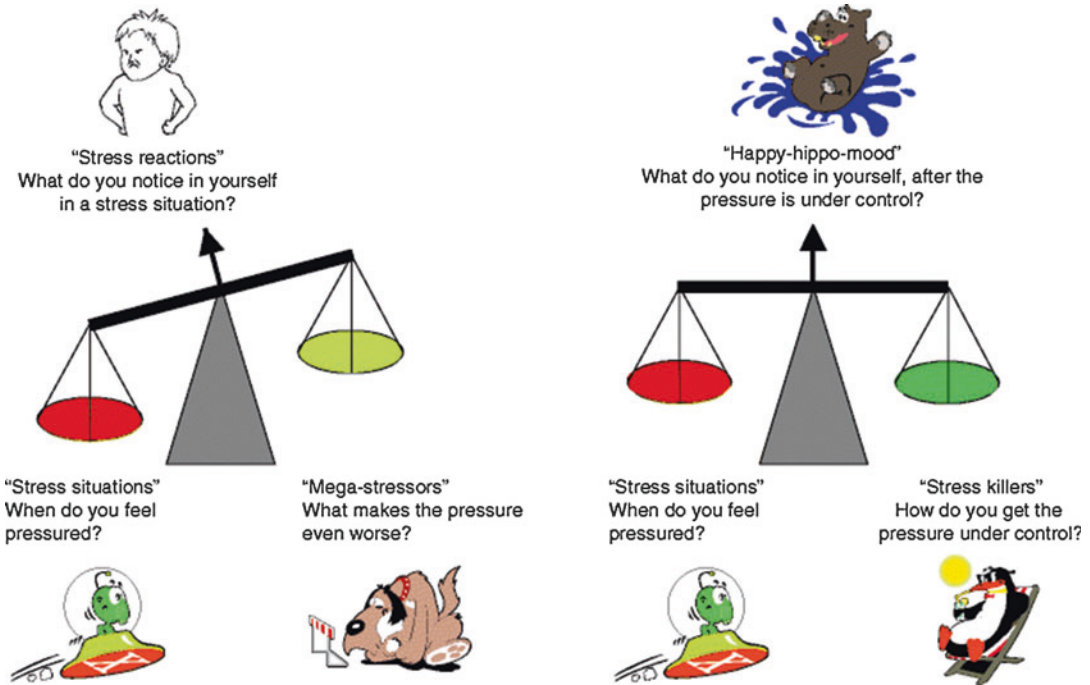
cognitive techniques (cognitive restructuring, problem-solving, and positive self-instruction). Within this context, individuals are trained in coping, which is adapted to the stress situation; problem-focused coping should be applied to controllable situations (e.g., academic stressors), and emotion-regulating strategies should be employed at stress situations, which are uncontrollable (e.g., social stressors). Finally, the acquired coping skills should then be applied to daily stress situations during the *application stage*. Methods such as imagination, role-playing, modeling, and step-wise confrontation with stressors are used. Furthermore, relapse-preventing elements are integrated in order to improve individuals’ self-efficacy. To stabilize treatment effects, booster sessions are highly recommended by Meichenbaum (1985).

Practical Application Exemplified by the “Anti-Stress-Training”

General Aspects

The “Anti-Stress-Training” (AST; Hampel and Petermann 2003) was developed for children and adolescents aged from 8 to 13 years. It is designed treating children and adolescents in groups up to six participants. The version of the AST, which is conceptualized as a primary preventive program consists of four sessions lasting 2 h including a break of 15 min in between.

During the *first session*, information about stress and coping is given referring to a cardboard model of a stress scale (Fig. 1; quotations indicate the terms used in the AST). In accordance with Lazarus and Folkman (1984), the stress scale makes it clear that stress can be characterized by an imbalance between increased demands (“Stress Situations”) and absent adaptive coping strategies (“Stress Killers”) or maladaptive coping strategies (“Mega Stressors”). Stressful encounters and coping strategies are explored and discussed. During the training, relaxation (“First, I’m going to relax!”), recreation (“Everything will work better after a break!”), distraction (“I’m thinking of something else!”), and minimization (“Don’t take it that seriously!”) are employed to increase



Stress Management, Fig. 1 Semantic phrases and pictorial cues of the five concepts of the coping process in the “Anti-Stress-Training” (From Hampel and Roos 2007, p. 61)

emotion-focused coping. Moreover, situation control (“First, I make a plan!”), positive self-instructions (“I’m encouraging myself!”), social support (“I’m asking for somebody’s help!”), and reaction control (“First of all, I have to handle myself!”) are practiced to improve problem-focused coping. Additionally, denial (“I’m not stressed out!”) is introduced as a coping strategy, which is adaptive in the short term when the stress situation is uncontrollable (cf. Meichenbaum 1985). Furthermore, physical, emotional, and cognitive stress reactions (“Stress Responses”) are explored, and self-perception is improved by exercises. Finally, indicators of a successful coping process (“Happy-Hippo-Mood”) are discovered.

In the *second session*, the “stress chain” is taught in order to make clear that the coping process can be described as a problem-solving process (cf. Meichenbaum 1985): First of all, a “Stress Situation” needs to be recognized followed by the identification of stress reactions, “Stress Response,” including “Stress Emotion,”

“Blackout,” and “Somatic response.” Adaptive coping strategies to reduce the stress (“Stress Killers”) are explored afterward. The emotional and physical well-being as much as the cognitive performance needs to be approved as an indicator of successful coping (“Happy-Hippo-Mood”). Later, the following maladaptive coping strategies are discussed: passive avoidance (“I avoid stress!”), flight (“I’m leaving!”), social withdrawal (“I keep to myself!”), rumination (“I’m steadily thinking of the problem!”), resignation (“I’ll never make it!”), and aggression (“I explode!”). Finally, positive self-instruction and recovery skills are practiced.

During the *third and fourth session*, coping skills are trained in role-plays in order to employ a flexible repertoire of adaptive coping strategies, which can be utilized differentially in specific stressful encounters. Using homework assignments, the acquired coping skills are applied to daily life. In all sessions, relaxation exercises are practiced, in the first both sessions progressive muscle relaxation and in the last both sessions

imagery. Prevention of relapse takes place by imagination of unsuccessful coping processes and exploring coping strategies to deal with the stressful encounters effectively.

First evaluation studies supported the effectiveness of the universal preventive AST; nevertheless, more evidence was provided implementing an adapted version during inpatient rehabilitation of chronically or mentally ill children and adolescents (e.g., Hampel and Roos 2007). In order to reach broader samples, school-based versions of the universal preventive AST were designed. A recent meta-analysis provided evidence for the beneficial effects of school-based universal prevention programs targeting stress management (Kraag et al. 2006). Interestingly, only 4 of the 19 studies applied a multimodal stress management training. In the following sections, two versions of the school-based multimodal AST are described.

School-Based Stress Management Training for Fifth Graders

Design and procedure. A school-based AST was developed for fifth graders aged from 10 to 12 and comprised six weekly sessions, each lasting 45 min. The AST was conducted during class time and in gender-specific groups. In total, 50 boys and 61 girls of 5 classes participated in the study; the girls were trained by 2 female trainees and the boys by 1 male trainee. All trainees were graduate students in psychology and educated in the AST. One part of the classes ($n = 51$ students) was trained first (experimental group, EG), while the other part of the classes was randomized to the waiting list control group (WCG; $n = 60$). Outcome effects were evaluated at three sample points: related to the EG, pre, post, and 3 months after intervention. Classes of the WCG were evaluated 3 months pre, immediately pre, and post intervention.

Treatment. The six weekly sessions were divided into a start-up, a closing session, and four training sessions with the same time structure. Based on empirical data, early adolescents show increased stress, anger control problems, low self-esteem, and great impact of media. Therefore, the sessions' topics comprised of stress

management, anger control, problem-solving, and influence of the media.

During the *first session*, the adolescents and trainees got to know each other by playing group games, group rules were agreed to by the participants, and the topics of the sessions to come were briefly discussed. Moreover, progressive muscle relaxation was conducted as relaxation exercise, and a homework regarding social skills was assigned. The following *four sessions* were structured in the same way: Firstly, the students were welcomed in the gender-specific groups and the relaxation was performed. Secondly, the homework, which always related to the specific topic of one session, was discussed. Thirdly, the actual training period took place. Methods such as role-playing or group discussions were used. The sessions ended with the explanation of a new task as homework. In the *closing session*, relaxation was practiced and the learned topics were reflected and summarized. Moreover, certificates and a small gift were offered to the students as approval for their participation.

Measure. Coping strategies were measured by the German Coping Questionnaire for children and adolescents (*Stressverarbeitungsfragebogen für Kinder und Jugendliche*, SVF-KJ; cf. Hampel et al. 2008; Hampel and Petermann 2005). Coping responses were answered in relation to two common stressors: an interpersonal stress situation exemplary described by a conflict with peers or malicious gossip expressed by peers and an academic stress situation exemplified by taking a difficult exam or dealing with too much homework. Nine coping strategies were represented by four items each whose likelihood of occurrence was rated for 36 coping responses on a 5-point Likert scale (0 = *not at all*; 4 = *in any case*). Emotion-focused coping was measured by minimization (e.g., *I say to myself: it isn't as bad as all that*) and distraction/recreation (e.g., *I'm reading something that's fun*). Problem-focused coping was represented by situation control (e.g., *I'm making a plan to fix the problem*), positive self-instructions (e.g., *I say to myself: I know I can solve the problem*), and social support (e.g., *I'm talking to somebody about that*). Maladaptive coping was measured by passive avoidance (e.g.,

I'd like to stay away from the situation), rumination (e.g., *I keep on worrying and thinking about the situation*), resignation (e.g., *I keep on thinking: It's really pointless*), and aggression (e.g., *I'd like to explode*). Presentation of results will focus here on cross-situational coping.

Results. Minimization increased from the pre to the post assessment in the EG only marginally. In the WLC, minimization decreased significantly between 3 months prior and immediately prior to intervention and was increased after intervention. Situation control was enhanced in the EG compared to the pre assessment and did not show changes at the follow-up assessment. In the WLC, situation control decreased between 3 months prior and immediately prior to intervention and was increased after intervention.

Conclusions. The school-based AST for fifth graders did show some beneficial effects on adaptive coping, which did not depend on gender. The problem-focused coping strategy "situation control" was improved after the school-based AST both in the EG and the WLC, which can be attributed to the components of stress management and problem-solving. The emotion-focused coping strategy "minimization" showed a short-term improvement only in the WLC. No significant changes could be detected in maladaptive coping. This is in line with former results, showing fewer effects of shorter versions of the AST on maladaptive coping (cf. Hampel and Petermann 2003). As described in the next section, implementing more intensive components of stress management seems to increase the effects on maladaptive coping.

School-Based Stress Management Training for Sixth to Ninth Graders

Design and procedure. A school-based AST with elements of experiential education was developed for sixth to ninth graders aged from 10 to 14 and consisted of six weekly training sessions for students, coaching sessions for teachers, and an information session for parents prior to and after the intervention (Hampel et al. 2008). Seventeen teachers were trained to deliver the AST to their students during class. Coaching of teachers, educating of parents, and two sessions for the students

were conducted by two doctoral students. In total, 160 boys and 160 girls participated in the study. One school ($n = 138$ students) participated in the school-based AST with elements of experiential education (EG), while the other school was untreated (control group; CG; $n = 182$). Outcome effects were evaluated at three sample points: pre, post, and 3 months after intervention.

Treatment. The *first session*, which was conducted by the doctoral students, included the introduction of training contents and the progressive muscle relaxation. Information about stress was given, and stressful situations as well as adaptive and maladaptive coping strategies were explored using the stress scale. Moreover, group plays to foster positive self-instructions and acquire social skills were conducted. In order to intensify treatment effects, students received a booklet with the main training contents, information about stress, and homework to continue working with the topic after school.

The following *six weekly sessions* were conducted by the teachers. The important components of the intervention were the following: increasing of treatment motivation by designing their own booklet; improving the perception of bodily responses; exploring individual stressors and coping strategies; employing a flexible repertoire of adaptive coping strategies, which should be adapted to the type of stressor; practicing relaxation and breathing exercises; exploring and practicing recovery activities; and practicing positive self-instructions and social skills. In the *final session*, the subject matter was summarized by the doctoral students, positive self-instruction and social skills were practiced, and imagery was guided. As a final point, to thank the students for participating, they received a certificate and a small gift.

The school-based AST was accompanied by weekly sessions of experiential education, including cooperation tasks, concentration tasks, and body sensation tasks, in order to make a positive impact on body perception, body concept, general and social self-efficacy, and social behavior. After the fourth week, the students received their results of the coping and self-efficacy questionnaires. In addition, 3 months after the school intervention,

the subject matter on stress was repeated in a booster session.

Measure. Coping strategies were measured again by the SVF-KJ (cf. Hampel et al. 2008; Hampel and Petermann 2005). As interpersonal stressors are the most salient stressors during adolescence (Clarke 2006), evaluation of coping response related to academic stressors was omitted in this study.

Results. Beneficial effects of the school-based AST with elements of experiential education on perceived stress and self-efficacy have been found, but reports on results here will focus on coping effects. Distraction/recreation increased in the short and midterm in the EG and in the midterm in the CG. Rumination decreased in the short and midterm in the EG. In contrast, the CG did not show significant changes toward this strategy. In the EG, substantial short- and midterm improvements were found for minimization, social support, resignation, and aggression. In the CG, minimization did not change over time, but social support decreased after the treatment compared to baseline. Moreover, resignation and aggression were enhanced immediately and 3 months after intervention. Thus, after the intervention and at the follow-up assessment, the EG reported significantly higher levels of minimization, distraction/recreation, and social support and lower levels of rumination, resignation, and aggression in comparison with the CG. Age-dependent treatment effects on situation control, positive self-instructions, and passive avoidance indicated that early adolescents (sixth and seventh graders) benefited more from the intervention than the middle adolescents.

Conclusions. The school-based AST with elements of experiential education for sixth to ninth graders did show favorable effects on adaptive and maladaptive coping, which were mainly independent on age group and did not depend on gender. Thus, it can be assumed that by incorporating more intensive components of stress management, maladaptive coping can also be modified. Additionally, the AST evoked improved perceived stress and self-efficacy across both genders and age groups. Overall, the school-based AST with elements of experiential education was

able to strengthen the important internal resources “coping” and “self-efficacy” among early and middle adolescents, who are in a very critical transition period characterized by a high amount of risk factors for the psychosocial development.

General Conclusions

Multimodal stress management trainings for children and adolescents have been found to enhance the flexible repertoire of coping strategies and thereby enable a situation-dependent use of coping strategies. Knowledge about stress and coping represents a fundamental component. Relaxation is an effective component because it describes an important emotion-focused coping strategy, which is indicated for utilization in uncontrollable stress situations but is not developed in children and early adolescents. In addition, problem-solving, positive self-instruction, and conflict management are major components of cognitive-behavioral stress management trainings. Nonpersistent effects on coping in the literature supported that booster sessions should be applied in order to stabilize favorable effects across a longer period. However, future conceptualizations of stress management trainings should integrate these effective treatment elements. Applying these multimodal trainings, coping abilities and self-efficacy among children and adolescents can be enhanced, and thereby the resiliency of children and adolescents can be strengthened.

Future Directions

Current approaches implemented also elements of mindfulness-based interventions, which have been shown to improve self-reported psychological health (Keng et al. 2011), self-esteem (Randal et al. 2015), and mindfulness (Visted et al. 2015), among samples of the life-span. Felver et al. (2016) summarized the prior research on school-based interventions among children and adolescents and came to the conclusion that application of more experimental randomized control trial designs, assessing multi-method multi-

informant outcomes, and collecting follow-up data are needed. Nevertheless, they further concluded that the intervention elements are feasible and acceptable and improve psychopathology such as behavioral problems, anxiety, depression, affective disturbances, and executive dysfunctions. Furthermore, improvements in physiological functioning are suggested. For instance, Huppert and Johnson (2010), conducting a quasi-experimental design with a control group attending their usual religious studies lessons, could not find any statistical differences between the intervention and control groups. However, in the intervention group, improvements in psychological well-being and mindfulness were associated with the amount of individual exercises outside the classroom. Thus, it is recommended that future experimental research should incorporate modules of mindfulness-based interventions into cognitive-behavioral trainings to accumulate strong evidence for the effectiveness of these multimodal approaches.

Cross-References

► [Stress](#)

References

- Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion-regulation strategies across psychopathology: A meta-analytic review. *Clinical Psychology Review, 30*, 217–237.
- Clarke, A. T. (2006). Coping with interpersonal stress and psychosocial health among children and adolescents: A meta-analysis. *Journal of Youth and Adolescence, 35*, 11–24.
- Compas, B. E., Connor-Smith, J. K., Saltzman, H., Harding Thomsen, A., & Wadsworth, M. E. (2001). Coping with stress during childhood and adolescence: Problems, progress, and potential in theory and research. *Psychological Bulletin, 127*, 87–127.
- Compas, B. E., Jaser, S. S., Dunbar, J. P., Watson, K. H., Bettis, A. H., Gruhn, M. A., & Williams, E. K. (2014). Coping and emotion regulation from childhood to early adulthood: Points of convergence and divergence. *Australian Journal of Psychology, 66*, 71–81.
- Evans, L. D., Kouros, C., Frankel, S. A., McCauley, E., Diamond, G. S., Schloretd, K. A., & Garber, J. (2015). Longitudinal relations between stress and depressive symptoms in youth: Coping as a mediator. *Journal of Abnormal Child Psychology, 43*, 355–368.
- Felver, J. C., Hoyos, C.-de., Cintly, E., Tezanos, K., & Singh, N. N. (2016). A systematic review of mindfulness-based interventions for youth in school settings. *Mindfulness, 7*, 34–45.
- Hampel, P., & Petermann, F. (2003). *Anti-Stress-Training für kinder [Anti-stress-training for children]* (2nd ed.). Weinheim: BeltzPVU.
- Hampel, P., & Petermann, F. (2005). Age and gender effects on coping in children and adolescents. *Journal of Youth and Adolescence, 34*, 73–83.
- Hampel, P., & Roos, T. (2007). Interpersonal coping and multimodal treatment among boys with attention-deficit/hyperactivity disorder. *Reports on Emotional and Behavioral Disorders in Youth, 7*, 59–64.
- Hampel, P., Meier, M., & Kümmel, U. (2008). School-based stress management training for adolescents: Longitudinal results from an experimental study. *Journal of Youth and Adolescence, 37*, 1009–1024.
- Huppert, F. A., & Johnson, D. M. (2010). A controlled trial of mindfulness training in schools: The importance of practice for an impact on well-being. *The Journal of Positive Psychology, 5*(4), 264–274.
- Keng, S.-L., Smoski, M. J., & Robins, C. J. (2011). Effects of mindfulness on psychological health: A review of empirical studies. *Clinical Psychology Review, 31*, 1041–1056.
- Kraag, G., Zeegers, M., Kok, G., Hosman, C., & Abu-Saad, H. H. (2006). School programs targeting stress management in children and adolescents: A meta-analysis. *Journal of School Psychology, 44*, 449–472.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal and coping*. New York: Springer.
- Maag, J. W., & Kotlash, J. (1994). Review of stress inoculation training with children and adolescents. *Behavior Modification, 18*, 443–469.
- Meichenbaum, D. (1985). *Stress inoculation training*. New York: Pergamon Press.
- Seiffge-Krenke, I. (2000). Causal links between stressful events, coping style, and adolescent symptomatology. *Journal of Adolescence, 23*, 675–691.
- Randal, C., Pratt, D., & Bucci, S. (2015). Mindfulness and self-esteem: A systematic review. *Mindfulness, 6*, 1366–1378.
- Seiffge-Krenke, I. (2011). Coping with relationship stressors: A decade review. *Journal of Research on Adolescence, 21*, 196–210.
- Visted, E., Vøllestad, J., Nielsen, M. B., & Nielsen, G. H. (2015). The impact of group-based mindfulness training on self-reported mindfulness: A systematic review and meta-analysis. *Mindfulness, 6*, 501–522.
- Zimmer-Gembeck, M. J., & Skinner, E. A. (2011). The development of coping across childhood and adolescence: An integrative review and critique of research. *International Journal of Behavioral Development, 35*, 1–17.

Strip Searches and Students' Rights

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Overview

Students have reduced rights when in schools, including how and when they can be searched and they can have their possessions (or even themselves) seized. Several rationales support that reduction, but most have to do with the notion that there is a special need to reduce their rights because of the educational environment. The reduction of rights, however, becomes complicated for the simple reason that students, especially those in public schools, are interacting with teachers and school officials who work on behalf of the government. That means that adults who interact with students should be respecting the rights of adolescents, as the Constitution, for example, applies to all governmental actions. Although the reduction in rights is now well accepted doctrine, it still poses important concerns when the rights that are being infringed are deemed particularly important. This essay examines recent developments in this area relating to strip searches, something that the courts have deemed particularly invasive and in need of restrictions from governmental actions.

Searches and Seizures in Schools

In the United States, the Fourth Amendment recognizes the right against unreasonable searches and seizures. That right generally requires a law enforcement officer to have probable cause and, in some instances, a warrant for conducting a search. Although applying probable cause to certain cases can be challenging, the general rule is that probable cause exists when an officer has reasonably trustworthy information arising from facts, circumstances, and other knowledge that would be sufficient in themselves to support the belief that an offense has been or is being committed and that

the evidence will be found in the place to be searched. There are many exceptions to these rules and some involve searchers by non-law enforcement such as teachers and school administrators (Levesque 2006). In these circumstances, a major exception to the need for warrants and probable cause would be the "special needs" doctrine. That doctrine more readily permits searches when the government has an interest beyond law enforcement, as those searchers can be based on reasonable suspicion rather than the higher burden of probable cause (see *New Jersey v. T.L.O.* 1985). As a result, for example, the Supreme Court has adopted a standard of reasonable suspicion to determine the legality of a school administrator's search of a student; and it has held that a school search will be permissible in its scope when the measures adopted are reasonably related to the objectives of the search and not excessively intrusive in light of the age and sex of the student and the nature of the infraction (*New Jersey v. T.L.O.* 1985, p. 342). This reduced protection from searches has been interpreted as an individual's reasonable belief that they have a moderate chance of finding the evidence that is being sought.

Given the uncertainties that may arise when people have different views of what is reasonable, it is no surprise to find that this area of law remains murky in practice. The uncertainties have considerable significance. The uncertainty can lead to intrusions in people's lives when they are searched without justifiable grounds. The potential uncertainty also leaves those who would conduct searches open to litigation against them for inappropriately infringing on people's rights. These two factors often come to the center of controversies when individuals have been subjected to controversial searches that some would deem inappropriate.

Strip Searches

One of the most intrusive searches that could be made on adolescents, indeed on any individual, would be strip searches. These types of searches have been permitted in schools and have been

seemed permissible, for example, to search for stolen property, such as money, or contraband, such as drugs. Given the highly intrusive nature of these searches, an issue arose as to whether they should be permitted and, if so, whether students should have more protection from searches by requiring, for example, school administrators to have a higher burden to show that they believe they will find contraband and whether such searches should be limited to specific contraband, such as explosives. The US Supreme Court addressed this issue in *Safford Unified Sch. Dist. No. 1 v. Redding* (2009).

In *Redding*, an assistant principal (Wilson) escorted 13-year-old Redding from her middle school classroom to his office and showed her a day planner containing knives and other contraband. She admitted owning the planner, but said that she had lent it to her friend and that the contraband was not hers. Wilson then produced four prescription-strength, and one over-the-counter, pain relief pills, all of which are banned under school rules without advance permission. She denied knowledge of them, but Wilson said that he had a report that she was giving pills to fellow students. She denied it and agreed to let him search her belongings. He and Romero, an administrative assistant, searched Redding's backpack and found nothing that would support their claim. Wilson then had Romero take Redding to the school nurse's office to search her clothes for pills. After Romero and the female nurse (Schwallier) had Redding remove her outer clothing, they told her to pull her bra out and shake it and to pull out the elastic on her underpants, thus exposing her breasts and pelvic area to some degree. No pills were found. Redding's mother filed suit against the school district (Safford), Wilson, Romero, and Schwallier, alleging that the strip search violated Redding's Fourth Amendment rights. Under the law used to challenge the school district and officials' behaviors, the school and those working for the school would be held responsible if they knowingly infringed on the student's rights (in this case, if they knew that she should not have been strip-searched based on the grounds that they had).

The Supreme Court held that the strip search of the student was unreasonable and a violation of the Fourth Amendment. The court reasoned that the principal knew beforehand that the pills were common pain relievers and that there was no indication of danger to the students from the power of the drugs or their quantity, and any reason to suppose that the student was carrying pills in her underwear. Although finding that the search was not justified, the court ruled, since there was no clear legal precedent on which to base the nature of the protection against strip searches, that the school officials were immune from being held responsible for infringing on Redding's rights.

Importantly, the case had highly critical dissenting opinions. Some argued that the unconstitutionality of the search was obvious and that, as a result, the school officials engaged in outrageous and abusive conduct, which would mean that qualified immunity was inappropriate. Another strong dissent argued that the court simply should not interfere with the school's attempts to maintain a safe and healthy environment for students, that implementing and amending public school policies was beyond the court's function. That dissent also argued it could be objectively reasonable to believe that the area searched could conceal the contraband, and, as such, the search was justifiably within the scope announced by *T.L.O.*

Conclusion

Redding gains significance in that the court clarified the scope of adolescents' Fourth Amendment rights in regard to school searches (see Levesque 2016). In important ways, the case recognized and expanded students' privacy interests. Although the court granted the school officials qualified immunity, it did set a clear precedent which now limits the use of qualified immunity. In addition, the case shows that the court is willing to limit what is meant by "reasonable" and that the standard can be used to safeguard the privacy and other interests that the Fourth Amendment. Also significant about the case is that other cases since *T.L.O.* had expanded the state's power to conduct

searches, such as in drug testing cases, which made it somewhat surprising that the court did not support the state's interests and freedom to search, in a way reflective of only one dissenter. On the other hand, the facts of the case may limit its broader reach as schools deal with a variety of complex fact patterns that may not lead to searches deemed as intrusive as those in *Redding*. Although much remains to be seen, it is clear that the case will be noted as a foundational one in discussions of adolescents' rights.

Cross-References

- ▶ [Searches and Seizures in Schools](#)

References

- Levesque, R. J. R. (2006). *The psychology and law of criminal justice processes*. Hauppauge: Nova Science.
- Levesque, R. J. R. (2016). *Adolescents, privacy and the law: A developmental science perspective*. New York: Oxford University Press.
- New Jersey v. T.L.O.* (1985). 469 U.S. 325.
- Safford Unified Sch. Dist. No. 1 v. Redding.* (2009). 129 S. Ct. 2633.

Student Drug Testing

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Overview

Adolescent substance use is a major public health concern and schools have been identified as promising sites for prevention efforts. Among various school-based substance use prevention programs, mandatory random drug testing (MRDT) stands out as particularly controversial. In this entry, we explain the rationale for MRDT, and we

summarize studies that have examined its effectiveness. Considering the weak evidence base for the effectiveness of MRDT, we also discuss alternative and potentially more promising school-based prevention methods.

Introduction

Adolescent substance use is associated with adverse health, academic, and behavioral effects (Jessor et al. 1991; Johnston et al. 2008; Bachman et al. 2008). Most recent US surveillance data on middle and high school students' substance use indicate that 22% of students reported drinking alcohol, 7% reported cigarette smoking, and 14% reported using marijuana or another drug in the past 30 days (Johnston et al. 2015). In Europe 57% of 15-year-olds report drinking alcohol, 28% report smoking cigarettes, and 7% report cannabis use in the last 30 days (Hibell et al. 2011).

Alcohol use is associated with a variety of impairments that increase risk for motor vehicle accidents (National Highway Traffic Safety Agency 2008) and other injuries (Hingson and Kenkel 2004). Initiation of tobacco use during adolescence is a common pathway to nicotine addiction (National Institute on Drug Abuse 2009) and its resultant life-long adverse effects on health (U.S. Department of Health and Human Services 2004). Marijuana is an illegal substance that can put a user at risk for arrest as well as potential detrimental effects on cognitive functioning and mental health (National Institute on Drug Abuse 2010). Excessive use of any of these and other substances is also associated with poor school success and risk of academic failure (Bachman et al. 2008).

Given the adverse effects of substance use, it is understandable that schools have been identified as important settings for preventing student substance use and providing drug-free environments. Indeed, substance use prevention and education programs have been a long-standing component of health education in schools (Hansen and Dusenbury 2004) and some of these efforts have been met with success (Gottfredson and Wilson

2003). Nevertheless, school-based programs often fail to show strong and long-term effects (Faggiano et al. 2005; Foxcroft et al. 2005; Thomas and Perera 2006).

Since the 1990s, interest has been growing in the use of school-based mandatory random drug testing (MRDT) as a strategy to prevent and reduce adolescents substance use. The goals of MRDT are twofold: (1) using biological assays to identify students who have used substances, followed by referral to appropriate counseling/treatment services, and (2) deterring student substance use by providing students with a reason to decline peers' drug offers.

In MRDT programs, all students in the testing pool (typically students participating in sports and other extracurricular activities) are randomly selected before being individually directed to a private location where they are asked to provide a sample for testing. Technology exists for testing urine, blood, saliva, hair, sweat, and breath, but urine drug testing is considered the gold standard and is the most frequently used method in the school setting (Levy et al. 2015; CDC 2015).

Two US Supreme Court decisions have ruled that MRDT is constitutional if schools have reason to believe that their students have drug use problems that might interfere with their health and safety. These court decisions were reached despite the fact that the evidence of effectiveness presented to the courts relied on anecdotal reports and testimonials. The first case (*Vernonia School District v. Acton*, United States Supreme Court 1995) concerned students participating in sports and was less controversial than the second (*Board of Education v. Earls*, United States Supreme Court 2002), which concerned students in any extracurricular activity that involve competition with other schools (e.g., chess clubs). The 2002 case said the drug testing was constitutional by a 5–4 vote. Nevertheless, the court stated that “we express no opinion as to its [i.e., MRDT] wisdom.” In supporting the opinion, Justice Stephen Breyer noted, “I cannot know whether the school’s drug testing program will work. But, in my view, the Constitution does not prohibit the effort.”

The four dissenting justices were less sympathetic. In their dissent, they noted that the drug testing of students who participate in extracurricular activities without suspicion (i.e., at random) “invades the privacy of students who need deterrence least, and risks steering students at greatest risk for substance abuse away from extracurricular involvement that potentially may palliate drug problems.” Similarly, various public health, education, and civil liberty groups, including the American Academy of Pediatrics and the ACLU (American Academy of Pediatrics and Committee on Substance Abuse and Council on School Health 2007; Kern et al. 2006; Levy et al. 2015), have opposed MRDT due to a range of concerns related to unintended negative consequences, lack of evidence of effectiveness, privacy issues, false-negatives, and false-positives. Nevertheless, schools continue to be encouraged to implement MRDT.

Prevalence of MRDT in Schools

In 2012, a study by the Centers for Disease Control and Prevention estimated that 8.6% of middle schools and 29.6% of high schools in the USA had some form of student drug testing policies; 45.5% conducted random drug testing involving students in extracurricular activities (CDC 2015). Outside the USA, the prevalence of drug testing programs is to a large extent unknown, with much of the information coming from minor reports and news articles (DuPont et al. 2013). A small study of suspicion-based drug testing conducted in 2004 by the European Monitoring Centre for Drugs and Drug Addiction found that, out of 18 EU countries participating in the study, 10 countries reported that they do not have any form of drug testing in schools. Sporadic drug testing in schools occurs in 4 of the countries studied (Belgium, Hungary, Ireland, and the UK) and 4 countries have implemented more formal drug testing programs (Czech Republic, Finland, Norway, and Sweden) (EMCDDA 2004). None of these drug testing schemes involved random drug testing of students. Instead, drug testing in the EU countries has been implemented where students were under suspicion of taking drugs, a practice that is also common in the USA (CDC 2015).

Does MRDT Work?

The strongest evidence in support of MRDT comes from a study funded by the US Department of Education that was conducted in 36 schools across eight districts in 2007–2008 (James-Burdumy et al. 2012, 2010). The study randomly assigned about half of the schools within each district to either receive MRDT or to continue its usual drug deterrence programs without MRDT for that school year. The study examined reports of drug use in the spring of the school year in more than 2,000 students who had participated in sports or other extracurricular activity in the 30 days prior to the survey, as well as students who were not subject to MRDT. The drugs that were subject to detection varied across districts but all focused on various illegal drugs, such as marijuana and cocaine. The study examined reports of drug use in the past 6 months as well as the past 30 days. With regard to students in schools using MRDT, the study found:

- No effect of the program on students' reports of using substances subject to testing (possibly including tobacco and alcohol) during the past 6 months.
- No effect on illegal substance use, whether it was tested for or not, over the past 6 months.
- No effect on any substance use in general in the past 6 months.
- No difference in reports of substance use in general or of illegal substances in general within the last 30 days of the surveys.

However, there was a statistically significant difference in reports of past 30-day use of substances *that were subject to testing* in the MRDT program (16.9% of students reported using those substances vs. 22.9% in non-MRDT schools). Students in schools with MRDT but who were not subject to testing (because they did not participate in sports or extracurricular activities) exhibited no effect of the program. Thus, the program's effect appeared to be limited to those students who were subject to testing, for the drugs that were likely to be detected, and only during the 30-day period prior to taking the survey.

Other outcomes that were examined were even less encouraging. Students in MRDT schools reported intentions to use drugs in the future at the same levels as those in the control schools, indicating that the program did little to discourage future drug use. Furthermore, students who were not subject to testing (i.e., those not involved in sports or other activities) reported 50% higher intentions to use illegal drugs in the future than students who did not participate in those activities, and this was true whether the schools employed MRDT or not. This supports the contention raised elsewhere (Sznitman 2013) that testing students in sports and extracurricular activity overlooks students at greater risk of illegal drug use. Finally, there were no apparent effects of the program on students' perceptions of the harmful consequences of drug use. Hence, there was no evidence that the program did anything to educate students about the harms of drug use.

On the positive side, and contrary to fears that MRDT might discourage participation in sports and other extracurricular activities, there was no evidence that the MRDT program discouraged students from participating in those activities. On the other hand, students more likely to use drugs may well opt not to participate in those activities anyway.

Although the use of MRDT appears to have limited effectiveness in reducing drug use over the course of the school year, many school boards and administrators have been drawn to it as a method to give students an excuse to "just say no" to peers who might encourage drug use. No study has directly examined this presumed effect. But even if it were true, the effect would appear to be quite limited.

It is also discouraging that, if referral to treatment were the ultimate goal of MRDT, most US schools have no onsite counseling services available for students. According to the CDC's survey of school drug policies (CDC 2012), the percentage of school districts that provided alcohol or other drug use treatment services decreased from 46.2 in 2000 to 30.4 in 2012. In this context, it would be surprising if MRDT succeeded in its ultimate goal of reducing drug abuse or

dependence in school students, and no research has examined whether it has.

Other Studies of MRDT

Other evidence of effects of MRDT comes from a large national study of students that collected data from 1998 to 2011 conducted by researchers at the University of Michigan. This study found moderately lower use of marijuana in schools with drug testing but higher use of other illicit substances. This led the researchers to suggest that schools that employ MRDT and student drug testing (SDT) in general may encourage the use of drugs that are not as readily detected through urinalysis, such as opioids and stimulants (Terry-McElrath et al. 2013). As the researchers stated, “Students may know that marijuana metabolites remain in the body for a longer time than metabolites of most other drugs, making other drugs less likely to be detected even if included in testing.” Although they found some evidence that marijuana use was lower among students (especially athletes) eligible for testing, they concluded: “These findings raise the question of whether SDT is worth this apparent trade-off [i.e., students switching from marijuana use to other substances]. Until further research can clarify the apparently opposing associations, schools should approach SDT with caution.”

The Michigan study also found that reports of drug use were higher in the groups not targeted for testing whether they were in schools that tested or not. This pattern of findings supports the concern that using MRDT as a general deterrent for drug use will not target the students most likely to be using drugs in a school (Sznitman 2013).

In yet another study of two rural schools, preliminary results suggested that student-athlete drug testing can reduce recent substance use (Goldberg et al. 2003). However, a follow-up prospective randomized controlled trial with 11 high schools found no effect on recent substance use and instead found that drug testing reduced students’ belief that drug testing is beneficial (Goldberg et al. 2007).

MRDT in Comparison to Other School Substance Abuse Prevention Approaches

While studies on MRDT typically attempt to answer questions regarding whether the program reduces drug use, it has been suggested that researchers ought to move beyond this objective and explore the more important question of whether MRDT is more successful than other school drug prevention strategies that are less invasive on students’ right to privacy (Sznitman 2013). In two studies conducted by researchers at the Annenberg Public Policy Center, the effects of MRDT were contrasted with another approach that involves the whole school, namely, enhancing a school’s social climate. School climate initiatives have recently been the focus of the US Department of Education’s attempts to make schools more hospitable, safer, and more respectful of all students and to reduce emotional and social barriers to academic achievement (U.S. Department of Education 2014). An important component of school climates is the way the school explains and handles school discipline. Schools that treat students with respect in enforcing rules have much better climates than those that impose rules in an authoritarian manner (LaRusso et al. 2008). Schools with better climates explain why they expect students to avoid drugs and other harmful behavior. When students feel that they are treated with respect regarding enforcement of the school’s rules, they are much more likely to adopt positive norms of behavior and to treat each other with respect as well. Schools with better climates also appear to have fewer problems with bullying and other antisocial behavior (Orpinas and Horne 2006).

In a 2003 national study that assessed school climates in high school students (LaRusso et al. 2008), the students that reported more favorable school climates were less likely to have emotional problems, to perceive favorable norms for drug use, and to use drugs than in schools where climates were less favorable. This study replicated what has been found in other research on school climate (Thapa et al. 2012).

In a follow-up national study in 2008, students in schools that engage in drug testing were

compared with those that have good climates (Sznitman et al. 2012). Although some schools have both, it was the schools with better climates that appeared to have fewer students using drugs. SDT appeared to make no difference for boys, and it appeared to be associated with more drug use among girls in schools with poor climates. In a second national study, high school students were followed over a 1-year period (from 2008 to 2009) and again the study compared students in schools that used SDT vs. those with good climates (Sznitman and Romer 2014). Results showed that SDT was not associated with any reductions in drug use over the course of the year. However, students in schools with good climates reported less initiation of tobacco and marijuana as well as less progression in the use of cigarettes. Nevertheless, there was no effect of climate on the use of alcohol.

In addition to school climate efforts, drug education that explains the harmful effects of drugs and teaches life skills for avoiding drug use in an interactive rather than merely didactic way has been shown to be effective in reducing drug use. In a 2008 review that examined multiple studies with over 7,000 students (Faggiano et al. 2008), researchers concluded that “school-based programs based on life skills seem the most effective in reducing incidence of drug use.” These programs are typically administered in middle school when pressures to start using drugs begin. Although some drug education programs have been criticized over the years for being ineffective (e.g., the DARE program), even this program has been revised with greater attention to strategies that have been shown to work (Perry et al. 2003).

In the realm of tobacco prevention, mass media programs have been found to be effective with youth and are recognized as an important component of recent declines in youth smoking (U.S. Department of Health and Human Services 2012). Reducing tobacco smoking is an important antidrug strategy because it makes it less likely that adolescents will try smoking other substances. Unfortunately, the use of alcohol by youth remains a challenge (Sznitman and Romer

2014). Nevertheless, there are prevention programs involving families that have shown promise if they are initiated during middle school (Dishion et al. 2002; Komro et al. 2001).

Another approach to helping youth with substance abuse and mental health problems that bears some semblance to MRDT is increasing the ability of teachers and other staff to recognize students who are exhibiting these problems. A survey of mental health professionals in schools found that the best predictor of effectiveness in helping students with those problems was an effective system of identifying and referring them for treatment (Romer and McIntosh 2005). From this perspective, MRDT’s approach of randomly selecting students from among those less likely to have problems (e.g., those participating in extracurricular activities) is less likely to be effective than strategies that assess the entire student body. Such strategies include confidential surveys that assess recent mental health and substance use problems among all students. Other strategies involve providing training to school staff and parents to better recognize youth who are experiencing drug abuse and other mental health problems (Romer and McIntosh 2005). Finally, a novel and promising strategy with similar underpinning principles is brief motivational counseling intervention and referral to treatment in which students complete computer-based and computer-tailored screening questions followed by the opportunity to discuss their answers privately with a counselor and get a brief intervention (e.g., motivational interviewing and computer-assisted counseling) (Harris et al. 2012). This type of program has been shown to be feasible and sustainable in the school setting, although its effectiveness has not yet been empirically examined (Curtis et al. 2014).

Discussion and Conclusion

In sum, the evidence does not support the use of MRDT over other interventions. There are various potential reasons for this. One reason may be that

MRDT may incorrectly assume that drug use is driven by rational decision making under the control of the individual student, e.g., once a student feels the threat of detection and empowered with a reason to “just say no,” students will put this to good use and abstain from substance use (Hawthorne 2001; Sznitman 2013). This approach ignores the fact that adolescent drug use is, in addition to biological and psychological factors, influenced by the economic, social, and physical environment (Wilkinson and Marmot 2003).

Another reason for the discouraging evidence of MRDT is that it may be relatively ineffective as a screening tool for substance use. MRDT is typically implemented for students in extracurricular activities. As such it targets students who are at lowest risk for drug use problems (Pate et al. 2000; Melnick et al. 2001). Furthermore, MRDT typically do not test for alcohol and cigarettes that are the most prevalent substances of use in this age group but which are harder to detect through biological tests than some illegal drugs. Finally, MRDT is not designed to distinguish between students who experiment with use and those who are experiencing problems associated with substance use. Indeed, and as pointed out by the American Academy of Pediatrics, “a positive drug test result does not diagnose a substance use disorder or indicate that a specific intervention is needed, and a negative drug test result does not rule out a substance use disorder” (Levy et al. 2015).

If schools are concerned about students going down a dysfunctional path of drug use, they should consider other approaches that have been found to be effective in preventing the initiation of drug use or identifying students in need of treatment. These approaches may include training of life skills and drug education, universal confidential screening using self-report, better school climates that encourage norms of drug avoidance, and greater involvement of parents and teachers to help recognize the signs of problematic drug use so they can intervene and refer youth for treatment if necessary. Looking for students with drug use

problems by randomly testing students is less effective, does little to educate students about the hazards of drug use, and misses the ones more likely to be at risk.

References

- American Academy of Pediatrics & Committee on Substance Abuse and Council on School Health. (2007). Testing for drugs of abuse in children and adolescents: Addendum-testing in schools and at home. *Pediatrics*, 119, 627–630.
- Bachman, J., O’malley, P. M., Schulenberg, J. E., Johnston, L. D., Freedman-Doan, P., & Messersmith, E. E. (2008). *The education-drug use connection: How successes and failures in school relate to adolescent smoking, drinking, drug use, and delinquency*. New York: Lawrence Erlbaum Associates/Taylor & Francis.
- CDC. (2012). *Alcohol- or other drug-use prevention*. Atlanta: Department of Health and Human Services Centers for Disease Control and Prevention. http://www.cdc.gov/healthyouth/data/shpps/pdf/2012factsheets/fs_alcoholorotherdruguseprevention_shpps2012.pdf
- CDC. (2015). *Results from the school health policies and practices study 2014*. Atlanta: U.S. Department of Health and Human Services Centers for Disease Control and Prevention. http://www.cdc.gov/healthyouth/data/shpps/pdf/shpps-508-final_101315.pdf
- Curtis, B. L., Mclellan, A. T., & Gabellini, B. N. (2014). Translating SBIRT to public school settings: An initial test of feasibility. *Journal of Substance Abuse Treatment*, 46, 15–21.
- Dishion, T., Kavanagh, K., Schneiger, A., Nelson, S., & Kaufman, N. (2002). Preventing early adolescent substance use: A family-centered strategy for the public middle school. *Prevention Science*, 3, 191–201.
- DuPont, R. L., Merlo, L. J., Arria, A. M., & Shea, C. L. (2013). Random student drug testing as a school-based drug prevention strategy. *Addiction*, 108, 839–845.
- EMCDDA. (2004). *Drug testing in schools in European countries*. Lisbon: European Monitoring Centre for Drugs and Drug Addiction, Expert Committee on Ethical Issues and Professional Standards.
- Faggiano, F., Vigna-Taglianti, F. D., Versino, E., Zambon, A., Borraccino, A., & Lemma, P. (2005). School-based prevention for illicit drugs’ use: A systematic review. *Cochrane Database of Systematic Reviews*, 2, CD003020.
- Faggiano, F., Vigna-Taglianti, F. D., Versino, E., Zambon, A., Borraccino, A., & Lemma, P. (2008). School-based prevention for illicit drugs use: A systematic review. *Preventive Medicine*, 46, 385–396.
- Foxcroft, D. R., Ireland, D., Lister-Sharp, D. J., Lowe, G., & Breen, R. (2005). Longer-term prevention for

- alcohol misuse in young people: Cochrane systematic review. *International Journal of Epidemiology*, *34*, 758–759.
- Goldberg, L., Elliot, D. L., Mackinnon, D., Moe, E. K., Nohre, L., & Lockwood, C. M. (2003). Drug testing to prevent substance abuse: Background and pilot study results of SATURN student athlete testing using random notification) study. *Journal of Adolescent Health*, *32*, 16–25.
- Goldberg, L., Elliot, D. L., Mackinnon, D. P., Moe, E. L., Kuehl, K. S., Yoon, M., Taylor, A., & Williams, J. (2007). Outcomes of a prospective trial of student-athlete drug testing: The student athlete testing using random notification (SATURN) study. *Journal of Adolescent Health*, *41*, 421–429.
- Gottfredson, D. C., & Wilson, D. B. (2003). Characteristics of effective school-based substance abuse prevention. *Prevention Science*, *4*, 23–28.
- Hansen, W., & Dusenbury, L. (2004). Alcohol use and misuse: Prevention strategies with minors. In R. J. Bonnie & M. E. O'Connell (Eds.), *Reducing underage drinking: A collective responsibility (Background paper)*. Washington, DC: The National Academies Press.
- Harris, S. K., Csemy, L., Sherritt, L., Starostova, O., Van Hook, S., Johnson, J., Boulter, S., Brooks, T., Carey, P., Kossack, R., Kulig, J. W., Van Vranken, N., & Knight, J. R. (2012). Computer-facilitated substance use screening and brief advice for teens in primary care: An international trial. *Pediatrics*, *129*, 1072–1082.
- Hawthorne, G. (2001). Drug education: Myth and reality. *Drug and Alcohol Review*, *20*, 111–119.
- Hibell, B., Guttormsson, U., Ahlström, S., Balakireva, O., Bjarnason, T., Kokkevi, A., & Kraus, L. (2011). *The 2011 ESPAD report – Substance use among students in 36 European countries*. Stockholm: The Swedish Council for Information on Alcohol and Other Drugs (CAN).
- Hingson, R., & Kenkel, D. (2004). Social, health, and economic consequences of underage drinking. In R. J. Bonnie & M. E. O'Connell (Eds.), *Reducing underage drinking: A collective responsibility (Background paper)*. Washington, DC: The National Academies Press.
- James-Burdumy, S., Goesling, B., Deke, J., Einspruch, E., & Silverberg, M. (2010). *The effectiveness of mandatory-random student drug testing*. Washington, DC: Institute of Education Sciences, U.S. Department of Education.
- James-Burdumy, S., Goesling, B., Deke, J., & Einspruch, E. (2012). The effectiveness of mandatory-random student drug testing: A cluster randomized trial. *Journal of Adolescent Health*, *50*, 172–178.
- Jessor, R., Donovan, J. E., & Costa, F. M. (1991). *Beyond adolescence: Problem behaviour and young adult development*. Cambridge: Cambridge University Press.
- Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2008). *Monitoring the future national survey results on drug use, 1975–2007. Volume I: Secondary school students*. NIH publication No. 08-6418A. Bethesda: National Institute on Drug Abuse.
- Johnston, L., O'Malley, P. M., Miech, R., Bachman, J., & Schulenberg, J. (2015). *Monitoring the future national survey results on drug use, 1975–2014: Volume I, secondary school students*. Michigan: Institute of Social Research, University of Michigan.
- Kern, J., Gunja, F., Cox, A., Rosenbaum, M., Appel, J., & Verma, A. (2006). *Making sense of student drug testing, why educators are saying no*. New York: Drug Policy Alliance. <http://www.aclu.org/FilesPDFs/makingsensesdt.pdf>. Accessed 28 Apr 2013.
- Komro, K. A., Perry, C. L., Williams, C. L., Stigler, M. H., Farbaksh, K., & Veblen-Mortenson, S. (2001). How did project northland reduce alcohol use among young adolescents? Analysis of mediating variables. *Health Education Research*, *16*, 59–70.
- Larusso, M. D., Romer, D., & Selman, R. L. (2008). Teachers as builders of respectful school climates: Implications for adolescent drug use norms and depressive symptoms in high school. *Journal of Youth and Adolescence*, *37*, 386–398.
- Levy, S., Schizer, M., & Committee on Substance Abuse. (2015). Adolescent drug testing policies in schools. *Pediatrics*, *135*, e1107–1113.
- Melnick, M. J., Miller, K. E., Sabo, D. F., Farrell, M. P., & Barnes, G. M. (2001). Tobacco use among high school athletes and nonathletes: Results of the 1997 Youth Risk Behavior Survey. *Adolescence*, *36*, 727–747.
- National Highway Traffic Safety Agency. (2008). 2007 Traffic safety annual assessment-alcohol-impaired driving fatalities. *Research Note, DOT HS 811 016*. Washington, DC. <http://www-nrd.nhtsa.dot.gov/pubs/811016.pdf>
- National Institute on Drug Abuse. (2009). Tobacco addiction. *Research Report Series, Publication No. 09-4342*. Bethesda: National Institute on Drug Abuse. http://www.nida.nih.gov/PDF/TobaccoRRS_v16.pdf
- National Institute on Drug Abuse. (2010). Marijuana abuse. *Research Report Series, Publication No. 10-3859*. Bethesda: National Institute on Drug Abuse. <http://www.drugabuse.gov/PDF/RRMarijuana.pdf>
- Orpinas, P., & Horne, A. M. (2006). *Bullying prevention: Creating a positive school climate and developing social competence*. Washington, DC: American Psychological Association.
- Pate, R. R., Trost, S. G., Levin, S., & Dowda, M. (2000). Sports participation and health-related behaviors among US youth. *Archives of Pediatrics and Adolescent Medicine*, *154*, 904–911.
- Perry, C. L., Komro, K. A., Veblen-Mortenson, S., Bosma, L. M., Farbaksh, K., Munson, K. A., Stigler, M. H., & Lytle, L. A. (2003). A randomized controlled trial of the middle and junior high school D.A.R.E. and D.

- A.R.E. Plus programs. *Archives of Pediatrics and Adolescent Medicine*, 157, 178–184.
- Romer, D., & McIntosh, M. (2005). The roles and perspectives of school mental health professionals in promoting adolescent mental health. In D. L. Evans (Ed.), *Treating and preventing adolescent mental health disorders*. New York: Oxford University Press.
- Sznitman, S. (2013). Exploring the promise of mandatory random student drug testing by comparing it to other school drug prevention strategies. *Addiction*, 108, 846–851.
- Sznitman, S., & Romer, D. (2014). Student drug testing and positive school climates: Testing the relation between two school characteristics and drug use behavior in a longitudinal study. *Journal of Studies of Alcohol and Drugs*, 75, 65–73.
- Sznitman, R. S., Dunlop, S., Nalkur, P., Khurana, A., & Romer, D. (2012). Student drug testing in the context of positive and negative school climates: Results from a national survey. *Journal of Youth and Adolescence*, 41, 146–155.
- Terry-McElrath, Y. M., O'Malley, P. M., & Johnston, L. D. (2013). Middle and high school drug testing and student illicit drug use: A national study 1998–2011. *Journal of Adolescent Health*, 52, 707–715.
- Thapa, A., Cohen, J., Higgins-D'Alessandro, A., & Guffey, S. (2012). *School climate research summary*. New York: National School Climate Center.
- Thomas, R., & Perera, R. (2006). School-based programmes for preventing smoking. *Cochrane Database of Systematic Reviews*, 3, CD001293.
- U.S. Department of Education. (2014). *Guiding principles: A resource guide for improving school climate and discipline*. Washington, DC: U.S. Department of Education. <http://www2.ed.gov/policy/gen/guid/school-discipline/guiding-principles.pdf>
- U.S. Department of Health and Human Services. (2004). *The health consequences of smoking: A report of the Surgeon General*. Atlanta: Centers for Disease Control and Prevention, Office on Smoking and Health. http://www.cdc.gov/tobacco/data_statistics/sgr/2004/complete_report/index.htm
- U.S. Department Of Health And Human Services. (2012). *Preventing tobacco use among youth and young adults: A report of the surgeon general*. Atlanta: Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health.
- United States Supreme Court. (1995). *Vernonia School District 47J Versus Action*. No. 94-590. United States Supreme Court.
- United States Supreme Court. (2002). *Board of Ed. of Independent School Dist. No. 92 of Pottawatomie Cty. v. Earls*. 536 U.S. 822. United States Supreme Court.
- Wilkinson, R., & Marmot, M. (Eds.). (2003). *Social determinants of health: The solid facts*. Copenhagen: World Health Organization.

Student Engagement

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Overview

Student engagement with school is a construct that acknowledges the active role of the student in learning and focuses upon alterable aspects of risk (e.g., infrequent school attendance, minimal cognitive effort on academic tasks, low enjoyment of learning) that impact student commitment to, and investment in, educational outcomes. Agreement exists that the engagement construct is multidimensional, with potential for describing the confluence of behavior, cognition, and emotion that students experience en route to valued outcomes such as academic and socio-emotional competence, high school completion, college enrollment and persistence, and the lifelong pursuit of learning. Engagement is valued for its predictive utility, attention to contextual influences with students, and the capacity it affords for the comprehensive examination of constructs typically examined in isolation. Areas of agreement and in need of refinement are addressed as are critical measurement considerations. The frequent incongruence between adolescent students and educational contexts and the substantial impact of high school dropout on life-course trajectories position student engagement, a lifelong construct, as critical for the adolescent period.

Introduction

Student engagement with school is a construct with considerable potential for researchers and interventionists alike (Fredricks et al. 2004; Reschly et al. 2014). This construct and its accompanying conceptual models could enhance understanding of student progressions toward valued

outcomes such as motivated learning, socio-emotional and academic competence, and graduation from high school. Among researchers, agreement exists that student engagement is a multidimensional construct, that facilitators must be differentiated from indicators of engagement, that engagement itself should be valued in addition to the role it serves as a mediator of other outcomes, and that the construct underscores the crucial and active role students provide in the learning process (Fredricks et al. 2004; Reschly and Christenson 2012; Skinner et al. 2008). Despite much agreement and optimism regarding the construct, some conceptual and measurement areas in need of refinement also exist and must be addressed (see Reschly and Christenson 2012).

“We can require adolescents to attend school, but learning requires conscious and purposeful effort, which cannot be legislated” (National Research Council and Institute of Medicine [NRCIM] 2004, p. 13). Student engagement is a fairly recent construct, first appearing in the literature as a multidimensional construct around 30 years ago (e.g., Mosher and McGowan 1985) that resonates with families, students, educators, and researchers alike. This widespread interest in the student engagement construct is related to (1) the recognition of the critical role assumed by students in the learning process; (2) the focus cast, by an engagement perspective, on malleable aspects of student risk; and (3) the perceived amplifying effect whereby engaged and disengaged students each become more so over time (Fredricks et al. 2004; Furrer et al. 2006; Reschly and Christenson 2012). The engagement construct not only underscores the importance of a “student’s psychological investment in and effort directed toward learning, understanding, or mastering the knowledge, skills, or crafts that academic work is intended to promote” (Newmann et al. 1992, p. 12) but also provides a heuristic for partitioning aspects of student risk into those over which youth-serving organizations (e.g., schools) have substantial influence and those which they are less able to impact (e.g., socioeconomic status). This distinction is critical as engagement is relevant for promoting resilience in students (Finn and Zimmer 2012).

Although recognition of the importance of the active involvement of a student in the learning process has been acknowledged for some time, renewed interest has been generated by concerns with the array of activities and contexts competing for adolescents’ attention as well as high dropout rates, especially for urban youth (NRCIM 2004). In addition, student engagement is valued for its attention to more alterable types of student risk. Research differentiating relatively stable background characteristics of risk – status/demographic risk, e.g., socioeconomic status, family structure, neighborhood influences, from more malleable student action- and perception-based risk; functional risk, e.g., school attendance, behavioral infraction rates, extracurricular activity participation, out-of-school time spent on coursework (see Finn 1993; Reschly and Christenson 2012) – has both advanced the understanding of risk factors impacting students and clarified proximal and distal targets which educators, and their partners across student contexts, can plausibly impact. Moreover, results suggesting cyclical effects between levels of engagement and responses from contexts as well as continued increases or decreases resulting from these cycles imply long-term dividends (or costs) from decisions to employ (or forgo) engagement-related interventions (Furrer et al. 2006). Early development of student interest in, and dedication to, education as well as continued efforts to learn throughout one’s life are critical for a society dependent upon a knowledgeable citizenry.

Specific Relevance to Adolescence

Student engagement is relevant prior to, during, and after the adolescent period. Yet, the focus upon student engagement as an antidote to perceptions and behaviors leading to high school dropout and as attentive to the valued outcome of competent high school graduates rather than students merely accumulating the necessary amount of “seat time” has increased the salience of the engagement construct for those interested in middle adolescence. Despite this increased salience, research has demonstrated the relevance

and critical importance of attending to student levels of engagement in early primary grades (Alexander et al. 1997; Barrington and Hendricks 1989). Focus upon these early grades represents a paradigm shift from beliefs of predictors of dropout as circumscribed within the high school period to an increased understanding of dropping out as the culmination of a gradual process of disengagement from school (Rumberger 1987). Efforts to model a trajectory from dropout back to the earliest predictors of this negative outcome revealed useful variables from grade levels much earlier than expected. While early indications of disengagement exist and are certainly crucial to monitor, research suggests increased predictive precision of dropout as variables are examined within grade levels closer to, and throughout, early and middle adolescence (e.g., Balfanz et al. 2007). Moreover, the significant developmental changes marking the adolescent period and the necessity of responsive contextual adjustments (see Eccles et al. 1993 for more on stage-environment fit) underscore the value of the engagement construct to researchers examining, and educators working with, adolescents.

Despite the emergence of engagement as the bottom line in school completion research (Appleton et al. 2006; Reschly et al. 2014) and the origins of many conceptualizations of engagement as rooted within the dropout prevention research (e.g., Finn and Rock 1997; NRCIM 2004; Reschly and Christenson 2012), the construct has a broader relevance. Student engagement is associated, in expected directions, with proximal outcomes such as academic achievement (Miller et al. 1996), delinquent behavior, health risks including sexual behaviors, and social emotional well-being along with more distal outcomes such as work success (Christenson et al. 2012; Reschly et al. 2017). Moreover, facilitators of engagement have been predictive of important public health and criminal justice outcomes such as sexual behavior risks and delinquent behavior (Reschly et al. 2017). Finally, research has demonstrated a trend of continued declines in levels of engagement as students progress through grade levels corresponding with middle and high school (Appleton et al. 2017; Eccles et al. 1993;

Fredricks and Eccles 2002). The occurrence of these declines and their increase throughout early and middle adolescence underscore the critical role of engagement-targeted interventions during these developmental periods. Increased awareness of student levels of, and antecedents to, engagement is critical for research efforts and to enable practitioners to implement timely and relevant interventions.

Key Definitions

Student engagement with school reflects a construct also referenced via other terms including academic engagement, engagement, engagement in schoolwork, school engagement, student engagement, student engagement in academic work, and participation/identification (despite the absence of the word engagement, participation-identification theory (Finn 1989) is central to many engagement conceptualizations). The intent in using the term student engagement with school is to clearly highlight the importance of the student's active role in the process as well as underscore the many contexts influencing a student's level of engagement with school. Throughout this essay engagement and student engagement can be interpreted as abbreviations for student engagement with school.

Per a recent compilation of definitions across engagement researchers from many disciplinary perspectives, "Student engagement refers to the student's active participation in academic and co-curricular or school-related activities, and commitment to educational goals and learning. Engaged students find learning meaningful, and are invested their learning and futures. It is a multi-dimensional construct that consists of behavioral (including academic), cognitive, and affective subtypes. Student engagement drives learning; requires energy and effort; is affected by multiple contextual influences; and can be achieved for all learners" (Christenson et al. 2012, pp. 816–817). The differentiation of academic from behavioral engagement (Appleton et al. 2006; Christenson and Thurlow 2004) utilizes the theoretical work of several researchers (Connell 1990; Connell and

Wellborn 1991; Finn 1989; McPartland 1994) as well as research resulting from the 22-year implementation of the Check & Connect (<http://ici.umn.edu/checkandconnect>), engagement-based, intervention. This differentiation enables researchers and interventionists to distinguish socially active but minimally academically involved students from those moderately involved in both aspects or academically active but minimally socially connected. The addition of the academic engagement component aligned with the strong replicated results linking academic learning time to student achievement (Fisher and Berliner 1985) and cohered with researchers examining engagement for specific tasks (Marks 2000). Moreover, the differentiation of academic from behavioral engagement is believed to improve the specificity for intervention although the additive and interactive relationships between these four subtypes represent an area requiring further study.

The Critical Role of Contexts on Engagement

Students themselves should not be perceived as engaged or disengaged. An appraisal of a student perceived as disengaged within one context (e.g., the science classroom) will undoubtedly find that same student engaged within another context (e.g., the language arts classroom, debate practice, or on the basketball court). As students would not be expected to respond similarly to the same stimuli across relational contexts (Reis et al. 2000), it is critical to consider engagement not as an attribute of the student but rather as a function of a given context (Christenson et al. 2012; NRCIM 2004). A central model underlying engagement theory proposes the impact of contexts upon engagement and subsequent socio-emotional and academic outcomes as mediated by student initial and more stable perceptions of his or her status within these contexts (Connell and Wellborn 1991; Skinner et al. 2008).

The role of the context is critical for engagement including during the rapid changes of adolescence when these environments are often not

ideally responsive (Eccles et al. 1993). Context-based engagement models honor theories of a core human need for belonging (Baumeister and Leary 1995). Specific, educationally oriented conceptualizations describe the influence of the contexts experienced by students upon their perceptions of the satisfaction of fundamental needs for autonomy, competence, and relatedness (Skinner and Pitzer 2012). Students are believed to seek out sources for the satisfaction of these fundamental needs with commitment toward and investment in (i.e., engagement in) a particular context as an outgrowth of the extent to which that context provides the “nutriments” for fulfilling these needs (Ryan and Deci 2000). Essentially, focus upon these needs as fundamental underscores the high probability of continued fulfillment-seeking behavior on the part of the student and the potential for fulfillment in other contexts (whether positive or negative) should school contexts fall short of meeting these needs. A simple representation of this model (adapted from Connell and Wellborn 1991) would be context → self → engagement → outcome. Student evaluations of how well contexts meet fundamental needs can be described as the extent to which students believe: I can (perceptions of competence and control), I want to (values and goals), and I belong (social connectedness) (NRCIM 2004). The above models include two types of engagement-related variables: facilitators (within the context and self) and indicators (of engagement itself).

Differentiating between indicators and facilitators of engagement is crucial to understanding student engagement. This distinction has been summoned both to guide intervention efforts and conceptually to separate aspects of engagement believed to exist within the construct itself from outside influences hypothesized to influence levels of engagement (Skinner et al. 2008; Skinner and Pitzer 2012). Focusing upon the engagement construct itself, academic engagement can be described as active effort on academic tasks, including qualities such as persistence and thoroughness, and is indicated by observable behaviors such as credit accrual and homework completion. Behavioral engagement can be considered as

involvement and congruence with school-related activities and is indicated by variables such as school attendance, appropriate behavior, and participation in extracurricular activities (including those outside of the school setting but consistent with the school's educational goals). Although both academic and behavioral engagement have been described as low inference (i.e., readily observable) and can readily be determined from observable data (Appleton et al. 2008; Appleton 2012), both the cognitive and emotional subtypes of engagement are less easily determined and rely upon higher levels of inference. Most of the cognitive and emotional subtypes have relied upon self-report data from the student and frequently other reporters such as school staff, peers, and family members. Cognitive engagement is defined by both an investment in learning and a self-regulatory component necessary for employing relevant academic strategies (Fredricks et al. 2004). Emotional engagement has also been referred to as affective engagement and described as student emotional reactions to learning experiences including the enjoyment of learning or a sense of belonging (Fredricks et al. 2004).

Defining student engagement and situating the construct as influenced by student-context interactions are critical. Such descriptions and delineations capitalize on areas within which much agreement exists among engagement theorists. Despite these areas of general consistency, several conceptual and measurement issues persist and require discussion. Conceptually, the relationship between motivational and engagement constructs differs across paradigms and the means by which, and thresholds for, facilitators impacting engagement are unclear.

Key Conceptual Issues and Controversies

Motivational facilitators versus engagement per se: Much discussion has centered on the relationship between motivational and engagement constructs. Some conceptualizations propose engagement as a systematic outgrowth of specific

motivational processes (e.g., Wentzel and Wigfield 2007). Others note that motivation is necessary but not sufficient for engagement (Appleton et al.; Reschly and Christenson 2012). Agreement exists that engagement is a construct worthy of study in its own right (Fredricks et al. 2004). Reviews of literature have found that constructs considered as aspects of engagement by some are differentiated as motivation by others (Fredricks et al. 2004; Reschly and Christenson 2012). To reign in the proliferation of varying constructs possessing the engagement label and improve the conceptualization of the construct, deliberate efforts to clarify the relationship between motivation and engagement are necessary. In fact, an entire research handbook has addressed this challenge (see Christenson et al. 2012), but further work is needed.

Facilitator impact upon engagement: Although vital, paradigmatic attention to the distinction between facilitators and indicators of engagement highlights critical questions; the underlying heuristic suggests that student perceptions of these facilitators will impact experiences of autonomy, competence, and relatedness with subsequent influences upon student levels of engagement or disaffection (Connell and Wellborn 1991; Reschly and Christenson 2012). Yet, research also supports the importance of refining assessments to evaluate engagement independent of measurements of these facilitators (Lam et al. 2012; Skinner et al. 2008). Assuming levels of facilitators and indicators of engagement are able to be distinctly obtained; questions remain on the process whereby, and threshold values surpassed, when facilitators do impact levels of actual engagement. For instance, are any changes to levels in facilitators expected to modify engagement levels or must certain threshold levels be met for changes to occur? If changes to facilitators are believed to vary directly with levels of engagement, then is it necessary to assess engagement itself or could values of some, or all, facilitators suffice? Beyond the above conceptual issues, several measurement issues related to the student engagement construct must also be addressed (Betts 2012; Reschly and Christenson 2012).

Measures and Measurement Considerations

Differing measures exist for assessing student engagement although these instruments vary somewhat in terms of their conceptualization of engagement, the students for whom they are appropriate, reporters of engagement, and their length. Moreover, since academic and behavioral engagement are believed to be indicated by data often collected or available to be collected by schools, most survey-type engagement measures are intended to assess cognitive and affective/emotional engagement. Conceptually, engagement is believed to evolve, with variations in both intensity and duration allowing for important distinctions among students on the construct (Fredricks et al. 2004). Thus, engagement is thought, conceptually, to vary in meaningful ways and, operationally, to be able to be gauged along those variations. Despite the perceived benefits of measuring engagement and the measures currently in existence, concerns persist regarding the continuum of the scale, the stability of measurements, the most critical outcome variables to examine in relation to engagement, the utility of measuring the academic subtype, the appropriate frequency of measurement, and the level at which engagement should be assessed.

Current measures: A sample of currently published instruments purporting to measure engagement include the High School Survey of Student Engagement (Center for Evaluation and Educational Policy 2009), Me and My School survey tool (New Zealand Council for Educational Research 2008), Motivation and Engagement Scale (Martin 2007), Research Assessment Package for Schools (Institute for Research and Reform in Education 1998), and Student Engagement Instrument (Appleton et al. 2006; see Fredricks and McColskey (2011) for a more comprehensive review of engagement instruments; see Fredricks and McColskey (2012) for additional contrasts among instruments).

Engagement versus disaffection: A critical consideration in the measurement of student engagement as a predictor of outcomes of interest is the continuum of the engagement scale and

whether the inclusion of other constructs is important. For instance, does a single continuum of the engagement construct suffice when considering mediating influences between contexts and outcomes? Do differentiations varying between complete disengagement and near absolute engagement sufficiently comprise the engagement-related influences upon valued outcomes (e.g., Appleton et al. 2008; Reschly and Christenson 2012)? Some have suggested that the engagement scale varies from high engagement, beyond the absence of engagement, to an active disaffection or active disengagement from school (Skinner et al. 2008), while others have differentiated engagement as a positive, enabling behavior/cognition/emotion from active disaffection as a complementary negative, disabling behavior/cognition/emotion (Connell and Wellborn 1991). Greater consensus is required on the continuum of engagement.

Stability of student engagement: Given the importance of stable measurement of engagement for research and intervention efforts alike, a crucial area of continued research is the equivalence of measurements of engagement across, at least, students of differing cultural backgrounds, ages, and genders. Moreover, empirical results have already suggested differing gender-based responses with girls tending to indicate higher levels of belonging and identification with school than boys (e.g., Goodenow 1992; Voelkl 1997). To some extent, examinations of the stability of measurements of engagement have commenced at least across developmental periods and gender (see Betts et al. 2010). Yet, such results, while suggesting stability, represent the mere surface of a body of work in need of much further development.

Outcome variables: Another important consideration in examining the influence of measured amounts of student engagement is the appropriateness of outcome variables. First, engagement itself as a marker of student commitment toward and investment in learning has been mentioned as a valued outcome itself (Fredricks et al. 2004) and may be considered so in future research designs. Second, many variables currently included in research designs and statistical analyses are

bound within the secondary level. Yet, the long-term outcomes desired for students, and the expected benefits of engaged learning, extend well beyond the middle and high school periods. Essentially, secondary-level variables are utilized as proxies for longer-term outcomes without some assessment of their usefulness for this purpose. If the intent is to gauge the long-term outcomes of students and the predictive usefulness of engagement in forecasting these outcomes, a better choice may be to include long-term variables in actual research designs and statistical models (see Finn 2006). Such an extended focus is consistent with a school completion versus dropout prevention perspective as well as sufficiently attendant to the perceived benefits of considering student levels of engagement. A preliminary proposal of variables might include indicators of success within postsecondary education or workplace activities as well as criminal justice records or civic involvement. Certainly such efforts may require collaborations across institutions, but a context-focused perspective of engagement already encourages these types of partnerships (NRCIM 2004), and some institutions and research groups have already undertaken such efforts (e.g., Ramp Up to Readiness <http://www.rampuptoreadiness.org/about/research>).

Consideration of academic apart from behavioral engagement: The value of considering academic engagement apart from behavioral engagement has implications for both measurement and intervention. Considering these subtypes together, e.g., with a single value, behavioral engagement raises questions on the ability to differentiate students who attend regularly, avoid disciplinary actions, and are involved in social aspects of school but who are minimally or uninvolved in academic aspects. Depending on summary metrics, high-enough values on attendance and social aspects of behavior could obscure low values on academic tasks. Researchers and those working with youth could overlook academically disengaged youth resulting in inaccurate conclusions and/or inefficient use of intervention resources.

Frequency of measurement: Low inference (i.e., academic and behavioral) and high inference

(i.e., cognitive and affective/emotional) subtypes of engagement may differ substantially in the frequency with which levels of indicators can be assessed. Since low inference indicator data can often be obtained from existing data sources (e.g., percentage of enrolled days attended or number of disciplinary infractions per 100 days of attendance), these may be much more easily obtained on a frequent basis without biasing or influencing the student being measured. The impact of measurement itself (e.g., on the engagement of the student) will need to be determined. With self-report measures only recently becoming more available, their use for engagement monitoring on a frequent basis is uncertain. Specifically, research must be conducted to distill current high inference engagement measures to a set of less time-consuming items sufficient for reliable and valid predictions to valued outcomes. Moreover, efforts will need to be undertaken to examine the parameters for how frequently these reduced measures can be administered without inappropriate degradation of their predictive utility.

Level of measurement: Studies of student engagement vary in terms of the level at which they measure the construct. Level of measurement considerations have relevance for both research efforts to systematically categorize antecedents to, and outcomes associated with, engagement and for intervention protocols. The variation in levels of measurement across studies has important implications for the conclusions that can be drawn regarding the impact of engagement upon important outcomes. Further, the impact of level of measurement upon the outcomes associated with engagement has important implications for intervention work. For instance, if, for assessments of engagement to be meaningfully connected to relevant outcomes, measurements must be considered for each specific class in which a student is enrolled, then the administration and analysis time associated with gauging engagement are increased substantially. Such increases may render efforts to monitor all engagement subtypes untenable for practitioners or at least impractical at the frequencies that may be deemed optimal. Continued efforts are

necessary to (1) consider differential relationships of engagement with valued outcomes as a function of level of measurement as well as (2) determine the theoretical and practical differences between classroom-specific and larger school community engagement (Fredricks et al. 2004; see also Marks 2000).

Conclusions

Student engagement with school remains a construct with great potential for enabling richer understandings of students as integrations of behavior, cognition, and emotion (Fredricks et al. 2004) and interactive across contexts (Christenson and Anderson 2002). Attention to engagement indicators enables identification of disengaging students, while efforts toward facilitators of engagement can hone intervention efforts. Engagement has relevance for all students with effective identification efforts spread across schools or youth-serving organizations and efficient intervention practices varied according to levels of alterable risk (see Christenson et al. 2008, 2012). Despite many areas of agreement, there are conceptual and methodological issues that require further attention to increase the precision of descriptions, understanding of mechanisms, and effectiveness of intervention efforts.

Cross-References

► [Academic Achievement: Contextual Influences](#)

References

- Alexander, K. L., Entwisle, D. R., & Horsey, C. S. (1997). From first grade forward: Early foundations of high school dropout. *Sociology of Education*, 70, 87–107.
- Appleton, J. J. (2012). Systems consultation: Developing the assessment-to-intervention link with the student engagement instrument. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 725–741). New York: Springer.
- Appleton, J. J., Christenson, S. L., Kim, D., & Reschly, A. L. (2006). Measuring cognitive and psychological engagement: Validation of the student engagement instrument. *Journal of School Psychology*, 44, 427–445.
- Appleton, J. J., Christenson, S. L., & Furlong, M. J. (2008). Student engagement with school: Critical conceptual and methodological issues of the construct. *Psychology in the Schools*, 45(5), 369–386.
- Appleton, J. J., Reschly, A. L., & Martin, C. (2017). *Research to practice: Measurement and reporting of student engagement data in applied settings*. Manuscript submitted for publication.
- Balfanz, R., Herzog, L., & Mac Iver, D. J. (2007). Preventing student disengagement and keeping students on the graduation path in urban middle-grades schools: Early identification and effective interventions. *Educational Psychologist*, 42(4), 223–235.
- Barrington, B. L., & Hendricks, B. (1989). Differentiating characteristics of high school graduates, dropouts, and nongraduates. *Journal of Educational Research*, 89(6), 309–319.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117, 497–529.
- Betts, J. (2012). Issues and methods in the measurement of student engagement: Advancing the construct through statistical modeling. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 783–803). New York: Springer.
- Betts, J., Appleton, J. J., Reschly, A. L., Christenson, S. L., & Huebner, S. (2010). A study of the factorial invariance of the Student Engagement Instrument (SEI): Results from middle and high school students. *School Psychology Quarterly*, 25(2), 84–93.
- Center for Evaluation and Educational Policy. (2009). *High school survey of student engagement*. Bloomington: Indiana University. Retrieved December 21, 2009, from <http://ceep.indiana.edu/hssse/>
- Christenson, S. L., & Anderson, A. R. (2002). Commentary: The centrality of the learning context for students' academic enabler skills. *School Psychology Review*, 31, 378–393.
- Christenson, S. L., & Anderson, A. R. (2002). Commentary: The centrality of the learning context for students' academic enabler skills. *School Psychology Review*, 31, 378–393.
- Christenson, S. L., & Reschly, A. L. (2010). Check & Connect: Enhancing school completion through student engagement. In B. Doll, W. Pfohl, & J. Yoon (Eds.), *Handbook of youth prevention science* (pp. 327–348). New York, NY: Routledge.
- Christenson, S. L., Reschly, A. L., Appleton, J. J., Berman, S., Spangers, D., & Varro, P. (2008). Best practices in fostering student engagement. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology V* (pp. 1099–1120). Washington, DC: National Association of School Psychologists.
- Christenson, S. L., Reschly, A. L., & Wylie, C. (Eds.). (2012). *Handbook of research on student engagement*. New York: Springer.

- Connell, J. P. (1990). Context, self, and action: A motivational analysis of self-system processes across the life span. In D. Cicchetti & M. Beeghly (Eds.), *The self in transition: Infancy to childhood* (The John D. and Catherine T. MacArthur foundation series on mental health and development, pp. 61–97). Chicago: The University of Chicago Press.
- Connell, J. P., & Wellborn, J. G. (1991). Competence, autonomy, and relatedness: A motivational analysis of self-system processes. In M. R. Gunnar & L. A. Sroufe (Eds.), *Self processes and development* (Vol. 23, pp. 43–77). Hillsdale: Lawrence Erlbaum.
- Eccles, J. S., Midgley, C., Wigfield, A., Buchanan, C. M., Reuman, D., Flanagan, C., et al. (1993). Development during adolescence: The impact of stage-environment fit on young adolescents' experiences in schools and families. *The American Psychologist*, *48*, 90–101.
- Finn, J. D. (1989). Withdrawing from school. *Review of Educational Research*, *59*, 117–142.
- Finn, J. D. (1993). *School engagement and students at risk*. Washington, DC: National Center for Education Statistics.
- Finn, J. D. (2006). *The adult lives of at-risk students: The roles of attainment and engagement in high school (NCES 2006-328)*. Washington, DC: US Department of Education, National Center for Education Statistics.
- Finn, J. D., & Rock, D. A. (1997). Academic success among students at risk for school failure. *The Journal of Applied Psychology*, *82*, 221–234.
- Finn, J. D., & Zimmer, K. S. (2012). Student engagement: What is it? Why does it matter? In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 97–131). New York: Springer.
- Fisher, C. W., & Berliner, D. C. (Eds.). (1985). *Perspectives on instructional time*. New York: Longman.
- Fredricks, J. A., & Eccles, J. S. (2002). Children's competence and value beliefs from childhood through adolescence: Growth trajectories in two male-sex-typed domains. *Developmental Psychology*, *38*(4), 519–533.
- Fredricks, J. A., & McColskey, W. (2012). The measurement of student engagement: A comparative analysis of various methods and student self-report instruments. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 763–782). New York: Springer.
- Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, *74*, 59–109.
- Fredricks, J., McColskey, W., Meli, J., Mordica, J., Montrosse, B., and Mooney, K. (2011). *Measuring student engagement in upper elementary through high school: a description of 21 instruments. (Issues & Answers Report, REL 2011–No. 098)*. Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southeast. Retrieved from <http://ies.ed.gov/ncee/edlabs>.
- Furrer, C. J., Skinner, E., Marchand, G., & Kindermann, T. A. (2006, March). *Engagement vs. disaffection as central constructs in the dynamics of motivational development*. Paper presented at the annual meeting of the society for research on adolescence, San Francisco.
- Goodenow, C. (1992, April). *School motivation, engagement, and sense of belonging among urban adolescent students*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco. (ERIC document reproduction service no. ED349364).
- Institute for Research and Reform in Education. (1998). *Research assessment package for schools (RAPS) manual*. Philadelphia: IRRE. Retrieved December 22, 2009 from http://www.irre.org/publications/pdfs/RAPS_manual_entire_1998.pdf
- Lam, S., Wong, B. P., Yang, H., & Liu, Y. (2012). Understanding student engagement with a contextual model. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 403–419). New York: Springer.
- Marks, H. M. (2000). Student engagement in instructional activity: Patterns in the elementary, middle, and high school years. *American Educational Research Journal*, *37*, 153–184.
- Martin, A. J. (2007). *The motivation and engagement scale*. Sydney: Lifelong Achievement Group.
- McPartland, J. M. (1994). Dropout prevention in theory and practice. In R. J. Rossi (Ed.), *Schools and students at risk: Context and framework for positive change* (pp. 255–276). New York: Teachers College.
- Miller, R. B., Greene, B. A., Montalvo, G. P., Ravindran, B., & Nichols, J. D. (1996). Engagement in academic work: The role of learning goals, future consequences, pleasing others, and perceived ability. *Contemporary Educational Psychology*, *21*, 388–422.
- Mosher, R., & McGowan, B. (1985). *Assessing student engagement in secondary schools: Alternative conceptions, strategies of assessing, and instruments*. University of Wisconsin, Research and Development Center. (ERIC document reproduction service no. ED 272812).
- National Research Council and Institute of Medicine. (2004). *Engaging schools: Fostering high school students' motivation to learn*. Washington, DC: The National Academies Press.
- New Zealand Council for Educational Research. (2008). *Me and my school*. Wellington: New Zealand.
- Newmann, F. M., Wehlage, G. G., & Lamborn, S. D. (1992). The significance and sources of student engagement. In F. M. Newmann (Ed.), *Student engagement and achievement in American secondary schools* (pp. 11–39). New York: Teachers College Press.
- Reis, H. T., Collins, W. A., & Berscheid, E. (2000). The relationship context of human behavior and development. *Psychological Bulletin*, *126*, 844–872.
- Reschly, A. L., & Christenson, S. L. (2012). Jingle, jangle, and conceptual haziness: Evolution and future directions of the engagement construct. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 3–19). New York: Springer.

- Reschly, A. L., Appleton, J. J., & Pohl, A. (2014). Best practices in fostering student engagement. In A. Thomas & P. Harrison (Eds.), *Best practices in school psychology* (6th ed.). Bethesda: National Association of School Psychologists.
- Reschly, A. L., Pohl, A., Christenson, S. L., & Appleton, J. J. (2017). Engaging adolescents in secondary schools. In B. Schultz, J. Harrison, & S. Evans (Eds.), *School mental health services for adolescents*. New York: Oxford University Press.
- Rumberger, R. W. (1987). High school dropouts: A review of issues and evidence. *Review of Educational Research, 57*(2), 101–121.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *The American Psychologist, 55*, 68–78.
- Sinclair, M. F., Christenson, S. L., Lehr, C. A., & Anderson, A. R. (2003). Facilitating school engagement: Lessons learned from Check & Connect longitudinal studies. *California School Psychologist, 8*, 29–41.
- Skinner, E. A., & Pitzer, J. R. (2012). Developmental dynamics of student engagement, coping, and everyday resilience. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 21–44). New York: Springer.
- Skinner, E. A., Furrer, C., Marchand, G., & Kindermann, T. (2008). Engagement and disaffection in the classroom: Part of a larger motivational dynamic? *Journal of Educational Psychology, 100*, 765–781.
- Voelkl, K. E. (1997). Identification with school. *American Journal of Education, 105*, 295–319.
- Wentzel, K. R., & Wigfield, A. (2007). Motivational interventions that work: Themes and remaining issues. *Educational Psychologist, 42*(4), 261–271.

Subclinical Psychotic Experiences

► Psychotic-Like Experiences

Substance Abuse Treatment

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Overview

Adolescence represents a risk period in the life span for initiating alcohol and other drug use, as

well as problems associated with drug involvement. The adolescent drug abuse treatment field continues to make great strides in the development of evidence-based approaches; many challenges exist to improve outcomes. Several promising avenues to promote treatment response are discussed.

Treatment Need

Use of alcohol and other drugs (hereafter referred to simply as *drugs*) by American adolescents continues to present a significant public health concern. Adolescence represents a critical period for the onset of drug use; onset of use during these years negatively impacts cognitive, physical, and psychosocial development, it increases the likelihood for developing a substance use disorder (SUD), and for some youth, it contributes to a progression to a longer-term addiction (Volkow et al. 2014). Cannabis is the most commonly used illicit drug among adolescents in the United States and is now used at higher rates than tobacco (Johnston et al. 2014). Nearly one-quarter (23.4%) of high school students report use at least one or more times per month (Kann et al. 2014).

According to the National Survey on Drug Use and Health, approximately 1.3 million adolescents had a past year SUD (Center for Behavioral Health Statistics and Quality 2015). Available treatment tends to be relatively low intensity; it is estimated that about 90% do not receive drug treatment (Substance Abuse and Mental Health Services Administration 2013). There may be several reasons for the large gap between SUDs and treatment utilization by youth: little if any local treatment options, poor health coverage, low motivation by the youth, and unsupportive parents.

Treatment Effectiveness

Despite this issue of low treatment utilization, significant advances have been made since 1990 in the development and scientific evaluation of

treatments for adolescent drug abuse (Winters et al. 2014). Perhaps the most significant sign of these advances is that the field is now characterized by rigorous controlled studies on the effectiveness of treatment approaches and strategies. Many treatments for adolescents with a SUD that are now considered evidenced based (evaluated with a clinical controlled trials), including family-based treatments, motivational enhancement approaches, 12-step facilitation, therapeutic community, community reinforcement approach, and cognitive-behavioral and pharmacological approaches (National Institute on Drug Abuse 2014; Tanner-Smith et al. 2013). Also, brief interventions are receiving more attention for use in diverse settings, such as in emergency rooms, school-based clinics, and juvenile detention settings (Tanner-Smith and Lipsey 2015; Winters in press). Despite prominent differences in design and methodology, the most recent studies employing various treatment modalities in youth with SUD have reported remarkably similar outcomes (Tanner-Smith et al. 2013; Waldron and Turner 2008).

Nonetheless, a sizeable number of teenagers dropout prior to completing treatment (Deas and Thomas 2001; Godley et al. 2004). Also, treatment outcomes can be quite variable and far from impressive. Abstaining from drugs represents a major challenge for adolescents during and after treatment. They are especially vulnerable to relapse right after completion of a treatment program (Winters et al. 2014). This body of work indicates that adolescents generally show relapse rates by one year to be in the range of 40–60% (Winters et al. 2009) and that longer-term recovery is often marked by cycles of recovery and relapse (Dennis and Scott 2007). However, treatment generally results in reductions in drug use. A recent meta-analysis of treatment outcome studies for adolescents found that adolescents exhibited significant decreases in their substance use after entry into treatment (Tanner-Smith et al. 2013). Using the number of drug use days during the prior month (e.g., based on a Time-Line-Follow-Back assessment procedure), the findings represented magnitudes equivalent to a pre-post reduction from 2 to 0.6 days of alcohol

use, from 13 to 6 days of marijuana use, and from 10 to 5 days of polydrug use (Tanner-Smith et al. 2013).

Research is responding to these problems by investing in the study of these two general types of poor responders to adolescent drug abuse treatment: youth who do not complete treatment (i.e., dropout and administrative discharge) and youth who complete treatment yet who soon relapse.

Improving Treatment Response

Researchers have begun to identify candidate variables associated with treatment response, such as increasing problem recognition (O’Leary and Monti 2004), and mediators of behavioral change to reduce relapse, such as improving self-efficacy (Burlinson and Kaminer 2005) and perceived family support (Hogue and Liddle 2009). Yet in the face of growing consensus that SUD is a chronic disorder with relapsing-remitting course (Volkow et al. 2016), greater attention has been placed by treatment providers on the role of aftercare or continuing care (CC) to improve treatment response (National Institute on Drug Abuse 2014). The American Society of Addiction Medicine defines CC as “The provision of a treatment plan and organizational structure that will ensure that a patient receives whatever kind of care he or she needs at the time. The treatment program thus is flexible and tailored to the shifting needs of the patient and his or her level of readiness to change” (American Society of Addiction Medicine Patient Placement Criteria 2001, p. 361).

There are several challenges faced by treatment providers when attempting to successfully connect an adolescent client to an aftercare program or service. Too often there is minimal or no coordinated effort to provide a system of continuing care (CC), and when CC is provided there is a substantial variability within and between programs. Clients are vulnerable to relapse in the face of inconsistent and weak posttreatment support. Many youth do have aftercare options in their community, and when referrals are made, many adolescents do not engage in such services, or if they do, minimally so. Godley and colleagues

(Godley et al. 2007) found that only 36% of adolescents discharged from residential treatment attended one or more aftercare sessions at community clinics.

Whereas the use of “booster” sessions had been a common strategy for providing CC for clients with a mental disorder, an emerging view with the addiction field is that posttreatment support should include a continuum of care including management and monitoring similar to methods used in chronic disease management (McKay 2005; Scott et al. 2005). Five emerging approaches for strengthening CC for adolescents with a SUD are identified: developmentally suitable treatment, adjusting treatment given the heterogeneity of youth, use of technology, use of reinforcements, and recovery high schools. Each approach is briefly discussed below.

Shaping Treatment to be Developmentally Relevant

Treated teenagers differ from their adult counterparts in length and severity of substance use, typical patterns and context of use, type of substance-related problems most often experienced, and source of referral to treatment (National Institute on Drug Abuse 2014). Moreover, new findings from brain imaging studies suggest that the brain continues to develop through adolescence and into young adulthood (about age 24 years) (Gogtay et al. 2004), and additional studies suggest that the way the brain develops during adolescence may contribute to risky judgments, including the tendency to make choices based on heavily on emotion, and may position the teenager to be particularly vulnerable to the effects of drugs, including alcohol and marijuana (Spear 2002; Volkow et al. 2014). These neuro-developmental findings have led to various speculations about their clinical implications, including that youth may be less motivated to change drug use behaviors than adult clients, that advice alone may be ineffective for promoting change for a teenager, and that positive peer influences and interactions during treatment may be important to treatment outcome (Riggs et al. 2007; Winters 2009). Furthermore, youth often enter treatment because of external pressures by adults

(e.g., referral by a concerned parent, mental health clinician, or school staff) (Battjes et al. 2003), which may further contribute to the teenager’s negative attitude about drug treatment.

Treating adolescents with a SUD may include several features that take into account their developing brain (Winters 2009):

- Client-centered, motivational interviewing (MI) techniques
- Group therapy with older teenage role models
- Active or experiential learning techniques (e.g., role playing; psycho-drama; recreational activities as a therapeutic tools) and
- Skill-building techniques for coping with stress and to reduce urges to return to drug use

Addressing Youth Heterogeneity by Adapting CC

A promising approach to deal with the heterogeneity of client problem profiles is adaptive, including “SMART” (Sequential Multiple Assignment Randomized Trials) interventions (Lavori et al. 2000; Lei et al. 2012; Murphy et al. 2007; Ridenour and Stormshak 2009). The basic application of this approach is to apply an algorithm of enhanced treatment for those individuals who do not respond well to the initial level of treatment. Poor responders are then provided a different or a more enhanced version of the same treatment. Given that many youth do not readily respond to treatment, an adaptive procedure may benefit the youth drug abuse treatment field.

A challenge to this approach is how to define poor treatment response and the timing of when to apply the next step of treatment. Should the client be switched from initial treatment and switched to another strategy? If so, to what type of treatment approach should the switch occur? Or perhaps the client should receive a more intensive version of the same treatment or have a supplemental treatment to augment what the client is already receiving (McKay 2009). One secondary effect of the adaptive approach is that it has the potential to increase rates of participation; the burden on the patient is lower at the outset, and the tailoring that occurs for nonresponders may be perceived favorably by these clients. Adaptive care may also

increase cost-effectiveness and cost benefit, because lower intensity treatments are also often less costly.

The extant research on adaptive approaches is limited to the adult literature, although there are SMART studies in progress [for children with attention deficit/hyperactivity disorder by W. Pelham at Florida International University, and for children with early-stage drug abuse by G. August at the University of Minnesota (personal communications)]. Adaptive or stepped care treatment algorithms have been developed and evaluated for affective disorders (Otto et al. 2000; Scogin et al. 2003), and other disorders (see Lei et al. 2012). McKay (2009) summarized 15 adult drug treatment studies; most of these studies concluded that the adaptive approach was associated with either better drug use outcomes or equivalent outcomes compared to treatments with other advantages (e.g., lower cost and lower patient burden).

Using Technology to Strengthen Treatment

The use of the Internet and smart phones is being introduced as an aid to treatment, including the tracking of a teenager's mood (Reid et al. 2009) and as a direct tool to promote access to and engagement with adolescent clients after primary treatment (Kaminer and Napolitano 2004, 2010). The Internet provides a cost-efficient and practical opportunity for easy and timely communication between counselors and clients; its use as an adjunct to CC merits greater attention by service providers. The application of the telephone has been investigated (Burleson and Kaminer 2007). The relative efficacy of three randomized aftercare conditions for treatment completers were studied: (a) individualized 50-min integrated motivational enhancement and cognitive-behavioral therapies; (b) individualized integrated motivational enhancement and cognitive-behavioral therapies brief therapeutic phone contacts limited to 15 min only; and (c) no-intervention control condition. Ninety percent of treatment completers finished the assigned aftercare conditions. The phone intervention was found to be feasible and acceptable to both adolescents and therapists (Burleson and Kaminer 2007). There was a significant

reduction for number of drinking occasions, heavy drinking occasions, drinks per occasion, and highest number of drinks per occasion as a function of combined active aftercare conditions versus the no-active aftercare condition.

Employing Reinforcements to Promote Posttreatment Recovery

Incentive-based approaches have been applied to adults (Carroll and Onken 2005), and this strategy is being investigated with adolescents (Stanger et al. 2009). Incentives or vouchers are often in the form of award prizes (e.g., dollar prizes) and are contingent on client abstinence and treatment compliance (Sindelar et al. 2007). This approach is based on the operant conditioning principle that the use of consequences can modify behavior.

An illustration of this strategy with youth was reported by Henggeler and colleagues (Randall et al. 2001). Multisystemic therapy (MST) was adapted with community reinforcement plus vouchers approach (CRA) to treat adolescents with a substance use disorder. Key features included frequent random urine screens to detect drug use, functional analyses to identify triggers for drug use, self-management plans to address identified triggers, the development of drug avoidance skills, and vouchers to reward treatment compliance and abstinence.

Given that the scientific progress in behavioral treatments for adult SUDs includes the use vouchers, such incentive-based approaches to promote recovery for youth merit greater attention. These approaches can be readily integrated into the variety of behavioral approaches that are becoming the mainstay in adolescent treatment, including cognitive behavior therapy, contingency management, and family therapy.

Recovery High Schools

School is a critically important social environment for adolescents with SUDs. On the one hand, school sits at the heart of the threat of relapse and other unhealthy and maladaptive behaviors. The National Survey of American Attitudes on Substance Abuse annual survey of students ages 12–17 (Center on Addiction and Substance Abuse 2009) found that about two-thirds of high school

students say drugs are used, kept, or sold on the grounds of their schools. Most adolescents who receive treatment for SUDs return to their pre-treatment schools. Association with drug-using peers, alcohol or drug availability, and academic challenges (Clark and Winters 2002; Svensson 2000) are significant relapse-risk factors for youth after drug treatment. One study found that virtually all adolescents returning from treatment to their old school reported being offered drugs on their first day back in school (Spear and Skala 1995). For the student who attempts to resist peer pressure, difficulty coping with negative feelings and interpersonal conflict may endanger a teen's newly established sobriety (Finch 2008).

Yet schools can be opportunities for promoting recovery and protecting students. School bonding, school interest, and academic achievement are negatively associated with substance use, particularly among low-achieving students (Bryant et al. 2003). Succeeding academically can help students stay sober and ultimately graduate, given that "connectedness with school" is a protective factor for adolescents (Resnick et al. 1997).

Recovery High Schools (RHSs) provide an alternative high school option to provide recovery support and a protective environment for students with SUDs and related behavioral, emotional, or mental health needs (Finch et al. 2014). They provide academic, therapeutic, and supportive services that support the therapeutic needs of students. Unlike traditional remedial programs, which usually provide short term therapeutic interventions and then return students to mainstream schools, RHSs provide a longer-term setting from which students may choose either to graduate or to transition back to their regular schools. Recovery schools tend to be schools of choice and emphasize the willingness of a student to attend as an enrollment criterion.

While these schools offer a promising approach to significantly improve both academic and behavioral outcomes, RHSs have not been rigorously tested for either effectiveness or cost benefit. RHS-specific research is sparse and mainly descriptive, appearing in theses and unpublished reports and papers (Finch 2008).

Overall, these reports suggest that RHSs are feasible to implement and sustain, and participating students and staff believe they have positive educational and behavioral outcomes. As more districts and state or federal agencies consider funding recovery school programs, evidence using rigorous approaches is needed to demonstrate better and more cost-beneficial behavioral and academic outcomes relative to similar recovering students in mainstream schools. Assuming overall effectiveness is demonstrated, additional analyses to characterize the most effective program elements are needed to guide policy and service development.

Future Directions

Perhaps the most important future research priority for this field is to address the issue of poor response to treatment. There is still a lack of research aimed at enhancing treatment strategies to maximize treatment engagement and completion (Winters et al. 2009), and only a few programs clearly specify what types of efforts (if any) will be made for linking adolescent clients to CC (Godley and Godley 2011). Two empirical studies on CC have been published to date (albeit not adaptive CC) (Godley et al. 2007; Kaminer et al. 2008), and along with other outcome studies, the field is beginning to identify factors that influence response (e.g., motivational factors, presence of co-existing disorders, peer drug use, parental support, application of coping skills, and availability of continuing care). Also, more research is needed to evaluate the approach of actively involving parents to facilitate their poorly motivated adolescent's entry into treatment and to promote recovery if their child receives treatment (Kirby et al. 2015). It stands to reason that treatment approaches and strategies that optimally address these factors, such as motivational enhancement strategies and cognitive-behavioral therapy, will be effective when applied to youth with a drug abuse problem. A related future research priority is the investigation of factors affecting extended recovery. The emerging interests in the use of adaptive treatments, technology-

based aftercare services, and recovery high schools are promising. It is also this author's view that the treatment field has not taken advantage of brain development research to further refine treatment. Findings from neurodevelopment research provide potentially new insights regarding how to engage youth in the behavior change process, including the content and delivery of treatment.

In sum, it is estimated that there are more than 300 controlled evaluations of alcohol dependence treatments in the adult literature (Miller and Wilbourne 2002), and there are also numerous controlled evaluations of drug dependence treatments for adults. Whereas by comparison there are a modest number of controlled evaluations of adolescent drug abuse treatments, our field is making great advances in research and the future looks bright as we further expand the knowledge base regarding the nature and extent of effective treatments.

Suggested Readings

- National Institute on Drug Abuse. (2014). *Principles of adolescent substance use disorder treatment: A research-based guide*. Bethesda: National Institute on Drug.
- Tanner-Smith, E. E., Wilson, S. J., & Lipsey, M. W. (2013). The comparative effectiveness of outpatient treatment for adolescent substance abuse: a meta-analysis. *Journal of Substance Abuse Treatment, 44*, 145–158.
- Winters, K. C., Tanner-Smith, E., Bresani, E., & Meyers, K. (2014). Current advances in the treatment of adolescent substance use. *Adolescent Health, Medicine and Therapeutics, 5*, 199–210.

References

- American Society of Addiction Medicine. (2001). *Patient placement criteria for treatment of substance-related disorders*. Revised (2nd ed.). Chevy Chase: American Society of Addiction Medicine.
- Battjes, R. J., Gordon, M. S., O'Grady, K. E., Kinlock, T. W., & Carswell, M. A. (2003). Factors that predict adolescent motivation for substance abuse treatment. *Journal of Substance Abuse Treatment, 24*, 221–232.
- Burleson, J., & Kaminer, Y. (2005). Adolescent substance use disorders: Self-efficacy as a predictor of relapse. *Addictive Behaviors, 20*, 1751–1764.
- Burleson, J. A., & Kaminer, Y. (2007). Aftercare for adolescent alcohol and other substance use disorder: Feasibility and acceptability of a brief phone intervention. *American Journal on Addictions, 16*, 202–205.
- Bryant, A. L., Schulenberg, J. E., O'Malley, P. M., Bachman, J. G., & Johnston, L. D. (2003). How academic achievement, attitudes, and behaviors relate to the course of substance use during adolescence: A 6-year, multiwave national longitudinal study. *Journal of Research on Adolescence, 13*, 361–397.
- Carroll, K. M., & Onken, L. S. (2005). Behavioral therapies for drug abuse. *American Journal of Psychiatry, 162*, 1452–1460.
- Center for Behavioral Health Statistics and Quality. (2015). *Behavioral health trends in the United States: Results from the 2014 National Survey on Drug Use and Health* (HHS Publication No. SMA 15-4927, NSDUH Series H-50). Rockville: Substance Abuse and Mental Health Services Administration.
- Center on Addiction and Substance Abuse. (2009). *National survey of American attitudes on substance abuse XIV: Teens and parents*. New York City: The National Center on Addiction and Substance Abuse at Columbia University.
- Clark, D., & Winters, K. C. (2002). Measuring risks and outcomes in substance use disorders prevention research. *Journal of Consulting and Clinical Psychology, 70*, 1207–1223.
- Deas, D., & Thomas, S. E. (2001). An overview of controlled studies of adolescent substance abuse treatment. *American Journal on Addictions, 10*, 178–189.
- Dennis, M., & Scott, C. (2007). Managing addiction as a chronic condition. *Addiction Science and Clinical Practice, 4*, 45–55.
- Finch, A. J. (2008). Authentic voices: Stories from recovery school students. *Journal of Groups in Addiction & Recovery, 2*, 16–27.
- Finch, A. J., Moberg, D. P., & Krupp, A. L. (2014). Continuing care in high schools: A descriptive study of recovery high school programs. *Journal of Child & Adolescent Substance Abuse, 23*, 116–129.
- Godley, S. H., Dennis, M. L., Godley, M. D., & Funk, R. R. (2004). Thirty-month relapse trajectory cluster groups among adolescents discharged from out-patient treatment. *Addiction, 99*(Suppl. 2), 129–139.
- Godley, M. D., & Godley, S. H. (2011). Continuing care following residential treatment: History, current practice, critical issues, and emergency approaches. In N. Jainchill (Ed.), *Understanding and treating adolescent substance use disorders*. Kingston: Civic Research Institute.
- Godley, M. D., Godley, S. H., Dennis, M. L., Funk, R. R., & Passetti, L. L. (2007). The effect of assertive continuing care on continuing care linkage, adherence and

- abstinence following residential treatment for adolescents with substance use disorders. *Addiction*, *102*, 81–93.
- Gogtay, N., Giedd, J. N., Lusk, L., Hayashi, K. M., Greenstein, D., & Vaituzis, A. C. (2004). Dynamic mapping of human cortical development during childhood through early adulthood. *Proceedings of the National Academy of Sciences*, *101*, 8174–8179.
- Hogue, A., & Liddle, H. A. (2009). Family-based treatment for adolescent substance abuse: Controlled trials and new horizons in services research. *Journal of Family Therapy*, *31*, 126–154.
- Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Miech, R. A. (2014). *Monitoring the Future national survey results on drug use, 1975–2013: Vol. I. Secondary school students*. Ann Arbor: Institute for Social Research, The University of Michigan.
- Kaminer, Y., Bursleson, J. A., & Burke, R. H. (2008). Efficacy of outpatient aftercare for adolescents with alcohol use disorders: A randomized controlled study. *Journal of the American Academy of Child and Adolescent Psychiatry*, *47*, 1405–1412.
- Kaminer, Y., & Napolitano, C. (2004). Dial for therapy: Aftercare for adolescent substance use disorders. *Journal of the American Academy of Child and Adolescent Psychiatry*, *43*, 171–174.
- Kaminer, Y., & Napolitano, C. (2010). *Dial for therapy: Manual for the aftercare of adolescents with alcohol and other substance use disorders*. Center City: Hazelden Press.
- Kann, L. K., Shanklin, S. L., Flint, K. H., Hawkins, J., Harris, W. A., Lowry, R., . . . Zaza, S. (2014). *Youth risk behavior surveillance – United States, 2013*. Rockville: ICF International; Westat.
- Kirby, K. C., Verssek, B., Kerwin, M. E., Meyers, K., Benishek, L. A., Bresani, E., . . . Meyers, R. J. (2015). Developing community reinforcement and family training (CRAFT) for parents of treatment-resistant adolescents. *Journal of Child & Adolescent Substance Abuse*, *24*, 155–165.
- Lavori, P. W., Dawson, R., & Rush, A. J. (2000). Flexible treatment strategies in chronic disease: Clinical and research implications. *Biological Psychiatry*, *48*, 605–614.
- Lei, H., Nahum-Shani, I., Lynch, K., Oslin, D., & Murphy, S. A. (2012). A “SMART” design for building individualized treatment sequences. *Annual Review of Clinical Psychology*, *8*, 1–35.
- McKay, J. R. (2005). Is there a case for extended interventions for alcohol and drug use disorders? *Addiction*, *100*, 1594–1610.
- McKay, J. R. (2009). *Treating substance use disorders with adaptive continuing care*. Washington, DC: American Psychological Association Press.
- Miller, W. R., & Wilbourne, P. L. (2002). Mesa Grande: A methodological analysis of clinical trials of treatment for alcohol use disorders. *Addiction*, *97*, 265–277.
- Murphy, S. A., Lynch, K. G., Oslin, D., McKay, J. R., & TenHave, T. (2007). Developing adaptive treatment strategies in substance abuse research. *Drug and Alcohol Dependence*, *88S*, S24–S30.
- National Institute on Drug Abuse. (2014). *Principles of adolescent substance use disorder treatment: A research-based guide*. Bethesda: National Institute on Drug Abuse. <http://www.drugabuse.gov/publications/principles-adolescent-substance-use-disorder-treatment-research-based-guide/>.
- O'Leary, T. T., & Monti, P. M. (2004). Motivational enhancement and other brief interventions for adolescent substance abuse: Foundations, applications and evaluations. *Addiction*, *99*(Suppl. 2), 63–74.
- Otto, M. W., Pollack, M. H., & Maki, K. M. (2000). Empirically supported treatments for panic disorder: Costs, benefits, and stepped care. *Journal of Consulting and Clinical Psychology*, *59*, 341–349.
- Randall, J., Henggeler, S. W., Cunningham, P. B., Rowland, M. D., & Swenson, C. C. (2001). Adapting multi-systemic therapy to treat adolescent substance abuse. *Cognitive and Behavioral Practice*, *8*, 359–366.
- Reid, S. C., Kauer, S. D., Dudgeon, P., Sanci, L. A., Shrier, L. A., & Patton, G. C. (2009). A mobile phone program to track young people's experiences of mood, stress and coping. *Social Psychiatry and Psychiatric Epidemiology*, *44*(6), 501–507.
- Resnick, M., Bearman, P., Blum, R., Bauman, K., Harris, K., Jones, J., et al. (1997). Protecting adolescents from harm: Findings from the National Longitudinal Study on Adolescent Health. *Journal of the American Medical Association*, *278*, 823–832.
- Ridenour, T., & Stormshak, E. A. (2009). Introduction and rationale for individualized substance abuse prevention from an ontogenetic perspective. *American Journal of Drug and Alcohol Abuse*, *35*, 206–208.
- Riggs, P. D., Thompson, L. L., Tapert, S. F., Frascella, J., Mikulich-Gilbertson, S., Dalwani, M., . . . Lohman, M. (2007). Advances in neurobiological research related to interventions in adolescents with substance use disorders: Research to practice. *Drug and Alcohol Dependence*, *91*, 306–311.
- Scogin, F. R., Hanson, A., & Welsh, D. (2003). Self administered treatment in stepped-care models of depression treatment. *Journal of Clinical Psychology*, *59*, 341–349.
- Scott, C. K., Foss, M. A., & Dennis, M. L. (2005). Utilizing recovery management checkups to shorten the cycle of relapse, treatment reentry, and recovery. *Drug and Alcohol Dependence*, *78*, 325–338.
- Sindelar, J., Elbel, B., & Petry, N. M. (2007). What do we get for our money? Cost-effectiveness of adding contingency management. *Addiction*, *102*, 309–316.
- Spear, L. P. (2002). Alcohol's effects on adolescents. *Alcohol Health and Research World*, *26*, 287–291.

- Spear, S. F., & Skala, S. Y. (1995). Posttreatment services of chemically dependent adolescents. In E. Rahdert & D. Czechowicz (Eds.), *Adolescent drug abuse: Clinical assessment and therapeutic interventions* (NIDA Research Monograph 156) (pp. 341–364). Rockville: U.S. Department of Health and Human Services, National Institute on Drug Abuse.
- Stanger, C., Budney, A. J., Kamon, J. L., & Thostensen, J. (2009). A randomized trial of contingency management for adolescent marijuana abuse and dependence. *Drug and Alcohol Dependence, 105*, 240–247.
- Substance Abuse and Mental Health Services Administration. (2013). *Results from the 2012 National Survey on Drug Use and Health: Summary of national findings*. Rockville: Substance Abuse and Mental Health Services Administration.
- Svensson, R. (2000). Risk factors for different dimensions of adolescent drug use. *Journal of Child and Adolescent Substance Abuse, 9*, 67–90.
- Tanner-Smith, E. E., & Lipsey, M. W. (2015). Brief alcohol interventions for adolescents and young adults: A systematic review and meta-analysis. *Journal of Substance Abuse Treatment, 51*, 1–18.
- Tanner-Smith, E. E., Wilson, S. J., & Lipsey, M. W. (2013). The comparative effectiveness of outpatient treatment for adolescent substance abuse: A meta-analysis. *Journal of Substance Abuse Treatment, 44*, 145–158.
- Volkow, N. D., Baler, R. D., Compton, W. M., & Weiss, S. R. (2014). Adverse health effects of marijuana use. *New England Journal of Medicine, 370*, 2219–2227.
- Volkow, N. D., Koob, G. F., & McLellan, A. T. (2016). Neurobiologic advances from the brain disease model of addiction. *New England Journal of Medicine, 374*, 363–371.
- Waldron, H. B., & Turner, C. (2008). Evidence-based psychosocial treatments for adolescent substance abuse: A review and meta-analysis. *Journal of Clinical Child and Adolescent Psychology, 37*, 1–24.
- Winters, K. C. (in press). Adolescent brief interventions. *Journal of Drug Issues*.
- Winters, K. C. (2009, Fall). Adolescent brain development and alcohol abuse. *The Journal of Global Drug Policy and Practice, 3*. <http://www.globaldrugpolicy.org/>
- Winters, K. C., Botzet, A. M., Fahnhorst, T., & Koskey, R. (2009). Adolescent substance abuse treatment: A review of evidence-based research. In C. Leukefeld, T. Gullotta, & M. S. Tindall (Eds.), *Handbook on the prevention and treatment of substance abuse in adolescence* (pp. 73–96). New York: Springer Academic Publishing.
- Winters, K. C., Tanner-Smith, E., Bresani, E., & Meyers, K. (2014). Current advances in the treatment of adolescent substance use. *Adolescent Health, Medicine and Therapeutics, 5*, 199–210.

Substance Use Risk and Protective Factors

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Overview

Adolescent drug use continues to be a major public health problem in the United States and globally. Although countless youth engage in problem behaviors such as delinquency and truancy, participation in some of these risky behaviors decreases with age. However, the trend is reverse for adolescent drug use. Drug use initiated during adolescence may continue into adulthood (Kandel and Chen 2000) and could lead to more serious drug behaviors, such as mild, moderate, or severe substance use disorder (Kandel 1980). These trends, among others, suggest a greater understanding of adolescent drug use is needed.

To further the understanding of adolescent drug use, this essay begins with offering definitions of drug use and is followed by a discussion on gateway drugs, since adolescent drug use experimentation often initiates with these substances. An overview of the prevalence and consequences of adolescent drug use is presented and takes into account racial and ethnic differences. Also, a discussion of popular emerging drugs and the legalization and medicalization of marijuana is presented, followed by a review of the major theories used to understand adolescent drug use and a comprehensive review of the risk and protective factors associated with adolescent drug use. It is noted that these biopsychosocial factors

have been salient in developing preventive interventions and will be important as future interventions are modified to be more effective and long lasting. Attention is then given to discussing gender differences in adolescent drug use. The essay concludes with a discussion of populations generally studied, measurement issues, and future research.

Definitions of Drug Use

Licit or legal drug use refers to the use of legal drugs, such as tobacco and alcohol. Although licit drugs are legal, when they are used by individuals under 21 years of age (18 for cigarettes), it is illegal. Illicit or illegal drug use refers to the use and misuse of illegal and controlled drugs (CDC 2007a). Examples of illicit drugs are heroin, cocaine, and methamphetamine. Drug *use* refers to “the use of selected substances including alcohol, tobacco, drugs, inhalants, and other substances that can be consumed, inhaled, injected, or otherwise absorbed into the body with possible detrimental effects” (Centers for Disease Control and Prevention, CDC 2007b). In contrast, substance use disorder as defined in the DSM-5 as a “cluster of cognitive, behavioral, and physiological symptoms indicating that the individual continues using the substance despite significant substance related problems” (American Psychiatric Association 2013, p. 483). This disorder ranges in severity from mild to severe and has replaced the diagnostic labels of drug abuse and drug dependence in the DSM-IV TR (American Psychiatric Publishing 2013). The next section briefly describes the connection and paths between soft drugs and experimentation with hard drugs.

Gateway Drugs

Initially, “gateway drugs” referred to tobacco and alcohol (Dupont 1984). Some researchers have expanded the classification of gateway drugs to include marijuana (Goode 1974; Johnson 1973). The gateway hypothesis suggests that adolescents

first experiment with drugs that are legal for adults, such as tobacco and alcohol. It is expected that these softer drugs might be followed by marijuana experimentation and, subsequently, hard drugs, such as methamphetamine and cocaine. Youth typically begin experimenting with gateway drugs because these are socially acceptable and easily accessible and tend to progress to harder drugs after initiation and maintenance of gateway drugs.

Experimenting with gateway drugs reduces barriers and increases opportunities for exposure to illicit drugs. Consequently, youth who engage in tobacco, alcohol, and marijuana use are more likely to use illicit drugs than youth who do not consume these drugs. These youth are also at risk for later drug use, abuse, and dependence. In a study of 27,616 current and former drinkers, Grant and Dawson (1998) examined the relationship between the age alcohol was first used and the prevalence of lifetime alcohol abuse and alcohol dependence among adults at least 18 years of age. They found that adults who started to drink during early adolescence were three to four times more likely to develop drug problems in later life, than those who began drinking in later adolescence. For instance, the rates of lifetime drug abuse declined from approximately 11% among those who initiated drinking at age 16 or younger to approximately 4% among those whose onset of alcohol use was at age 20 or older. Similarly, the rates of lifetime drug dependence declined from approximately 40% among individuals who initiated drinking at age 14 or younger to approximately 10% among those whose onset of alcohol use was at age 20 and older. In a similar study, Grant (1998) examined the relationship of early onset smoking with lifetime drinking and the subsequent development of DSM-IV alcohol abuse and dependence. Early onset smoking was positively associated with more excessive alcohol consumption and more severe alcohol use disorders compared to late onset smokers and non-smokers. More recently, Hingson et al. (2006) examined the relationship of early onset drinking with age of alcohol dependence and chronic relapsing dependence. Hingson and colleagues found that adults who initiated alcohol use before

age 14 years were more likely to experience alcohol dependence and within 10 years of onset of alcohol use compared to adults who began drinking at 21 years or older. These early initiators more often experienced past-year drug dependence and multiple chronic dependence episodes. As a whole, these findings support the need to implement policies and prevention programs that delay gateway drug consumption.

Prevalence of Adolescent Drug Use

The National Survey on Drug Use and Health (NSDUH) is one of the most widely known national studies of drug use. It provides information on the prevalence of tobacco, alcohol, and illicit drug use. It is a national sample of the civilian, non-institutionalized population ages 12 and older and provides data on patterns of drug use among different age, gender, and ethnic groups (Substance Abuse and Mental Health Services Administration (SAMHSA) 2014).

Tobacco Use

In 2013, among all youth ages 12–17, 7.8% reported using tobacco products (e.g., cigarettes, chewing tobacco, snuff, cigars) at least once during the past month (SAMHSA 2014). Since then those rates have slightly decreased, although not significantly, with 7% of youth reporting past month use in 2014 (SAMHSA 2015). The rates of current tobacco use (i.e., within the past month) among teens aged 12–17 differ based on the tobacco product. In 2013, adolescents were more likely to use cigarettes and least likely to use pipe tobacco. For example, adolescents used cigarettes at a rate of 5.6%, cigars at a rate of 2.3%, smokeless tobacco at a rate of 2.0%, and pipe tobacco at a rate of 0.6%; the 2014 data are consistent (SAMHSA 2015). The prevalence of current cigarette smoking declined in 2013 to 5.6% from 8.6% in 2012. Among this age group, the prevalence of cigarette smoking was slightly higher for males (5.7%) than females (5.5%). Current cigarette use continues to decline. For instance, in 2014, 4.9% of youth aged 12–17 were current cigarette smokers (SAMHSA 2015).

The prevalence of tobacco use differs by race/ethnicity for persons 12 or older (SAMHSA 2014). In 2013, American Indians or Alaska Natives reported the highest prevalence of tobacco use (40.1%) and Asians reported the lowest prevalence (10.1%). Black individuals (23.0%) reported slightly higher current cigarette use than Whites (22.7%) and Hispanics (16.8%). Asians (8.5%) reported the lowest rates of past month cigarette use. In addition, American Indian or Alaska Native (5.3%), White (4.3%), and Native Hawaiian or other Pacific Islander (3.9%) individuals reported the highest rates of past month smokeless tobacco. Adolescents aged 12–17 also demonstrate racial and ethnic differences in reported current cigarette use. In 2014, the prevalence of current cigarette use was 6.3% among White, 3.8% among Hispanic/Latino, 2.2% among Black, and 1.3% among Asian individuals (SAMHSA 2015). To sum, tobacco use among adolescents aged 12–17 has recently declined; however, rates differ across racial and ethnic lines with White, American Indian, Hispanic, and Black adolescents reporting higher use than Asian adolescents. These differences point to a need for culturally relevant interventions to promote additional declines.

Alcohol Use

Underage drinking for youth 12–20 is a reality, with one in five adolescents reporting current alcohol use and one in seven reporting binge drinking (SAMHSA 2015). In 2014, 2.9 million (11.5% or one in nine) adolescents reported current alcohol use (SAMHSA 2015). Adolescent males and females reported similar rates (11.2% and 11.9%, respectively) in 2013 (SAMHSA 2014). In addition, adolescents are more likely to engage in binge drinking (i.e., five or more drinks on one occasion) than heavy alcohol use (i.e., five or more drinks on one occasion at least 5 days in a 30-day period) (SAMHSA 2015). In 2014, 1.5 million (6.1%) adolescents reported binge drinking, while approximately 257,000 adolescents (1%) reported heavy alcohol use. Current alcohol use, binge drinking, and heavy use have declined since 2002; however, startling trends still

exist regarding the prevalence of use, as youth get older.

Rates of current alcohol use increase as youth age. For youth ages 12–17, rates of current past month alcohol use were approximately 2.1% among individuals ages 12 and 13, 4.5% among individuals ages 14 and 15, and 13.1% among 16- and 17-year-olds (SAMHSA 2014). These findings suggest that age is positively associated with alcohol use (SAMHSA 2014).

Differential rates exist racial and ethnic lines with White and Hispanic adolescents reporting the highest prevalence of alcohol use and Asians reporting the lowest prevalence of alcohol use. Specifically, in 2014, White and Hispanic adolescents aged 12–17 were most likely to initiate alcohol use, at 10% and 10.1%, respectively (SAMHSA 2015). In 2013, among those ages 12–17, White teens reported the highest rate of current alcohol use at 12.9% followed by Hispanic (10.7%), Black (9.7%), American Indian or Alaska Native (9.3%), and Native Hawaiian or other Pacific Islander (8.2%) adolescents. Asian adolescents reported the lowest rate of alcohol use at 8%. White and Hispanic adolescents' alcohol use declined between 2012 and 2013. In 2014, White (7.1%) and Hispanic/Latino (6.3%) youth reported higher rates of past month binge drinking than Black (3.6%) and Asian (1.5%) youth (SAMHSA 2015). To sum, adolescents continue to engage in current, binge, or heavy alcohol use. White and Hispanic youth have the highest rates of current and binge use; these trends may illuminate areas for clinical and research attention.

Illicit Drug Use

NSDUH includes nine categories of illicit drugs: marijuana, cocaine, heroin, hallucinogens, inhalants, the nonmedical use of prescription-type pain relievers, tranquilizers, stimulants, and sedatives. In 2013, 8.8% of youth ages 12–17 reported using illicit drugs. Although not statistically significant, this rate rose to 9.4% in 2014, with approximately 2.3 million adolescents reporting current illicit drug use (SAMHSA 2015). Illicit drug use was reported by almost 2.6% of youth ages 12–13, 7.8% of youth ages 14–15, 15.8% of youth ages

16–17, and 22.6% among individuals ages 18–20. Illicit drug use increases with age until individuals reach young adulthood and then rates generally decline (SAMHSA 2014).

Among youth ages 12–17 that reported using illicit drugs, 7.1% used marijuana, 2.2% misused nonmedical psychotherapeutic drugs (1.7% used nonmedical pain relievers), 0.6% used hallucinogens, 0.5% used inhalants, 0.2% used cocaine, and 0.1% were current users of heroin (SAMHSA 2014). Among these youth, the drugs used in a given month varied according to age group. For example, the drugs most commonly used by 12–13 year olds were nonmedical psychotherapeutic drugs (1.3%), followed by marijuana (1%), inhalants (0.6%), and hallucinogens (0.1%). Marijuana was the dominant drug used by youth aged 14 and 15 (5.8%) and 16 and 17 (14.2%). Youth aged 14 and 15 used psychotherapeutic drugs (2.2%), and pain relievers (1.8%) more commonly than inhalants (0.6%), hallucinogens (0.4%), or cocaine (0.1%). Youth 16 and 17 used psychotherapeutic drugs (3.1%), hallucinogens (1.3%), and cocaine (0.4%) at higher rates than their younger counterparts did. Findings suggest that illicit drug use increases with age. Marijuana is the most commonly used illicit drug among youth aged 14–17. Youth 12–13 most commonly use psychotherapeutic drugs, including pain relievers, tranquilizers, stimulants, and sedatives.

Interestingly, substantially more male adolescents than female adolescents ages 12–17 reported current illicit drug use (9.6% and 8.0%, respectively) in 2013 (SAMHSA 2014). These statistics represent an increase in the gap between males and females. This is due to the decrease in female rates from 9.5% to 8.0%. A similar trend in gender differences existed for marijuana use in 2013. Current marijuana use among male adolescents increased from 7.5% in 2012 to 7.9% in 2013 while rates slightly declined among female adolescents from 7% in 2012 to 6.2% in 2013 (SAMHSA 2014).

Differential rates of current illicit drug use exist across racial and ethnic lines for persons 12 or older (SAMHSA 2014). In 2013, the current rate of illicit drug use was highest for multiracial

persons (17.4%), Native Hawaiians or other Pacific islanders (14%), and American Indians or Alaska Natives (12.3%). Asians reported the lowest rates (3.1%) of current illicit drug use. Black, White, and Hispanic rates fall in the middle with 10.5%, 9.5%, and 8.8%, respectively. A similar trend exists for adolescents aged 12–17 with Asians (3.5%) reporting the lowest rate of illicit drug use in the past month (SAMHSA 2015). Hispanic youth (10.5%) reported the highest rate of illicit drug use followed by Black (9.8%) and White (9.3%) youth. Asian adolescents were least likely to engage in illicit drug use.

Illicit drug use increases with age. Similarly, preferred illicit drug of choice differs by age, although marijuana appears to be the prevailing choice across developmental age. The prevalence of illicit drug use also varies by race/ethnicity with Hispanic and Black adolescents reporting the highest rates of illicit drug use.

Popular Emerging Drugs: New Trends in Illicit Drug Use

Emerging drugs are also a public health concern and include molly, bath salts, cough syrup or cold medicine, e-cigarettes, and synthetic marijuana. Molly (MDMA) is an illicit drug that has hallucinogenic and stimulant properties that may cause various symptoms including anxiety and confusion (SAMHSA 2013). Between 2014 and 2015, the percentage of eighth, tenth, and 12th grade students reporting MDMA use remained relatively stable or decreased. Eighth grade students' current MDMA use increased slightly from 0.4% to 0.5%, tenth grade students' use increased slightly from 0.8% to 0.9%, and 12th grade students' use decreased from 1.4% to 1.1% (NIDA 2015). Between 2013 and 2014, tenth grade students' MDMA use decreased significantly from 1.2% to 0.8%. While MDMA use has stabilized or declined, the Drug Abuse Warning Network (DAWN) report suggests that adolescents are experiencing increased consequences associated with their molly use. For example, between 2005 and 2011, the number of emergency department visits involving molly for patients younger than

21 years old more than doubled from 4,460 to 10,176 (SAMHSA 2013).

Likewise, the prevalence of adolescent bath salt and cough syrup use has remained stable, with small fluctuations that are not statistically significant (NIDA 2015; U.S. Department of Justice and National Drug Intelligence Center 2011). Bath salts or synthetic cathinones are central nervous system stimulants. Possible negative effects include physiological symptoms such as increased blood pressure or increased heart rate and psychological symptoms such as hallucinations, paranoia, or delusions (US Department of Justice 2011). Findings from the 2015 Monitoring the Future Study indicated that eighth grade students' use of bath salts within the past year reached a peak in 2013 at 1% but has since declined (NIDA 2015). For example, from 2014 to 2015, eighth grade students' bath salt use during the past year decreased slightly from 0.5 to 0.4%. Tenth grade students' use within the past year decreased from 0.9% to 0.7%, and 12th grade students' use increased slightly from 0.9% to 1%; these changes were not significant.

Similar to adults, adolescents commonly misuse over-the-counter or prescription cough syrups or capsules containing dextromethorphan (DXM) or promethazine. According to NIDA for Teens (2016), adolescents are more likely to use DXM because they can purchase these cough medications without a prescription. Teens often mix medications with soda, alcohol, or a hard candy. When used improperly, DXM may cause symptoms including disassociation, euphoria, decreased motivation, health problems, and addiction. According to the 2015 Monitoring the Future Study, adolescent cough and cold medication misuse during the past year has declined (NIDA 2015). Between 2012 and 2015, the prevalence of cough medication misuse within the past year decreased for eighth (3–1.6%), tenth (4.7–3.3%), and 12th (5.6–4.6%) grade students.

E-cigarettes have emerged during the past decade and are designed to deliver nicotine through vapor, which users inhale (NIDA 2016). The e-cigarette vapor does not contain chemicals that are present in traditional cigarettes. However, health experts have concerns regarding

adolescents' use of these products due to the presence of cancer-causing chemicals, potential for nicotine poisoning due to e-cigarette liquid exposure, and concern that this substance may serve as a "gateway" to other substance use. Between 2014 and 2015, tenth and 12th grade students' e-cigarette use during the past month decreased from 16.2% to 14% and 17.1% to 16.2%, respectively (NIDA 2015). Eighth graders appeared to report a higher prevalence of use within the past month between 2014 and 2015 (from 8.7% to 9.5%) (NIDA 2015).

Synthetic marijuana, also referred to as spice and K2, is the second most commonly used drug among high school seniors (NIDA 2016). The high prevalence of synthetic marijuana use is concerning because symptoms include increased heart rate, throwing up, violent behaviors, anxiety, and suicidal thoughts. Synthetic marijuana is a mix of herbs and manmade chemicals that can have a variety of effects including relaxation, anxiety, paranoia, hallucinations, violent behavior, and suicide (NIDA 2016). Although synthetic marijuana's chemicals are similar to marijuana, the effects are often different and stronger (NIDA 2016). Between 2010 and 2011, emergency room visits related to synthetic marijuana use nearly tripled by increasing from 11,406 to 28,531 emergency room visits per year (Bush and Woodwell 2014). According to the 2015 Monitoring the Future Study, eighth, tenth, and 12th grade students' synthetic marijuana use during the past year has decreased since 2012 (NIDA 2015). Specifically, between 2014 and 2015, eighth grade students' synthetic marijuana use within the past year decreased from 3.3% to 3.1%, while tenth grade students' use decreased from 7.4% to 4.3%, and 12th grade students' use decreased from 7.9% to 5.2% within the same period (NIDA 2015). Synthetic marijuana and e-cigarettes are the most commonly used emerging drugs presented in this section. Although the rates of use for emerging drugs are primarily stable or decreasing, these drugs remain a concern for researchers and practitioners because of the associated negative physical and mental health consequences and the lack of knowledge about these drugs by many members of society.

Impact of the Legalization and Medicalization of Marijuana

The recent medicalization and legalization of marijuana in 23 states (National Alliance for Model State Drug Laws 2014) has sparked inquiries into its impact on adolescents' attitudes toward and use of marijuana. Researchers have found mixed results relative to the impact of medicalization and legalization on adolescents' attitudes and marijuana use. For instance, Wall and colleagues (2011) reported that adolescents' perception of risk and prevalence of marijuana use in states with medical marijuana laws (MML) were significantly different from states without MML. Specifically, marijuana use was higher and perceptions of risk were lower for adolescents living in states with MML, although Wall and colleagues also found that in 8 of the 16 states that passed MML laws, there were higher prevalence rates and lower perceptions of risk prior to MML passage. Sobesky (2016) conducted a grounded theory study to ascertain 11 practitioners' (i.e., licensed clinical social workers, licensed professional counselors, certified addiction counselors, and licensed addiction counselors) expertise, thoughts, and observations about the impact of medicalization and legalization on teenage marijuana attitude and usage. The findings suggest that medicalization and legalization have led adolescents to normalize and validate use, increase their consumption, and use increasingly potent forms of marijuana with higher delta-9-tetrahydrocannabinol (THC) levels. In contrast, however, Wall et al. (2016) found that there was not a statistical difference in prevalence of youth marijuana use between MML and non-MML states after controlling for initial differences in marijuana use between states and pre-medicalization rates within states.

Researchers have explored the impact that the medicalization and legalization of marijuana have had on adolescents' use and attitudes toward the drug. Overall, the findings are mixed. While some research suggests a difference in drug use rates between states that have medicalized marijuana, when specific controls are used, differences become statistically nonexistent. Sobesky (2016)

warned and SAMHSA (2014) indicated that adolescents' perceptions of risk of using marijuana are decreasing, possibly due to legalization. More research is necessary to resolve this debate. Researchers or practitioners need to identify and understand the catalysts to address these trends properly.

Consequences of Adolescent Drug Use

A number of studies have documented the micro and macro consequences of adolescent drug use (e.g., Boyd et al. 2006; Jordan and Lewis 2005). On a microlevel, drug use is associated with psychosocial, academic, mental health, and health consequences. Adolescent drug use is associated with social consequences, such as juvenile delinquency (Jordan and Lewis 2005), unprotected sexual activity (Boyd et al. 2006), adolescent pregnancy, violence and homicide, motor vehicle accidents and injury related to impaired driving (Wu and Khan 2005), and later unemployment (Brook et al. 2002). Drug use and abuse is also correlated with adverse psychosocial consequences to include disruption of family life and suicide (Emshoff et al. 1996; Ensminger and Slusarcick 1992; Segal and Stewart 1996). In addition, adolescent drug use is correlated with academic consequences, such as school failure and poorer school adjustment (Hays and Revetto 1990). Drug use at an early age has also been correlated with negative adverse mental health outcomes, such as impaired developmental and mental health functioning (Anthony and Petronis 1995; Belenko et al. 2004; Choi et al. 2005).

Similar to the prevalence of drug use, consequences associated with drug use differ by race/ethnicity. Racial or ethnic differences in consequences may exist more robustly among men than women (Witbrodt et al. 2014). Witbrodt and colleagues found that although Hispanic women marginally experienced more fights and arguments due to drinking, Black men who rarely or never drank heavily were more likely to experience social, physical, and health consequences. Further, Hispanic men who identified as non-heavy/low-level heavy drinkers had higher rates

of work or legal consequences than White men who identified similarly (Witbrodt et al. 2014). Indeed, racial minorities experience disproportionately more legal problems associated with their drug use (Kakade et al. 2012; Sobesky 2016). For instance, in 2013, Black adult males were arrested for drug-related offenses at a higher rate than White and Hispanic males in Chicago, Atlanta, and New York (Office of National Drug Control Policy 2014), despite lower use. Similar disparities exist for Black adolescents, particularly those living in urban and low-income environments. In analyzing data from the National Longitudinal Survey of Youth 1997, Kakade and colleagues (2012) found that Black adolescents were more likely to experience multiple and single arrests than their White peers even after controlling for drug selling and other illegal behaviors.

Drug use and drug use disorder also affect society on a macrolevel. Annually, substance misuse costs the nation more than 600 billion dollars due to criminal involvement, healthcare costs, and loss wages (NIDA 2012).

Major Theories of Adolescent Drug Use

To date, there is not a single theory that dominates the adolescent drug use literature, and extensive reviews of the primary theories used to foster an understanding of adolescent drug use have been provided by other researchers (e.g., Petraitis et al. 1995). Numerous theories exist; a list of a few major theories that are used to understand adolescent drug use are presented. For example, some theories, such as theory of reasoned action (Ajzen and Fishbein 1980) and theory of planned behavior (Ajzen 1985, 1988), focus primarily on cognitive causes of adolescent drug use and describe how the decision-making process contributes to adolescent drug use. Other theories, such as social learning theory (Akers 1977) and social cognitive theory (Bandura 1977, 1986), describe how weakened commitment to conventional values and weakened attachment to family affect adolescent substance use. Theories are also available that focus on conventional commitment

and social attachment and detail how various factors promote withdrawal from conventional society, detachment from peers, and attachment to peers who use drugs. An example of a conventional commitment and social attachment theory is the social development model (Hawkins and Weis 1985). Other theories detail how intrapersonal characteristics and personality traits of adolescents contribute to adolescents drug use, such as the social ecology model (Kumpfer and Turner 1990–1991), self-derogation theory (Kaplan 1975), multistage social learning model (Simons et al. 1988), and family interaction theory (Brook et al. 1990). In addition, some integrative theories incorporate cognitive, learning, commitment/attachment, and intrapersonal influences, such as problem-behavior theory (Jessor et al. 1991) and peer cluster theory (Oetting and Beauvais 1986a, b, 1987).

Risk and Protective Factors for Adolescent Drug Use

Hawkins et al. (1992) seminal work of risk and protective factors for adolescent drug use provide a comprehensive conceptual framework. With few exceptions, most research that has explored the adolescent drug use phenomenon has investigated risk factors. This essay provides a review of factors that lead to (risk) and reduce (protective) adolescent drug use. *Risk factors* have been defined as indexes or markers that exacerbate the negative effects of the risk condition (Luthar et al. 2000). *Protective factors* have been defined as influences that prevent, limit, or reduce drug use and that may counter, buffer, neutralize, and interact with risk factors within or across time (Brook et al. 1989a, b). Extensive research on the risk and protective factors associated with adolescent drug use has been completed elsewhere (e.g., Hawkins et al. 1992) and is beyond the scope of this essay. In the next section, risk and protective factors across five domains that are associated with adolescent drug use are briefly discussed. These include individual, family, peer, school, and neighborhood factors.

Individual Domain

Individual protective factors can include intelligence, problem-solving ability, social skills, positive self-esteem, positive attitude, positive temperament, emotional stability, and low childhood stress (Grover 1998). Other individual and cultural protective factors may include high religiosity and ethnic identity and low experiences of discrimination and racism (Belgrave et al. 1997, 2000). Individual risk factors for adolescent substance use may include a sensation-seeking orientation, poor impulse control, attention deficits, and hyperactivity (Jenson 2004). Behaviors and temperament traits that increase vulnerability to drug use develop as early as age 5 (Zucker et al. 1995). The behaviors and traits manifested in these young children include impulsivity, reduced ego control, and attention deficit disorder (Cicchetti et al. 1993; Hinshaw et al. 1993); difficult temperament (Patterson 1986); below-average verbal IQ (DeBaryshe et al. 1993; Tremblay et al. 1992) and academic underachievement (Hinshaw et al. 1993); negative affect (Compas 1987) and difficulties with emotional regulation (Cole and Zahn-Waxler 1992); social incompetence (Blechman et al. 1995); and aggression and coercion as means to rewards (Patterson et al. 1992; Quay 1993). Genetics is also a risk factor for adolescent drug use that falls within the individual domain and is discussed next.

Genetics

Some studies have suggested that adolescent *drug use* may be related to social factors, such as parenting and peer influences, whereas *drug use disorder* may be related to genetics (e.g., Glantz and Pickens 1992). Researchers have found that children of alcoholic parents show more alcoholism than those whose biological parents are not alcoholic (Chassin et al. 1996). For example, in a study of adopted children, Cadoret et al. (1995) found two possible pathways from parental alcohol use to their children's drug use, genetics and modeling. In one path, they found that alcoholism in the biological parent predicted substance use disorder in the children. Similarly, Tsuang et al. (2001) focused on the relationship between genetics and adolescent drug use. Tsuang and

colleagues found that biological children of alcoholics who were raised by nonalcoholic parents were shown to have a three- to fourfold increased risk for alcohol abuse than adoptee children whose biological parents were not alcoholics. Despite significant findings that genetics is associated with drug use, currently, no single gene is thought to account for adolescent drug use, abuse, or dependence.

Family Domain

In general, research continues to illuminate the protective capabilities of families. Family protective factors can include being a firstborn child, being raised in a small family, low parental conflict, caring relationships with parents and siblings, and caring relationships with extended family members. Family risk factors for substance use include family conflict, poor family management practices, dysfunctional family communication patterns, parent and sibling substance use, and poor parent–child bonding (Jenson 2004; Windle 2000). Parenting factors considered important in the adolescent drug use literature include the parent–adolescent relationship, parental monitoring, and parental attitudes toward drug use. These parenting factors are briefly described next.

As mentioned previously, family cohesiveness is a protective factor for adolescent drug use. A close, loving, and affectionate relationship between parents and adolescents is also an important factor in protecting adolescents from drug use (Brook et al. 1990; Stewart 2002). Specifically, a close parent–adolescent relationship directly inhibits drug use and indirectly influences peer selection (Bahr et al. 1998; Sokol-Katz et al. 1997). However, a few researchers have found weak or no relationship between quality of family relationships and adolescent drug use (e.g., Hoffmann and Su 1998).

Adequate parental monitoring and supervision of adolescents' behaviors is negatively associated with drug use (Barrera et al. 2001; Miller and Volk 2002). Adolescents who receive inadequate monitoring are more likely to report drug use than adolescents who are monitored adequately (Barrera et al. 2001; Miller and Volk). Flannery

et al. (1999) found that adolescents who received poor parental monitoring or adult supervision were four times more likely to engage in drug use during their lifetime than those who received adequate parental monitoring and supervision. In another study, positive parental monitoring by fathers decreased the likelihood that their children would engage in drug use (Brook et al. 2001).

The role of parental attitudes toward adolescent drug use has been studied by many researchers (e.g., Clark et al. 2011a, b). Yu (2003) found that adolescents' perceptions of their parents' attitudes toward underage drinking influenced their lifetime drinking but not current drinking or initiation of alcohol. According to SAMHSA (2005), adolescents who felt that their parents did not strongly disapprove of their marijuana use were six times as more likely to use marijuana than adolescents who felt their parents disapproved. McDermott (1984) found that perceived parental drug attitudes had stronger effects on adolescent drug use than parental drug use.

Peer Domain

Although the family is important in adolescent drug use, peer influence is a primary predictor of and risk factor for adolescent drug use (Bahr et al. 2005; Reinherz et al. 2000). Affiliation with peers that engage in risky behaviors, such as drug use and truancy, increases the likelihood of an adolescent engaging in drug use (Beauvais and Oetting 2002; Hawkins et al. 1992). This is true for most drugs. Peer alcohol use is associated with adolescents' own alcohol use (Hawkins et al. 1992). Likewise, peer cigarette and illicit drug use are associated with adolescent cigarette and illicit drug use (Lynskey et al. 1998).

School Domain

School risk factors can include academic failure, truancy, and special placements (Clark et al. 2008; McCluskey et al. 2002). High academic performance and school involvement are associated with lower levels of drug use (Dekovic 1999; Wallace and Muroff 2002). The adolescent drug use literature has explored school risk and protective factors, to include the school's climate, resources, and the relationship between the

student and teacher. However, more recently the role of school transitioning upon adolescent drug use has been given more attention. Given the nature of the developmental process, this relationship is important and is briefly described next.

School Transition and Youth Drug Use

Youth experience stressors partially due to developmental changes that typically coincide with their transition from elementary school to middle school, middle school to high school, and high school into college or a vocation. Puberty and school transition usually occur simultaneously for girls, and both may produce stressors that contribute to the onset of adolescent drug use (Khoury 1998; Petersen et al. 1991). Youth involved in transitions (e.g., new schools) may be particularly susceptible to risks because of pressures to develop new peer relationships. Petersen, Sarigiani, and Kennedy found that transition from a relatively safe and closely monitored elementary school environment into a larger, less intimate middle school in sixth grade may be stressful. Multiple stressors that co-occur with school transitions, such as developmental changes and relocating to a new neighborhood or city, may lead to drug use, particularly among adolescents who lack adequate coping skills.

Community/Neighborhood Domain

In contrast to family, peer, and school contexts, the neighborhood as a social system has been understudied in relation to adolescent substance use (Lambert et al. 2004). However, although a proximal factor, the neighborhood context may be important in understanding adolescent drug use. Neighborhood protective factors for adolescents substance use include neighborhood cohesion, neighborhood resources, and economic viability in neighborhoods (Plybon et al. 2003). Neighborhood risk factors for adolescents' substance use include neighborhood disorganization, low neighborhood attachment, high rates of residential mobility, high levels of crime, and high population density (Gruenewald et al. 2000). Social disorganization theory suggests that the lack of formal and informal institutions, structured activities, and intra-community relationships reduce

social capital. This reduction of social capital negatively impacts a community's capacity to reinforce positive behaviors or sanction negative behaviors (Rose 2000; Veysey and Messner 1999). Consequently, limited community resources may contribute to lowered motivation to avoid behaviors that have negative consequences (Corneille and Belgrave 2007).

Gender Differences in Youth Drug Use

Over the past 30 years, there has been an increasing drug use convergence among boys and girls with the prevalence rates for females becoming comparable to or in some instances higher than males (Johnston et al. 2005; National Center on Addiction and Substance Abuse at Columbia University 2005). For instance, in 2004, more girls than boys reported that they initiated use of cigarettes, alcohol, and marijuana, and girls surpassed boys in their misuse of prescription drugs (SAMHSA 2005). One explanation that accounts for the increase in female drug use is the changing roles of females in the USA. More females reject traditional feminine roles for androgynous gender roles, are entering the work force, and are more likely to remain single or divorce than in the past (Barber and Eccles 1992; Robbins and Martin 1993).

Exploring gender differences in adolescent drug use is salient because the consequences of drug use are more severe for girls than boys. For instance, once girls begin to use drugs, they are more likely to become drug dependent and do worse in drug treatment (Moochan and Schroeder 2004; Rowe et al. 2004). Furthermore, girls are more likely to experience poor nutrition, risky sexual behavior, pregnancy, and domestic violence than their male counterparts (U.S. Department of Health and Human Services 1994).

Miller and Stiver's (1997) relational theory can be used to understand gender differences in motivation to use drugs. Relational theory emphasizes the importance of others in the development of self. The assumption is that adolescent girls initiate and maintain drug use within the context of

relationships with their family and peers. Boys are less relationally oriented and therefore may be less susceptible to peer pressure when compared to girls. For example, adolescent girls are more likely than adolescent boys to drink alcohol to fit in with their friends, while boys typically drink for other reasons and subsequently select friends that also drink (Donovan 1996).

Populations Generally Studied

Although adolescent drug use affects diverse groups, the groups studied tend not to be diverse. Adolescent drug use has typically been investigated using White, middle-class adolescents. Recently, researchers have begun to articulate the limitations of primarily focusing on this population. As a result, more studies are including other populations that differ according to race/ethnicity, socioeconomic status, and geographic locale, for example.

In addition, adolescent drug use studies normally use public school student samples. School-based samples provide a normative basis for examining problem behavior and providing comparisons with other studies. However, a consequence of using school-based samples is that these studies likely exclude students who are consistently suspended or chronically absent. These studies also exclude students who have dropped out of school and those who are home schooled. In addition, private schools are disproportionately studied as compared to public school students; therefore, private school students are also typically excluded. Consequently, many existing findings cannot be generalized to the larger population of all adolescents to include adolescents who have dropped out of school, are chronically truant, are home schooled, and are enrolled in private schools.

Measures and Measurement Issues

Current measurement issues in the adolescent drug use literature primarily relate to the overuse of self-report measures; focus on white, middle-

class adolescents; and scale coarseness. Many studies of adolescent drug use continue to rely exclusively on self-report. Advantages of the self-reporting process is that it is less costly and less time consuming, and participants might be more likely to reveal undesirable behaviors. A disadvantage of the self-reporting process is response bias. Response bias may limit the ability to gather honest data that accurately reflects participants' attitudes and behaviors. Participants responding to drug use questions may be particularly reluctant to disclose their true attitudes and behaviors and, therefore, may answer in a way that is more socially desirable.

Many empirical studies on adolescent drug use are limited by their focus on White, middle-class adolescents. Consequently, the findings of these studies may not be generalizable to African American adolescents. Likewise, many measures were developed using White, middle-class adolescents. As a result, many measures may not be valid for African American adolescents.

When a construct is continuous but is measured by a measurement scale that uses items that collapse true scores into a category (e.g., Likert scales), the scale is considered coarse (Aguinis et al. *in press*). That is, scales are coarse when dependent variables are measured using scales that do not have sufficient response options to reflect the interaction. Consequently, nonlinear and systematic errors are introduced because continuous constructs are collapsed (Bollen and Barb 1981) and power is lost (Russell et al. 1992). Although coarse scales are common, they are undesirable because they do not allow an understanding of the true relationships among variables. Many studies, including those that focus on adolescent drug use, continue to use coarse measures.

Future Research

Although there is substantial research in the area of adolescent drug use, more research is warranted. As noted, most studies continue to rely exclusively on self-report methods. Future research should triangulate using multiple sources, to include the use of administrative data and parents, school officials,

and peers' report. In addition, most studies are primarily based on cross-sectional designs. Although cross-sectional studies are appropriate for many exploratory research questions, the use of longitudinal studies could provide greater insight into the adolescent drug use phenomenon. As previously noted, research has been done on risk and protective factors. However, more research that investigates the differences and similarities according to race/ethnicity and community type is warranted. In particular, research is needed on the growing multiracial population who report high rates of substance use, though the etiological and prevention knowledge base is scant. Additional research is needed that would focus on the barriers to implementation of effective preventive interventions. In addition, research that examines the barriers to retention in prevention interventions is warranted and may be particularly important for urban minority youth, who tend to be more transient than other populations.

References

- Aguinis, H., Pierce, C. A., & Culpepper, S. A. (in press). Scale coarseness as a methodological artifact: Correcting correlation coefficients attenuated from using coarse scales. *Organizational Research Methods*.
- Ajzen, I. (1985). From decisions to actions: A theory of planned behavior. In J. Kuhl & J. Beckmann (Eds.), *Action-control: From cognition to behavior* (pp. 11–39). New York: Springer.
- Ajzen, I. (1988). *Attitudes, personality, and behavior*. Homewood: Dorsey Press.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs: Prentice Hall.
- Akers, R. L. (1977). *Deviant behavior: A social learning approach* (2nd ed.). Belmont: Wadsworth.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5*. Washington, DC: American Psychiatric Association.
- American Psychiatric Publishing. (2013). Substance-related and addictive disorders [Fact Sheet]. Retrieved from <http://www.dsm5.org/documents/substance%20use%20disorder%20fact%20sheet.pdf>.
- Anthony, J. C., & Petronis, K. R. (1995). Early-onset drug use and risk of later drug problems. *Drug and Alcohol Dependence*, 40, 9–15.
- Bahr, S. J., Maughan, S. L., Marcos, A. C., & Li, B. (1998). Family, religion, and the risk of adolescent drug use. *Journal of Marriage and the Family*, 60, 979–992.
- Bahr, S., Hoffman, J., & Yang, X. (2005). Parental and peer influences on the risk of adolescent drug use. *The Journal of Primary Prevention*, 26, 529–551.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavior change. *Psychological Review*, 84, 191–215.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs: Prentice Hall.
- Barber, B., & Eccles, J. (1992). Long-term influence of divorce and single parenting on adolescent family- and work-related values, behaviors, and aspirations. *Psychological Bulletin*, 111(1), 108–126.
- Barrera, M., Jr., Biglan, A., Ary, D., & Li, F. (2001). Replication of a problem behavior model with Blechman, E.A., Prinz, R.J., and Dumas, J.E. Coping, competence, and aggression prevention: Part 1. Developmental model. *Applied & Preventive Psychology*, 4, 211–232.
- Beauvais, F., & Oetting, E. R. (2002). Variances in the etiology of drug use among ethnic groups of adolescence. *Public Health Reports*, 117(1), 8–14.
- Belenko, S., Sprott, J. B., & Petersen, C. (2004). Drug and alcohol involvement among minority and female juvenile offenders' treatment and policy issues. *Criminal Justice Policy Review*, 15, 3–36.
- Belgrave, F. Z., Townsend, T. G., Cherry, V. R., & Cunningham, D. M. (1997). The influence of an Africentric world-view and demographic variables on drug knowledge, attitudes, and use among African American youth. *Journal of Community Psychology*, 25, 421–433.
- Belgrave, F. Z., Brome, D., & Hampton, C. (2000). The contributions of Africentric values and racial identity to the prediction of drug knowledge, attitudes and use among African American youth. *Journal of Black Psychology*, 26, 386–401.
- Blechman, E. A., Prinz, R. J., & Dumas, J. E. (1995). Coping, competence, and aggression prevention: I. Developmental model. *Applied and Preventive Psychology*, 4(4), 211–232. [https://doi.org/10.1016/S0962-1849\(05\)80024-1](https://doi.org/10.1016/S0962-1849(05)80024-1).
- Bollen, K. A., & Barb, K. H. (1981). Pearson's r and coarsely categorized measures. *American Sociological Review*, 46, 232–239.
- Boyd, K., Ashcraft, A., & Belgrave, F. Z. (2006). The impact of mother-daughter and father-daughter relationships on drug refusal self-efficacy among African American adolescent girls in urban communities. *Journal of Black Psychology*, 32(1), 29–42.
- Brook, J. S., Nomura, C., & Cohen, P. (1989a). A network of influences on adolescent drug involvement: Neighborhood, school, peer, and family. *Genetic, Social, and General Psychology Monographs*, 115, 125–145.
- Brook, J. S., Nomura, C., & Cohen, P. (1989b). Prenatal, perinatal, and early childhood risk factors and drug involvement in adolescence. *Genetic, Social, and General Psychology Monographs*, 115, 223–241.

- Brook, J. S., Brook, D. W., Gordon, A. S., Whiteman, M., & Cohen, P. (1990). The psychosocial etiology of adolescent drug use: A family interactional approach. *Genetic, Social, and General Psychology Monographs, 116*, 111–267.
- Brook, J. S., Brook, D. W., Arencibia-Mireles, O., Richter, L., & Whiteman, N. (2001). Risk factors for adolescent marijuana use across cultures and across time. *The Journal of Genetic Psychology, 162*, 357–374.
- Brook, J. S., Adams, R. E., Balka, E. B., & Johnson, E. (2002). Early adolescent marijuana use: Risks for the transition to young adulthood. *Psychological Medicine, 32*, 79–91.
- Bush, D. M., & Woodwell, D. A. (2014, October). The CBHSQ report: Drug-related emergency department visits involving synthetic cannabinoids [Fact Sheet]. Retrieved from <http://www.samhsa.gov/data/sites/default/files/SR-1378/SR-1378.pdf>
- Cadore, R. J., Troughton, E., O'Gorman, T. W., & Heywood, E. (1995). Adoption study demonstrating two genetic pathways to drug abuse. *Archives of General Psychiatry, 42*, 1131–1136.
- Centers for Disease Control and Prevention. (2007a). *Illicit drug use*. Hyattsville: U.S. Department of Health and Human Services.
- Centers for Disease Control and Prevention. (2007b). *Substance use*. Hyattsville: U.S. Department of Health and Human Services.
- Chassin, L., Curran, P. J., Hussong, A. M., & Colder, C. R. (1996). The relation of parent alcoholism to adolescent substance use: A longitudinal follow-up study. *Journal of Abnormal Psychology, 105*(1), 70.
- Choi, Y., Harachi, T. W., Gillmore, M. R., & Catalano, R. F. (2005). Applicability of the social development model to urban ethnic minority youth: Examining the relationship between external constraints, family socialization, and problem behaviors. *Journal of Research on Adolescence, 15*(4), 505–534.
- Cicchetti, D., Rogosch, F. A., Lynch, M., & Holt, K. D. (1993). Resilience in maltreated children: Processes leading to adaptive outcome. *Developmental Psychopathology, 5*, 629–647.
- Clark, T. T., Belgrave, F. Z., & Abell, M. (2011a). The mediating and moderating effects of parent and peer influences upon drug use among African American adolescents. *Journal of Black Psychology, 0095798411403617*.
- Clark, T. T., Nguyen, A. B., Belgrave, F. Z., & Tademy, R. (2011b). Understanding the dimensions of parental influence on alcohol use and alcohol refusal efficacy among African American adolescents. *Social Work Research, 35*(3), 147–157.
- Clark, T. T., Belgrave, F. Z., & Nasim, A. (2008). Risk and protective factors for substance use among urban African American adolescents considered high-risk. *Journal of Ethnicity in Substance Abuse, 7*(3), 292–303.
- Cole, P. M., & Zahn-Waxler, C. (1992). Emotional dysregulation in disruptive behavior disorders. In D. Cicchetti & S. L. Toth (Eds.), *Rochester symposium on developmental psychopathology. Vol. 4: Developmental perspectives on depression* (pp. 173–209). Rochester: University of Rochester Press.
- Compas, B. E. (1987). Stress and life events during childhood and adolescence. *Clinical Psychology Review, 7*, 275–302.
- Corneille, M. A., & Belgrave, F. Z. (2007). Ethnic identity, neighborhood risk, and adolescent drug and sex attitudes and refusal efficacy: The urban African American girls' experience. *Journal of Drug Education, 37*(2), 177–190.
- DeBaryshe, B. D., Patterson, G. R., & Capaldi, D. M. (1993). A performance model for academic achievement in early adolescent boys. *Developmental Psychology, 29*, 795–804.
- Dekovic, M. (1999). Risk and protective factors in the development of problem behavior during adolescents. *Journal of Youth and Adolescence, 28*(6), 667–685.
- Donovan, J. E. (1996). *Gender differences in alcohol involvement in children and adolescents: A review of literature*. In *women and alcohol: Issues for prevention research* (Research Monograph No. 32). Bethesda: National Institute on Alcohol Abuse and Alcoholism.
- DuPont, R. L. (1984). *Getting tough on gateway drugs: A guide for the family*. Washington, DC: American Psychiatric Press.
- Emshoff, A., Raduka, G., & Anderson, D. (1996). Findings from super stars: A health promotion program for families to enhance multiple protective factors. *Journal of Adolescent Research, 11*, 68–96.
- Ensminger, M., & Slusarcick, A. (1992). Paths to high school graduation or dropout: A longitudinal study of a first grade cohort. *Sociology of Education, 65*, 95–113.
- Flannery, D. J., Williams, L. L., & Vazsonyi, A. (1999). Who are they with and what are they doing?: Delinquent behavior, substance use, and early adolescents' after-school time. *American Journal of Orthopsychiatry, 69*, 247–253.
- Glantz, M. D., & Pickens, R. W. (1992). *Vulnerability to drug abuse*. American Psychological Association. <https://doi.org/10.1037/10107-000>.
- Goode, E. (1974). Marijuana use and the progression to dangerous drugs. In L. L. Miller (Ed.), *Marijuana effects on human behavior* (pp. 303–338). New York: Academic.
- Grant, B. F. (1998). Age at smoking onset and its association with alcohol consumption and DSM-IV alcohol abuse and dependence: Results from the National Longitudinal Alcohol Epidemiologic Survey. *Journal of Substance Abuse, 10*(1), 59–73.
- Grant, B. F., & Dawson, D. A. (1998). Age of onset of drug use and its association with DSM-IV drug abuse and dependence: Results from the National Longitudinal Alcohol Epidemiologic Survey. *Journal of Substance Abuse, 10*(2), 163–173.
- Grover, P. L. (Ed.). (1998). *Preventing substance abuse among children and adolescents: Family-centered approaches. Practitioners guide. Prevention*

- Enhancement Protocols System (PEPS). Substance abuse and mental health services administration* (DHHS Pub. No. (SMA)3224-FY98). Center for Substance Abuse Prevention.
- Gruenewald, P. J., Millar, A., Ponicki, W. R., & Brinkley, G. (2000). Physical and economic access to alcohol. In R. A. Wilson & M. C. Dufour (Eds.), *The epidemiology of alcohol problems in small geographic areas. National Institute on Alcohol Abuse and Alcoholism Research Monograph*, 36, 163–212 (NIH Pub. No. 00-4357). Bethesda: NIH.
- Hawkins, J. D., & Weis, J. G. (1985). The social development model: An integrated approach to delinquency prevention. *Journal of Primary Prevention*, 6, 73–97.
- Hawkins, J. D., Catalano, R. F., & Miller, J. Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for drug use prevention. *Psychological Bulletin*, 112, 64–105.
- Hays, R. D., & Revetto, J. (1990). Peer cluster theory and adolescent drug use: A reanalysis. *Journal of Drug Education*, 20, 191–198.
- Hingson, R. W., Heeren, T., & Winter, M. R. (2006). Age at drinking onset and alcohol dependence: Age at onset, duration, and severity. *Archives of Pediatrics & Adolescent Medicine*, 160, 739–746.
- Hinshaw, S. P., Lahey, B. B., & Hart, E. L. (1993). Issues of taxonomy and comorbidity in the development of conduct disorder. *Development & Psychopathology*, 5, 31–49.
- Jenson, J. M. (2004). Risk and protective factors for alcohol and other drug use in adolescence. In M. W. Fraser (Ed.), *Risk and resiliency in childhood: An ecological perspective* (2nd ed., pp. 183–208). Washington, DC: NASW Press.
- Jessor, R., Donovan, J. E., & Costa, F. M. (1991). *Beyond adolescence: Problem behavior and young adult development*. Cambridge, UK: Cambridge University Press.
- Johnson, B. D. (1973). *Marihuana users and drug subcultures*. New York: Wiley.
- Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2005, December 19). Teen drug use down but progress halts among youngest teens. Retrieved 21 Feb 2008, from <http://www.monitoringthefuture.org/pressreleases/05drugpr.pdf>
- Jordan, L. C., & Lewis, M. L. (2005). Paternal relationship quality as a protective factor: Preventing alcohol use among African American adolescents. *Journal of Black Psychology*, 31(2), 152–171.
- Kakade, M., Duarte, C. S., Liu, X., Fuller, C. J., Drucker, E., Hoven, C. W., & ... Wu, P. (2012). Adolescent substance use and other illegal behaviors and racial disparities in criminal justice system involvement: Findings from a US national survey. *American Journal of Public Health*, 102(7), 1307–1310. <https://doi.org/10.2105/AJPH.2012.300699>.
- Kandel, D. B. (1980). Drug and drinking behavior among youth. *Annual Review of Sociology*, 6, 235–285.
- Kandel, D. B., & Chen, K. (2000). Types of marijuana users by longitudinal course. *Journal of Studies on Alcohol*, 61, 367–378.
- Kaplan, H. B. (1975). *Self-attitudes and deviant behavior*. Pacific Palisades: Goodyear.
- Khoury, E. L. (1998). Are girls different? A developmental perspective on gender differences in risk factors for substance use among adolescents. In W. A. Vega & A. G. Gil (Eds.), *Drug use and ethnicity in early adolescence*. New York: Kluwer.
- Kumpfer, K. L., & Turner, C. W. (1990–1991). The social ecology model of adolescent substance abuse: Implications for prevention. *International Journal of the Addictions*, 25, 435–463.
- Lambert, S. F., Brown, T. L., Phillips, C. M., & Jalongo, N. S. (2004). The relationship between perceptions of neighborhood characteristics and substance use among urban African American adolescents. *American Journal of Community Psychology*, 34(3/4), 205–218.
- Luthar, S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development*, 71(3), 543–562.
- Lynskey, M. T., Fergusson, D. M., & Horwood, L. J. (1998). The origins of the correlations between tobacco, alcohol, and cannabis use during adolescence. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, 39(7), 995–1005.
- McCluskey, C. P., Krohn, M. D., Lizotte, A. J., & Rodriguez, M. L. (2002). *Early substance use and school achievement: An examination of Latino, White, and African American youth*.
- McDermott, D. (1984). The relationship of parental drug use and parents' attitudes concerning adolescent drug use to adolescent drug use. *Adolescence*, 73, 89–97; *Journal of Drug Issues*, 2, 921–944.
- Miller, J. B., & Stiver, I. P. (1997). *The healing connection: How women form relationships in therapy and in life*. Boston: Beacon.
- Miller, T. Q., & Volk, R. J. (2002). Family relationship and adolescent cigarette smoking: Results from a national longitudinal survey. *Journal of Drug Issues*, 32(3), 945–972.
- Moochan, E. T., & Schroeder, J. R. (2004). Quit attempts among African American teenage smokers seeking treatment: Gender differences. *Preventive Medicine*, 39, 1180–1186.
- National Alliance for Model State Drug Laws. (2014). *Map of United States with Highlighting State with Corresponding Marijuana Laws May 12, 2014*. State marijuana laws. Retrieved from <http://www.namsdl.org/library/1A5753E7-65BE-F4BB-A296C6C1E7349E83/>
- National Center on Addiction and Substance Abuse at Columbia University. (2005). *Under the counter: The diversion and abuse of controlled prescription drugs in the U.S.* CASA Reports.
- National Institute on Drug Abuse. (2012). *Principles of drug addiction treatment: A research-based guide* (NIH Publication No. 12-4180). Retrieved from https://114rmgtwz5a.cloudfront.net/sites/default/files/podat_1.pdf

- National Institute on Drug Abuse. (2015). *Monitoring the future study: Trends in prevalence of various drugs*. Retrieved 2 Mar 2016, from <https://www.drugabuse.gov/trends-statistics/monitoring-future/monitoring-future-study-trends-in-prevalence-various-drugs>
- National Institute on Drug Abuse, NIDA for Teens. (2016). *Cough and cold medicine: DXM and codeine syrup*. Retrieved from <http://teens.drugabuse.gov/drug-facts/cough-and-cold-medicine-dxm-and-codeine-syrup>
- Oetting, E. R., & Beauvais, F. (1986a). Clarification of peer cluster theory: A response to Peele, Cohen, and Shaffer. *Journal of Counseling and Development, 65*, 29–30.
- Oetting, E. R., & Beauvais, F. (1986b). Peer cluster theory: Drugs and the adolescent. *Journal of Counseling and Development, 65*, 17–22.
- Oetting, E. R., & Beauvais, F. (1987). Peer cluster theory, socialization characteristics, and adolescent drug use: A path analysis. *Journal of Counseling Psychology, 34*, 205–213.
- Office of National Drug Control Policy. (2014). *2013 Annual report, Arrestee Drug Abuse Monitoring Program II*. Washington, DC: Executive Office of the President. Retrieved from: https://www.whitehouse.gov/sites/default/files/ondcp/policy-and-research/adam_ii_2013_annual_report.pdf
- Patterson, G. R. (1986). Performance models for aggressive boys. *American Psychologist, 41*, 432–444.
- Patterson, G. R., Crosby, L., & Vuchinich, S. (1992). Predicting risk for early police arrest. *Journal of Quantitative Criminology, 8*(4), 335–355. <https://doi.org/10.1007/BF01093639>.
- Petersen, A. C., Sarigiani, P. A., & Kennedy, R. E. (1991). Adolescent depression: Why more girls? *Journal of Youth and Adolescence, 20*, 247–271.
- Petraitis, J., Flay, B. R., & Miller, T. Q. (1995). Reviewing theories of adolescent substance use: Organizing pieces in the puzzle. *Psychological Bulletin, 117*(1), 67–86. <https://doi.org/10.1037/0033-2909.117.1.67>.
- Plybon, L. E., Edwards, L., Butler, D., Belgrave, F. Z., & Allison, F. (2003). Examining the link between neighborhood cohesion and school outcomes: The role of support coping among African American adolescent girls. *Journal of Black Psychology, 29*(4), 393–407.
- Quay, H. C. (1993). The psychobiology of undersocialized aggressive conduct disorder: A theoretical perspective. *Development Psychopathology, 5*, 165–180.
- Reinherz, H. X., Giaconia, R. M., Carmola Hauf, A. D., Wasserman, M. S., & Paradis, A. D. (2000). General and specific childhood risk factors for depression and drug disorders by early childhood. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*, 223–231.
- Robbins, C., & Martin, S. S. (1993). Gender, styles of deviance, and drinking problems. *Journal of Health and Social Behavior, 34*, 302.
- Rose, D. R. (2000). Social disorganization and parochial control: Religious institutions and their communities. *Sociological Forum, 15*(2), 339–358.
- Rowe, C. L., Liddle, H. A., Greenbaum, P., & Henderson, C. E. (2004). Impact of psychiatric comorbidity on treatment outcomes of adolescent drug abusers. *Journal of Substance Abuse Treatment, 26*, 129–140.
- Russell, C. J., Pinto, J., & Bobko, P. (1992). Moderated regression analysis and Likert scales: Too coarse for comfort. *The Journal of Applied Psychology, 77*, 336–342.
- Segal, B., & Stewart, J. (1996). Substance use and abuse in adolescence: An overview. *Journal of Research in Criminal and Delinquency, 31*, 3–31.
- Simons, R. L., Conger, R. D., & Whitbeck, L. B. (1988). A multistage social learning model of the influences of family and peers upon adolescent substance abuse. *Journal of Drug Issues, 18*, 293–315.
- Sobesky, M. (2016). Marijuana and adolescents: Exploring the substance misuse treatment provider experience in a climate of legalization. *International Journal of Drug Policy*. Advance online publication. <https://doi.org/10.1016/j.drugpo.2016.02.008>
- Sokol-Katz, J., Dunham, R., & Zimmerman, R. (1997). Family structure versus parental attachment in controlling adolescent deviant behavior: A social control model. *Adolescence, 32*, 199–215.
- Stewart, C. (2002). Family factors of low-income African American youth associated with substance use: An exploratory analysis. *Journal of Ethnicity in Substance Abuse, 1*(1), 97–111.
- Substance Abuse and Mental Health Services Administration. (2013). The dawn report: Ecstasy-related emergency department visits by young people increased between 2005 and 2011; Alcohol involvement remains a concern [Fact Sheet]. Retrieved from <http://www.samhsa.gov/data/sites/default/files/spot127-youth-ecstasy-2013/spot127-youth-ecstasy-2013.pdf>
- Substance Abuse and Mental Health Services Administration. (2014). *Results from the 2013 National Survey on Drug Use and Health: Summary of National Findings, NSDUH Series H-48, HHS Publication No. (SMA) 14-4863*. Rockville: Substance Abuse and Mental Health Services Administration.
- Substance Abuse and Mental Health Services Administration. (2015). *Behavioral health trends in the United States: Results from the 2014 national survey on drug use and health* (HHS Publication No. SMA 15-4927, NSDUH Series H-50). Retrieved from <http://www.samhsa.gov/data/sites/default/files/NSDUH-FRR1-2014/NSDUH-FRR1-2014.pdf>
- Substance Abuse and Mental Health Services Administration (SAMHSA). (2005). *Results from the 2004 national survey on drug use and health: National findings*. Rockville: Office of Applied Studies, NSDUH.
- Tremblay, R. E., Masse, B., Perron, D., & Leblanc, M. (1992). Early disruptive behavior, poor school achievement, delinquent behavior, and delinquent personality: Longitudinal analyses. *Journal of Consulting and Clinical Psychology, 60*, 64–72.
- Tsuang, M. T., Bar, J. L., Harley, R. M., & Lyons, M. J. (2001). The Harvard twin study of substance abuse:

What we have learned. *Harvard Review of Psychiatry*, 9, 267–279.

- U.S. Department of Health and Human Services. (1994). *Preventing tobacco use among young people: A report of the surgeon general*. Atlanta: U.S. Department of Health and Human Services.
- U.S. Department of Justice, National Drug Intelligence 1423 Center. (2011). *Synthetic cathinones (bath salts): An 1424 emerging domestic threat* (Product Number 2011-1425 S0787-004). Retrieved from https://www.justice.gov/1426_archive/ndic/pubs44/44571/44571p.pdf
- Veyssey, B. M., & Messner, S. F. (1999). Further testing of social disorganization theory: An elaboration of Sampson and Grove's "Community structure and crime". *Journal of Research in Crime and Delinquency*, 36(2), 156–174.
- Wall, M. W., Ernest, P., Cerda, M., Keyes, K. M., Galea, S., & Hasin, D. S. (2011). Adolescent marijuana use from 2002 to 2008: Higher in states with medical marijuana laws, cause still unclear. *AEP*, 21, 714–716. <https://doi.org/10.1016/j.annepidem.2011.06.001>.
- Wall, M. W., Mauro, C., Hasin, D. S., Keyes, K. M., Cerda, M., Martins, S. S., & Feng, T. (2016). Prevalence of marijuana use does not differentially increase among youth after states pass medical marijuana laws: Commentary on Stolzenberg et al. (2015) and reanalysis of US National Survey on Drug Use in households data 2002–2011. *International Journal of Drug Policy*, 29, 9–13. <https://doi.org/10.1016/j.drugpo.2016.01.015>.
- Wallace, J. M., & Muroff, J. R. (2002). Preventing substance abuse among African American children and youth: Race differences in risk factor exposure and vulnerability. *Journal of Primary Prevention*, 22, 235–261.
- Windle, M. (2000). Parental, sibling, and peer influence on adolescent substance use and alcohol problems. *Applied Developmental Science*, 4, 98–110.
- Witbrodt, J., Mulia, N., Zeng, S. E., & Kerr, W. C. (2014). Racial/ethnic disparities in alcohol-related problems: Differences by gender and level of heavy drinking. *Alcoholism: Clinical And Experimental Research*, 38(6), 1662–1670. <https://doi.org/10.1111/acer.12398>.
- Wu, W., & Khan, A. J. (2005). Adolescent illicit drug use: Understanding and addressing the problem. Retrieved 25 Mar 2008 from http://www.acpm.org/Khan&Wu_AdolescentDrugUse.pdf
- Yu, J. (2003). The association between parental alcohol-related behaviors and children's drinking. *Drug and Alcohol Dependence*, 69(3), 253–262.
- Zucker, R. A., Fitzgerald, H. E., & Moses, H. D. (1995). Emergence of alcohol problems and the several alcoholisms: A developmental perspective on etiologic theory and life course trajectory. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology* (Risk, disorder and adaptation, Vol. 2, pp. 677–711). New York: Wiley.

Suicidality

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Overview

Adolescent suicidality has received increased attention from researchers. Their research reaches widely, with suicidality typically including suicidal thoughts and suicide attempts, and sometimes also death by suicide. Converging evidence points to the importance of psychiatric or mental disorders as well as a past history of suicidal behavior in the pathogenesis of suicidal behavior and suicide. The role of social and interpersonal factors continues to be debated, studied, and a topic of much theoretical interest. This essay examines these factors as they relate specifically to adolescents, the challenges they pose for researchers, and what they reveal about adolescent development.

Suicidality and Suicide

Among all of the potential pathologies of adolescence, perhaps none is more worrisome than suicide. That suicidal adolescents are more likely to actually die by suicide than suicidal adults suggests that the phenomenon's importance cannot be overstated (Brabant and Hébert 2013). And suicide themselves are often preceded by an intermediate stage, called suicidality (or the state of being suicidal) (O'Carroll et al. 1996). Suicidality typically is described along a spectrum of behaviors and thought. Among the most common aspects of suicidality considered are suicidal ideation (thinking about suicide), suicide plans (taking concrete steps toward suicide and having the intent to die), suicide attempts (going through with suicide plans that are not lethal), and completed suicide (intentionally self-inflicted death) (see, e.g., Liu and Miller 2014).

Recent research has sought to explore and understand the differences between adolescent

suicidal ideation or attempts and completed adolescent suicides (Li et al. 2016). Suicidality has become an increasingly important area of research relating to adolescents. Annually in the United States, approximately 8% of adolescents attempt and 17% consider suicide; such findings have led to important efforts to recognize the significance of suicidality and attempt to understand patterns (see King and Merchant 2008; Connor and Rueter 2009) as well as therapeutic interventions (Ougrin et al. 2015) and prevention efforts relating to it (Muehlenkamp et al. 2010; Katz et al. 2013). Because no response to adolescent suicide can ever undo intentionally self-inflicted death, it is of utmost importance to understand how and why adolescents might enter (and exit nonlethally) a state of suicidality.

Suicidality in Adolescence

Research has identified several factors that cause adolescents to have the highest risk of suicidality. Among the most common risk factors for adolescents is their family environment, including separation, divorce, widowhood, or similar familial stresses (Brent and Perper 1995) as well as child maltreatment (Miller et al. 2013). In addition to family environments, peer and school influences can be influential: adolescents who are poorly connected to their schools and/or peer groups are more likely to experience suicidality (Langille et al. 2015). Depression and hopelessness – the most common adult causes of suicide – also increase the risk of suicidal ideation, but it is worth noting that empirical means of measuring depression in adolescents are controversial, and clinical practitioners rely on the observations of schoolteachers or peers to determine which students may be at the highest suicide risk (Moscicki 2001). More specific to adolescents, those drawn to sensation-seeking behaviors, such as reckless physical “adventures” and drug use, also are at increased risk of suicidality (Lee et al. 2016).

Understanding the mechanisms of what actually causes adolescents to bridge the gap from suicidal thoughts to suicidal actions is equally important as knowing what factors give

adolescents the highest risk for suicidality. This can be difficult because many of the predictors of suicidality also link to a wide variety of other negative outcomes, including antisocial behavior, substance misuse, poor physical and mental health, as well as poor academic performance (see, e.g., Litwiller and Brausch 2013; Yen et al. 2013). This means that suicidal thoughts may actually manifest in other, non-suicidal (but still negative) actions, particularly when compounded by other stresses of adolescence.

Still, research does reveal several factors that lead adolescents to act on suicidal thoughts. One of the most potent potential factors is reinforcement. In this context, reinforcement involves adolescent’s experiencing the same stressors/negative situations/as other suicidal individuals in their lives and view themselves as subliminally encouraged to actually taking action toward ending their lives (Chou et al. 2016). Adolescents are particularly vulnerable to this type of reinforcement before they often are taught to rely on the example set by others when unsure what they should do themselves. As an example, being immersed in school environments where they continually observe, happier peers can make it difficult not to feel increasingly isolated and driven toward action. Yet another commonly observed factor in suicides by older adolescents is intoxication. Although it is most commonly alcohol and/or substance abuse that relax inhibitions enough to actually attempt suicide, other drugs and first-time drug use can also be equally damaging to adolescent self-control and enable suicidality to trump rationality for just long enough to cause some serious potential damage (Moscicki 2001). In addition, maladaptive cognitive responses to stress, such as rumination, can prolong the negative emotional states that accompany stressful events and contribute to hopelessness and depressive symptoms that place adolescents at risk for suicidal ideation and attempts (Miranda and Shaffer 2013; Van Geel et al. 2014). Adolescent victims and perpetrators of bullying alike are at long-term risk for suicidal ideation, a finding that is not surprising given that both suicidal ideation and bullying commonly co-occur with psychological symptoms, particularly depression and

conduct disorder (Hauser et al. 2013). And perhaps unexpectedly, adolescents' sleep quality has a strong mitigating effect on the transition from suicidal thoughts to suicidal actions. This is an important finding in that the relationship between adolescents' sleep quality and stability of their familial environments suggests that the adolescents who might be most in need of appropriate sleep to mediate their suicidality might have the least chance to get it (Li et al. 2016).

Conclusion

Adolescent suicidality is an increasingly well understood but still troublingly common phenomenon that is far from being pervasively preventable. Research now reveals a promising picture for intervention and diagnosis of adolescent suicidality, and the links between suicidal ideation and other health risks could prove promising in determining risk. Yet, preventing adolescent suicidality continues to be difficult because the nature of adolescent social and school environments challenges efforts to empirically determine which adolescents are actually experiencing suicidality as opposed to normative thoughts, non-suicidal depression, or other potential psychiatric pathologies. The strongest concrete implication of research for responding to suicidality is to encourage parents, teachers, and clinical professionals to err on the side of caution perhaps more than they might otherwise deem necessary when it comes to adolescents at risk simply because of the nature of adolescence.

Cross-References

- ▶ [Suicide](#)
- ▶ [Suicide Pacts and Suicide Clusters](#)

References

- Brabant, M., & Hébert, M. (2013). Identification of sexually abused female adolescents at risk for suicidal ideations: A classification and regression tree analysis. *Journal of Child Sexual Abuse, 22*, 153–172.
- Brent, D., & Perper, J. (1995). Research in adolescent suicide: Implications for training, service delivery, and public policy. *Suicide & Life-Threatening Behavior, 25*, 222–230.
- Chou, W. J., Liu, T. L., Hu, H. F., & Yen, C. F. (2016). Suicidality and its relationships with individual, family, peer, and psychopathology factors among adolescents with attention-deficit/hyperactivity disorder. *Research in Developmental Disabilities, 53*, 86–94.
- Connor, J., & Rueter, M. (2009). Predicting adolescent suicidality: Comparing multiple informants and assessment techniques. *Journal of Adolescence, 32*, 619–631.
- Hauser, M., Galling, B., & Correll, C. U. (2013). Suicidal ideation and suicide attempts in children and adolescents with bipolar disorder: A systematic review of prevalence and incidence rates, correlates, and targeted interventions. *Bipolar Disorders, 15*(5), 507–523.
- Katz, C., Bolton, S. L., Katz, L. Y., Isaak, C., Tilston-Jones, T., & Sareen, J. (2013). A systematic review of school-based suicide prevention programs. *Depression and Anxiety, 30*(10), 1030–1045.
- King, C. A., & Merchant, C. R. (2008). Social and interpersonal factors relating to adolescent suicidality: A review of the literature. *Archives of Suicide Research, 12*, 181–196.
- Langille, D. B., Asbridge, M., Cragg, A., & Rasic, D. (2015). Associations of school connectedness with adolescent suicidality: Gender differences and the role of risk of depression. *Canadian Journal of Psychiatry, 60*(6), 258–267.
- Lee, W. K., Lim, D., Lee, H. A., & Park, H. (2016). Sensation seeking as a potential screening tool for suicidality in adolescence. *BMC Public Health, 16*(1), 1–7.
- Li, D., Bao, Z., Li, X., & Wang, Y. (2016). Perceived school climate and chinese adolescents' suicidal ideation and suicide attempts: The mediating role of sleep quality. *Journal of School Health, 86*(2), 75–83.
- Litwiller, B. J., & Brausch, A. M. (2013). Cyber bullying and physical bullying in adolescent suicide: The role of violent behavior and substance use. *Journal of Youth and Adolescence, 42*(5), 675–684.
- Liu, R. T., & Miller, I. (2014). Life events and suicidal ideation and behavior: A systematic review. *Clinical Psychology Review, 34*(3), 181–192.
- Miller, A. B., Esposito-Smythers, C., Weismoore, J. T., & Renshaw, K. D. (2013). The relation between child maltreatment and adolescent suicidal behavior: A systematic review and critical examination of the literature. *Clinical Child and Family Psychology Review, 16*(2), 146–172.
- Miranda, R., & Shaffer, D. (2013). Understanding the suicidal moment in adolescence. *Annals of the New York Academy of Sciences, 1304*(1), 14–21.
- Moscicki, E. (2001). Epidemiology of completed and attempted suicide: Toward a framework for prevention. *Clinical Neuroscience Research, 1*, 310–323.
- Muehlenkamp, J., Walsh, B. W., & McDade, M. (2010). Preventing non-suicidal self-injury in adolescents: The

- signs of self-injury program. *Journal of Youth and Adolescence*, 39, 306–314.
- O’Carroll, P. W., Berman, A. L., Maris, R., & Mosciki, E. (1996). Beyond the tower of Babel: A nomenclature for suicidology. *Suicide & Life-Threatening Behavior*, 26, 237–252.
- Ougrin, D., Tranah, T., Stahl, D., Moran, P., & Asamow, J. R. (2015). Therapeutic interventions for suicide attempts and self-harm in adolescents: Systematic review and meta-analysis. *Journal of the American Academy of Child and Adolescent Psychiatry*, 54(2), 97–107.
- Van Geel, M., Vedder, P., & Tanilon, J. (2014). Relationship between peer victimization, cyberbullying, and suicide in children and adolescents: A meta-analysis. *JAMA Pediatrics*, 168(5), 435–442.
- Yen, S., Weinstock, L. M., Andover, M. S., Sheets, E. S., Selby, E. A., & Spirito, A. (2013). Prospective predictors of adolescent suicidality: 6-month post-hospitalization follow-up. *Psychological Medicine*, 43(05), 983–993.

Suicide

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Overview

This essay provides an epidemiological overview of recent literature on the correlates and predictors of adolescents suicidal behaviors in the United States. The essay is not an exhaustive overview of adolescent suicide (c.f. Bridge et al. 2006). Rather, it highlights key research findings in this area and focuses on factors most likely to be relevant to those who work with adolescents in various settings.

Suicidal Behaviors and the Adolescent Period

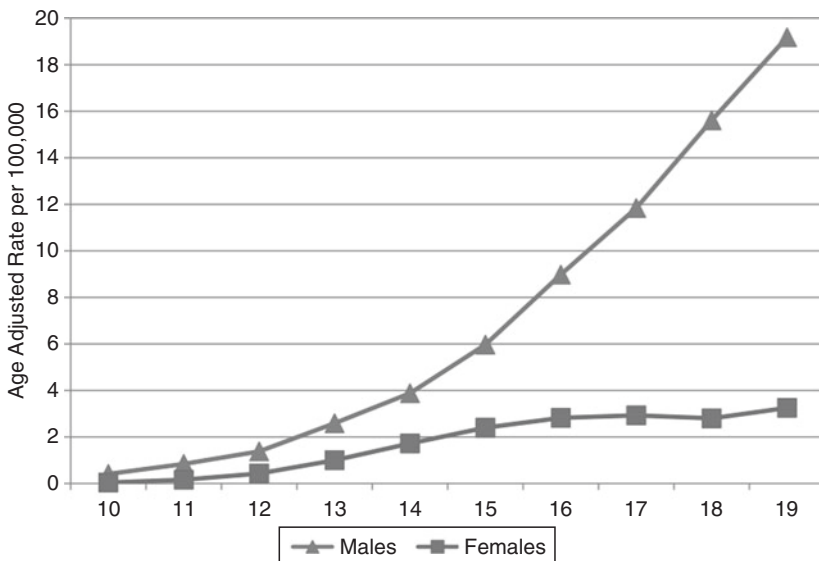
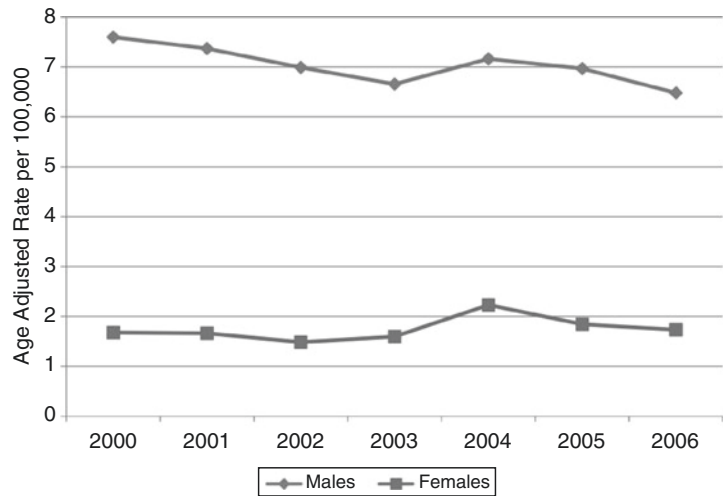
Suicidal behaviors exist on a continuum, from suicidal thoughts or suicidal ideations, to making a

suicide attempt, which could result in a nonfatal injury or suicide. The research relating to these behaviors is complex and only understandable in light of how these behaviors are defined. The Centers for Disease Control (2010a) offers the following definitions to help provide consistency in understanding the data and trends reported for suicide. “Suicidal ideation” is understood as thoughts of harming or killing oneself, and the severity of suicidal ideation can be determined by assessing the frequency, intensity, and duration of these thoughts. “Suicide attempt” is a nonfatal, self-inflicted destructive act with explicit or inferred intent to die. Suicide is a fatal self-inflicted destructive act with explicit or inferred intent to die. These standard definitions will be used throughout this essay, with the term suicidal behavior encompassing suicidal ideations, suicide attempt, and completed suicide.

Suicide among adolescents aged 10–19 years is the third leading cause of death in the United States, following unintentional injury and homicide (CDC 2010; MMWR 2007). From 1990 to 2003, suicide rates for young persons ages 10–24 were declining; rates decreased from 9.48 to 6.78 per 100,000 persons (–28.5%). The change in suicide deaths from 2003 to 2004 however increased from 6.78 to 7.32 per 100,000 persons, representing an 8% increase (MMWR 2007). The 2003–2004 suicide rate increase is the largest single year increase in more than a quarter century and does not appear to be a single year anomaly (Bridge et al. 2008; see Fig. 1).

A gender paradox exists where adolescent females have higher rates of suicidal ideation and suicide attempts than males; however, males are more likely to complete suicide (see Figs. 2, 3, and 4). This differentiation appears during the adolescent period. Although many children under the age of 12 years threaten to commit suicide, relatively few make suicide attempts, and completed suicide is extremely rare (Shaffer 1988). In fact, throughout the twentieth century, approximately 0–10 suicides occurred per year among 5–9-year-olds in the United States (Holinger 1994). After puberty, however, suicide becomes increasingly more common with suicide rates increasing in each of the teen years (Fig. 2). Figure 2 also demonstrates that suicide rates

Suicide, Fig. 1 US adolescent suicide injury deaths ages 10–19 years old by gender (2000–2006)

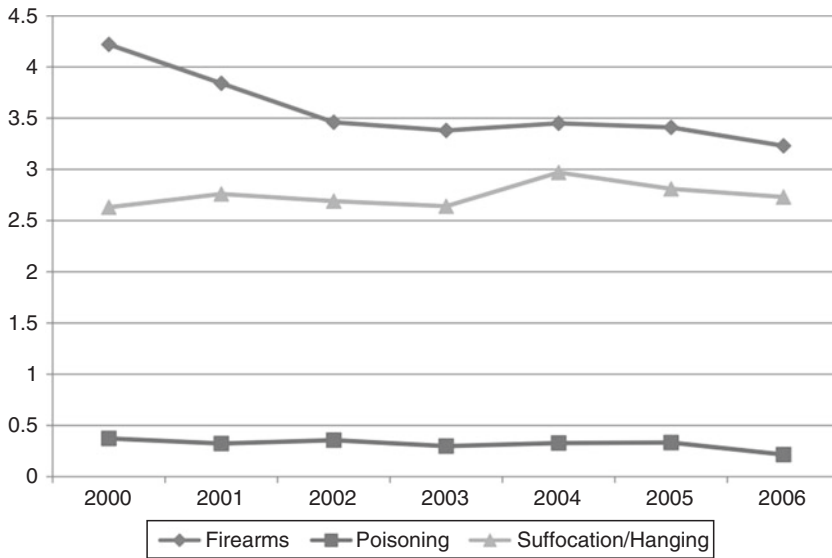


Suicide, Fig. 2 US adolescent suicide injury deaths for males and females ages 10–19 years old (2000–2006)

increase from childhood through adolescence with a significant difference between males and females as they age. Bridge et al. (2006) stated that the gender difference in youth suicide is most likely due to the greater likelihood of males having multiple risk factors, such as comorbid mood and alcohol abuse disorders, greater levels of aggression, and choice of more lethal suicide attempt methods, which make them more likely than females to make a lethal suicide attempt.

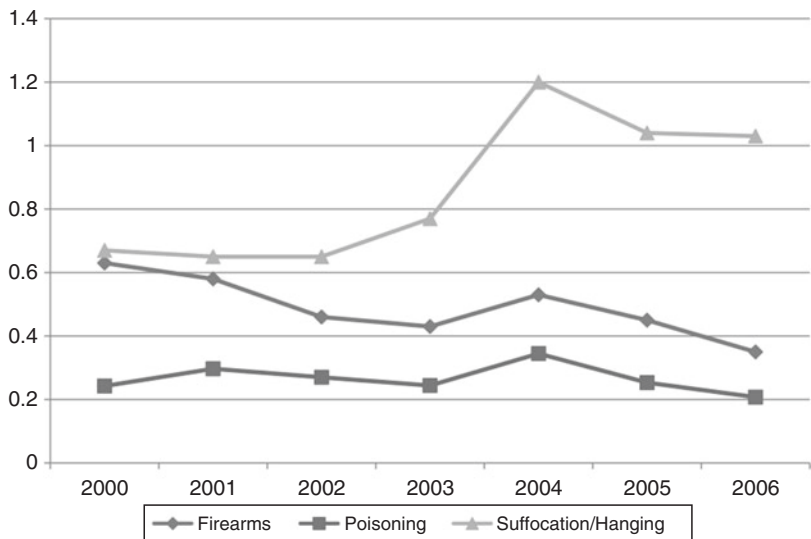
Figure 3 illustrates changes in methods of suicide over time for males ages 10–19 years old (age-adjusted rates), where the decrease in rates of suicide completion by firearms and an increase in suicide by hanging/suffocation from 2003 to 2004 is evident.

Figure 4 highlights the age-adjusted suicide rates for females ages 10–19 years old. Similar to the males (Fig. 3), there was an increase in the suicide rate from 2003 to 2004. There has also



Suicide, Fig. 3 US suicide deaths for males ages 10–19 by method (2000–2006)

Suicide, Fig. 4 US suicide deaths for females ages 10–19 by method (2000–2006)



been an increase in completed suicide by hanging/suffocation as compared to suicide from firearms.

Levels of Risk Relating to Adolescent Suicide

The CDC (2010) identifies several risk factors for adolescent suicidal behavior. The first level is that

of the individual. This level includes the following factors: previous suicide attempt, history of mental disorders (particularly depression), history of alcohol and substance abuse, feelings of hopelessness, impulsive or aggressive tendencies, experience of loss (family or social losses), and mental health stigma and unwillingness to seek help. The family constitutes the second level, with key factors including a family history of suicide,

history of child maltreatment, and rejection of children for their being gay or lesbian. The school provides another level of factors, with the most dominant factor in this arena being peer violence, including bullying. The last level is that of the community, and this level includes local epidemics of suicide, isolation, and barriers to mental health treatment. All of these levels are important to consider, and the following discussion highlights research relating to them.

Individual Risks

Development

Using the National Longitudinal Study of Adolescent Health (Add Health) data, Thompson et al. (2009) examined a developmental model of suicide transition risk over time. Suicide risk was measured through a latent class variable with the following indicators (measured dichotomously): ideation, depression, hopelessness, and family and friend history of suicidal behaviors. Based on the adolescent's response to these items, they were placed into three categories of risk: low, medium, and high risk. They found that adolescents, who are at low risk, will remain at low risk for suicide as they transition to adulthood. Youth who were at high risk of suicide during adolescence were likely to either remain at high risk or to have a decrease in their suicidal risk as they transitioned to adulthood.

Psychiatric Risks

Psychiatric disorders are present in over 90% of all suicide victims (Bridge et al. 2006). Specific psychiatric disorders have been found to be more associated with suicidal behavior than others. Major depressive disorder has been intrinsically linked to suicidal behavior with those who have an adolescent onset of MDD being at a greater risk of a suicide attempt later on in life (Bridge et al. 2006; Weissman et al. 1999). Goldstein et al.'s (2005) study of suicide attempts among 7–17-year-olds who were diagnosed with Bipolar Disorder I, Bipolar II, or Bipolar NOS found the following factors associated with suicide: mixed bipolar episodes, substance use, panic disorder, greater levels of psychosis, more frequent

psychiatric hospitalizations, and self-harm behaviors. Renaud et al. (1999) found that adolescents who were diagnosed with a conduct disorder were three to six times more likely to complete suicide. This area of research reveals how psychiatric comorbidity increases the risk that adolescents will engage in suicidal behavior.

Alcohol and Substance Use

Swahn and Bossarte (2007) examined the relationship between initiation of alcohol use and suicidal behaviors using the 2005 Youth Risk Behavior Survey. They found a robust relationship between preteen alcohol use and suicidal behaviors, both for ideations and attempts. When comparing drinkers to nondrinkers, they found that youth who had experienced sexual assault, carried weapons, history of fighting, and expressed sadness were at a higher risk for suicide ideations and attempts. Those students who were in the ninth grade were more likely to make a suicide attempt. In general, alcohol use by teenagers, regardless of when they had started using, was significantly related to suicide ideations and attempts. When comparing nondrinkers to preteen drinkers, earlier alcohol use was associated with an increase in suicidal behaviors later in life.

Aseltine et al. (2009) found that older adolescents (>18) who participated in heavy episodic drinking (HED) were 1.2 times more likely than those who did not participate in HED to report a suicide attempt. They also found that HED also may be related to impulsivity and aggression, especially among males, and is a greater risk factor for younger adolescents than compared to those who are 18 years or older. The authors hypothesized that HED among younger adolescents may be more related to social reasons than for managing stress (Aseltine et al. 2009). Schilling et al. (2009) analyzed the relationship between HED and suicide attempt. They found that teens who reported that they drank alcohol when they were down were three times more likely to have a self-reported suicide attempt.

Cognitions

Recent research on adolescent suicide has revealed associations between four different

types of cognitive behaviors and adolescent suicidal behavior: poor decision making, poor problem-solving skills (Speckens and Hawton 2005), a deficit in ability to reflect on situations (Oldershaw et al. 2009), and the adolescent's appraisal of a traumatic life event and a negative outlook after the traumatic event (Hirsch et al. 2009). Hirsch et al. (2009) found that the way in which an adolescent processes a stressful, traumatic event may influence their level of suicidal ideation. If the youth has a more optimistic view on life, can avoid self-blame behaviors, and can realistically reflect on the event as being an isolated event, then he or she is less likely to have suicidal thoughts and behaviors. A youth's ability to solve problems and make informed decisions may serve as a buffer for reducing suicidal behaviors.

Sexual Orientation

Russell and Joyner (2001) found that adolescents who self-reported as being gay or lesbian were two times more likely to attempt suicide. Ryan et al. (2009) examined the relationship between family rejection and poor health outcomes among a sample of lesbian, gay, and bisexual white and Latino adolescents. Specifically, 11.8% of those with suicidal ideation had low rejection scores, 21.6% with suicidal ideation had moderate rejection scores, and 43.2% with suicidal ideation had high rejection scores. The same nature of relationship was found between suicide attempts and level of family rejection. Among those that had a suicide attempt, 19.7% had low rejection scores, 35.1% had moderate rejection scores, and 67.6% had high rejection scores. In this study, a family's type of response to an adolescent disclosing their sexual orientation had a significant impact on their suicidal behaviors.

Parent and Family Risks

A number of risk factors are found at the parent and family level that contribute to an increased risk of adolescent suicidal behaviors. Reisch et al. (2008), using a social disintegration model, found the following family characteristics associated with a youth reporting thoughts of committing

suicide ($n = 179$ later elementary school-aged children): low family functioning, poor communication with family members, poor family cohesion, and poor parental supervision. There were no statistically significant differences between adolescents with suicidal ideations and those without in regards to high levels of family conflict or low parental involvement in the child's daily life.

Child maltreatment can lead to negative mental health outcomes, including suicidal behaviors (Afifi et al. 2009; Fergusson et al. 2008; Logan et al. 2009). In families where child abuse occurs, researchers have found an increased risk that the individual will attempt suicide at some later point in their life (Afifi et al. 2009; Logan et al. 2009; Salzinger et al. 2007). Research has found differing effects of different types of maltreatment and suicide risk. Fergusson et al. (2008) found that exposure to child sexual abuse was more predictive of future mental health problems than was exposure to child physical abuse/punishment. Those who experienced child physical abuse also experienced more negative mental health outcomes than those who did not experience physical abuse or who experienced less severe physical punishment. Children who experience both sexual abuse and physical abuse were at the highest risk to develop future suicidal behavior (Brezo et al. 2008). However, poor mental health outcomes associated with exposure to child physical abuse/punishment were related to the "the social and family context within which the CPA [child physical abuse] occurred" (p. 617). Brezo et al. (2008) also found that repeated events of child sexual abuse were more predictive of suicidal attempts as compared to single events. The relationship between the perpetrator and the child has an impact on suicide attempts; when the perpetrator was a family member, there was a greater risk of suicide attempt as compared to unrelated perpetrators.

Afifi et al. (2009) examined the effect of child abuse and parental divorce. They found that when a child experiences both child abuse and parental divorce there is a statistically significant increase in the likelihood that an individual will have a lifetime attempt of suicide (Afifi et al. 2009).

Parental divorce without any type of abuse, however, does not result in an increase in suicidal attempt later in life.

School Risks

School-related issues, including environment, academic success, and peer violence/bullying have an impact on adolescent suicide. For example, Riesch et al. (2008) found that a student's perception of an unsupportive school climate, poor academic achievement, and poor school connectedness were associated with an increase in suicidal ideation. These research findings are mirrored in research relating to bullying.

A working definition of bullying is needed to provide the context for the research findings. Bullying is defined as an act (covert or overt) towards another individual with the goal of inflicting physical or emotional harm towards another individual. Bullying can take the forms of intimidation, harassment, embarrassment, and/or physical violence. Bullying is not limited to one-to-one interactions, but can also be between groups of individuals (e.g., *The Outsiders*, the Socs bullying and attacking the Greasers) (Srabstein 2009). Wyatt Kaminski and Fang (2009) analyzed the relationship between peer victimization and suicidal behaviors using three large longitudinal datasets. They found that, among all three datasets, when controlling for age, sex, ethnicity, and depressive symptoms, adolescents who experience peer victimization are more likely to report suicidal behaviors.

While not a study conducted in the United States, Klomek et al. (2009) findings from the Finland birth cohort study contribute to a better understanding of bullying behaviors and adolescent suicide. Klomek et al. (2009) examined the relationship between bullying and victimization in a population-based birth cohort study in Finland. They found that the effect of bullying and being bullied on suicidal behavior is different for boys as compared to girls. Girls who were bullied were at greater risk of being suicidal as compared to those girls who were neither bullies nor bully-victims. Among boys, those boys who both engaged in bullying and were bully-victims were at greater risk of suicidal behavior than those boys

who weren't victims or perpetrators of bully behaviors.

High-profile media reports have documented a new trend in bullying: cyber bullying. Hindjuga and Patchin (2010), in their study of 2,000 middle school youth, compared non-bullied and non-bullying adolescents and found that victims of cyberbullying were almost two times more likely to attempt suicide and those who cyberbullied others were 1.5 times more likely to have attempted suicide compared to those who neither experienced cyberbullying nor perpetrated cyberbullying. Hindjuga and Patchin (2010, p. 2) write "... it is unlikely that experience with cyberbullying *by itself* leads to youth suicide. Rather, it tends to exacerbate instability and hopelessness in the minds of adolescents already struggling with stressful life circumstances." Recent cases of adolescents who were bullied and later committed suicide highlight the need for additional research in this area.

Community Risks

Thorlindson and Bernburg (2009) examined the relationship between community structural characteristics and individual characteristics on adolescent suicidal behaviors. They found that higher levels of community and family instability (e.g., high family mobility) were related to an increased risk of adolescent suicide attempts. They state that community instability demonstrates "how disruptions in social relationships that stem from the structural characteristics of communities can have harmful effects on adolescents" (p. 241). They hypothesized that it is the role of anomie and an adolescent's lack of social ties to positive norms that promotes the acceptance of adolescent suicide as normal and a way of coping with life. Swahn and Bossarte (2009) found a clustering effect of negative risky behaviors based on where a youth lived. Those youth who lived in urban/high risk neighborhoods were more likely to have suicidal ideations, attempted suicide in the last 12 months, carry guns, have poor school performance, currently use alcohol, and have experienced sexual victimization than those who lived in diverse and less risky urban settings.

Access to quality mental health care should, theoretically, reduce suicidal behaviors (Campo 2009). However, several factors are related to barriers associated with accessing care. First, are there empirically based and adolescent tested interventions available? Second, does the adolescent have access to a knowledgeable health-care provider who will prescribe antidepressants, and will the adolescent take such medications? Third, is the parent/caregiver willing to have their child take antidepressants? Stevens et al. (2009) found that parental perceptions about the benefits and risks of antidepressant medications may influence future medication use. The use of these medications can have direct effects on suicidal behavior. The “black box” warning for adolescent antidepressant, issued by the Federal Drug Administration (FDA) in 2004, for example, led to a decrease in the use of antidepressants in the adolescent population (Libby et al. 2007). Research has since shown that after the decrease in the use of antidepressants, there was an increase in suicide rates in the US, Canada, and the Netherlands (Gibbons et al. 2007; Katz et al. 2008).

Conclusion

Research on suicidal behavior confirms that suicide remains a major preventable cause of adolescent death in the United States. Recently, there has been an increase in suicide rates for adolescents and a change in the means that adolescents use to commit suicide. The current research highlights the importance of identifying risks, not only at the individual level but also at several other levels as well, especially at the parent/family, school, and community levels.

Key research findings identify numerous factors for suicidal behavior risks during the adolescent period. Among the important individual risk factors are major depressive disorder, bipolar disorder, and conduct disorder, preteen use of alcohol, and heavy episodic drinking. Individual risks also include poor decision-making skills, poor problem-solving skills, inability to reflect on situations, and a negative and pervasive appraisal of traumatic life events. Gay and lesbian adolescents

can also be especially vulnerable. Parental and family risks for suicidal behaviors include child maltreatment (physical and sexual abuse), and low levels of family functioning, including poor parental supervision. School risk factors include both bullying and being bullied (e.g., bully-victim) and a perception of an unsupportive school climate. Community risk factors include family instability, a lack of prosocial norms in the community, and poor access to care. No one risk factor individually makes one suicidal; the culmination of risks, however, certainly increases the chances that youth will engage in suicidal behavior.

Individuals who work with adolescents can benefit from the current knowledge about adolescent suicide and use it to inform their responses to adolescents, and this includes practitioners in their assessment and treatment of the adolescents' experiences. The current trends in adolescent suicide (the increase in suicidal behaviors and change in methods used to complete suicide) make it even more important that these risk factors be identified and explored. Connecting youth to prosocial support systems that encourage adolescents to learn problem-solving skills can help reduce many of the other risk factors. The role of substance use and suicide needs to be included in any assessment and intervention. Practitioners and others who work directly with youth can serve as a vital link between resources and supports to help adolescents create new coping mechanisms that promote their well-being.

Cross-References

► [Suicidality](#)

References

- Affi, T. O., Boman, J., Fleisher, W., & Sareen, J. (2009). The relationship between child abuse, parental divorce, and lifetime mental disorders and suicidality in a nationally representative adult sample. *Child Abuse & Neglect, 33*, 139–147.
- Aseltine, R. H., Schilling, E. A., James, A., Glatovsky, J. L., & Jacobs, D. (2009). Age variability in the association between heavy episodic drinking and adolescent suicide attempts: Findings from a large-scale,

- school-based screening program. *Journal of the American Academy of Child and Adolescent Psychiatry*, 48(3), 262–270.
- Brezo, J., Paris, J., Vitaro, F., Hebert, M., Tremblay, R. E., & Turecki, G. (2008). Predicting suicide attempts in young adults with histories of childhood abuse. *The British Journal of Psychiatry*, 193, 134–139.
- Bridge, J. A., Goldstein, T. R., & Brent, D. A. (2006). Adolescent suicide and suicidal behavior. *Journal of Child Psychology and Psychiatry*, 47(3/4), 372–394.
- Bridge, J. A., Greenhouse, J. B., Weldon, A. H., Campo, J. V., & Kelleher, K. J. (2008). Suicide trends among youths aged 10 to 19 years in the United States, 1996–2005. *The Journal of the American Medical Association*, 300(9), 1025–1026.
- Campo, J. V. (2009). Youth suicide prevention: Does access to care matter? *Current Opinions in Pediatrics*, 21, 628–634.
- Centers for Disease Control. (2010a). Suicide prevention: Youth suicide. Accessed 10 May 2010, http://www.cdc.gov/violenceprevention/pub/youth_suicide.html.
- Centers for Disease Control. (2010b). WISQARS™ (Web-based Injury Statistics Query and Reporting System). Accessed online 10 Apr 2010, at <http://www.cdc.gov/injury/wisqars/index.html>.
- Centers for Disease Control MMWR. (2007). Suicide trends among youths and young adults aged 10–24 years – United States, 1990–2004. Accessed online 19 Apr 2010, <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5635a2.htm>.
- Fergusson, D. M., Boden, J. M., & Horwood, L. J. (2008). Exposure to childhood sexual and physical abuse and adjustment in early adulthood. *Child Abuse & Neglect*, 32, 607–619.
- Gibbons, R. D., Brown, C. H., Hur, K., et al. (2007). Early evidence on the effects of regulators' suicidality warnings on SSRI prescriptions and suicide in children and adolescents. *The American Journal of Psychiatry*, 164, 1356–1363.
- Goldstein, T. R., Birmaher, B., Axelson, D., Ryan, N. D., Strober, M. A., et al. (2005). History of suicide attempts in pediatric bipolar disorder: Factors associated with increased risk. *Bipolar Disorders*, 7, 525–535.
- Hindjuga, S., & Patchin, J. W. (2010). Cyberbullying research summary: Cyberbullying and suicide. *Archives of Suicide Research*. Accessed 10 May 2010.
- Hirsch, J. K., Wolford, K., LaLonde, S. M., Brunk, L., & Parker-Morris, A. (2009). Optimistic explanatory style as a moderator of the association between negative life events and suicide ideation. *Crisis*, 30, 48–53.
- Holinger, P. C. (1994). *Suicide and homicide among adolescents*. New York: Guilford.
- Katz, L. Y., Kozyrskyj, A. L., Prior, H. J., et al. (2008). Effect of regulatory warnings on antidepressant prescription rates, use of health services, and outcomes among children, adolescents and youth adults. *Canadian Medical Association Journal*, 178, 1005–1011.
- Klomek, A. B., Sourander, A., Niemela, S., Kumpulainen, K., Piha, J., Tamminen, T., et al. (2009). Childhood bullying behaviors as a risk for suicide attempts and completed suicides: A population-based birth cohort study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 48, 254–261.
- Libby, A. M., Brent, D. A., Morrato, E. H., et al. (2007). Decline in treatment of pediatric depression after FDA advisory on risk of suicidality with SSRIs. *The American Journal of Psychiatry*, 164, 884–891.
- Logan, J. E., Leeb, R. T., & Barker, L. E. (2009). Gender-specific mental and behavioral outcomes among physically abused high-risk seventh-grade girls. *Public Health Reports*, 124, 234–245.
- Oldershaw, A., Grima, E., Jollant, F., Richards, C., Simic, M., Taylor, L., et al. (2009). Decision making and problem solving in adolescents who deliberately self-harm. *Psychological Medicine*, 39, 95–104.
- Renaud, J., Brent, D. A., Birmaher, B., Chiappetta, L., & Bridge, J. (1999). Suicide in adolescents with disruptive disorders. *Journal of the American Academy of Child and Adolescent Psychiatry*, 38(7), 846–851.
- Riesch, S. K., Jacobson, G., Sawdey, L., Anderson, J., & Henriques, J. (2008). Suicide ideation among later elementary school-aged youth. *Journal of Psychiatric and Mental Health Nursing*, 15, 263–277.
- Russell, S. T., & Joyner, K. (2001). Adolescent sexual orientation and suicide risk: Evidence from a national study. *American Journal of Public Health*, 91, 1276–1281.
- Ryan, C., Huebner, D., Diaz, R. M., & Sanchez, J. (2009). Family rejection as a predictor of negative health outcomes in white and Latino lesbian, gay, and bisexual young adults. *Pediatrics*, 123, 346–352.
- Salzinger, S., Rosario, M., Feldman, R. S., & Ng-Mak, D. (2007). Adolescent suicidal behavior: Association with preadolescent physical abuse and selected risk and protective factors. *Journal of the American Academy of Child and Adolescent Psychiatry*, 46, 859–866.
- Schilling, E. A., Aseltine, R. H., Glanovksy, J. L., et al. (2009). Adolescent alcohol use, suicidal ideation, and suicide attempts. *The Journal of Adolescent Health*, 44, 335–341.
- Shaffer, D. (1988). The epidemiology of teen suicide: An examination of risk factors. *Journal of Clinical Psychiatry*, 49(Suppl), 36–41.
- Speckens, A. E. M., & Hawton, K. (2005). Social problem solving in adolescents with suicidal behaviour: A systematic review. *Suicide and Life-Threatening Behaviour*, 35, 365–386.
- Srabstein, J. C. (2009). Be aware of bullying: A critical public health responsibility. *Virtual Mentor*, 11, 173–177.
- Stevens, J., Wang, W., Fan, L., et al. (2009). Parental attitudes toward children's use of antidepressants and psychotherapy. *Journal of Child and Adolescent Psychopharmacology*, 19, 289–296.
- Swahn, M. H., & Bossarte, R. M. (2007). Gender, early alcohol use, and suicide ideation and attempts: Findings from the 2005 youth risk behavior survey. *The Journal of Adolescent Health*, 41, 175–181.

- Swahn, M. H., & Bossarte, R. M. (2009). Assessing and quantifying high risk: Comparing risky behaviors by youth in an urban, disadvantaged community with nationally representative youth. *Public Health Reports, 124*, 224–233.
- Thompson, M., Kuruwita, C., & Foster, E. M. (2009). Transitions in suicide risk in a nationally representative sample of adolescents. *The Journal of Adolescent Health, 44*, 458–463.
- Thorlindsson, T., & Bernburg, J. G. (2009). Community structural instability, anomie, imitation, and adolescent suicidal behavior. *Journal of Adolescence, 32*, 233–245.
- Weissman, M. M., Wolk, S., Goldstein, R. B., Moreau, D., Adams, P., Greenwald, S., et al. (1999). Depressed adolescents grown up. *Journal of the American Medical Association, 281*, 1707–1713.
- Wyatt Kaminski, J., & Fang, X. (2009). Victimization by peers and adolescent suicide in three US samples. *The Journal of Pediatrics, 155*, 683–688.

Suicide Pacts and Suicide Clusters

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Overview

Suicides may be an ultimate individual act that someone can commit, but they still can commit it with others and be highly influenced by others who have committed suicides. There are a variety of ways that these influences can occur, and researchers have struggled to understand how these multiple suicides develop, spread, and can be prevented. Some studies report robust findings, such as the finding that youth are at particular risk for being involved in suicide clusters. But, the vast majority of studies are reported to lack rigor and, at best, present promising findings. Despite the limitations of these studies, the importance of the topic makes it important to identify trends and gaps in existing research.

Multiple Suicides

One of the most compelling phenomena relating to suicides is how individuals can commit them together or be influenced by another suicide. For

example, suicide pacts are pledges of two or more people to take their own lives at the same time. Although these pacts typically are done by older couples, they sometimes do occur during adolescence (Ryabik et al. 1995). These pacts are different from more popular phenomenon of cluster suicides or suicide outbreaks, which occur after a popular figure (e.g., a role model or celebrity) or when peers in similar environments commit suicide (see Brent et al. 1989). These clusters apparently are more commonly occur among adolescents and young adults.

Multiple suicides are important to consider for several reasons. Suicide represents a major public health problem in adolescents. Suicide is currently the second leading cause of death in young people ages 10–19 (Centers for Disease Control and Prevention 2016). In the USA, one in every seven youth has seriously considered or actually made a plan to commit suicide. Clusters account up to 13% of youth suicides (Robertson et al. 2012). Unlike other suicides, multiple suicides, such as cluster suicides that more likely occur in young people, might be particularly preventable (Robertson et al. 2012). This means that researchers have an opportunity to address this issue and that it has great significance to youth development.

Understanding Multiple Suicides

Researchers know much less about pacts than clusters, but they still do not know much about clusters either. Still, researchers have now well documented the suicide clusters and the phenomenon of contagion in adolescent age groups. Only a very small percentage of all suicides occur in clusters; reviews suggest that it accounts for 1–13% of teen suicides and that it is two to four times more common among teenagers than in other age groups (Gould et al. 1990). That it is more common among adolescents shows how the occurrence of one adolescent suicide is known to be a contextual or population-based risk factor for additional suicides (Askland et al. 2003).

Although it is true that research has not yet revealed much about pacts and clusters as they

relate to adolescents, important steps have been taken relating to multiple suicides, especially cluster suicides. These studies admittedly tend to lack in rigor, but they do point to initial results worth considering. For example, several studies have identified potential risk factors. Risk factors include being of male gender, being an adolescent or young adult, engaging in drug or alcohol abuse, and having a past history of self-harm (for a review, see Haw et al. 2013). Similarly, researchers have identified many psychological mechanisms that may be at work, such as including contagion, imitation, suggestion, learning, and assortative relating (homophily) (see Haw et al. 2013). They also have noted that the method of cluster formation is that of contagion by direct contact with a suicide, word of mouth, or the media, which has implications for interventions.

In addition to focusing on who is involved, research has started to focus on postvention strategies in response to multiple suicides. That area of study again offers few studies. Still, the studies report that their findings show promise. For example, a review reported the following: the need to develop a community response plan, engage in educational/psychological debriefings, provide both individual and group counseling to affected peers, screen individuals at high risk, ensure that media report responsibly, and promote suicide prevention (Cox et al. 2012).

Unfortunately, of course, it is important to highlight that prevention efforts retain only promise. As an example, an exhaustive study of suicide prevention in schools reported that it had identified 412 potentially relevant studies, but only 43 of which met the inclusion criteria, of those 15 universal awareness programs, 23 selective interventions, 3 targeted interventions, and 2 postvention trials. Those studies, however, were all deemed limited by methodological concerns, particularly a lack of random control groups. Yet, the study did conclude that the most promising interventions for schools appear to be gatekeeper training and screening programs (Robinson et al. 2013). Admittedly, the gap in needed research and rigorous findings addressing those needs is likely to continue given the low-frequency nature of suicides, especially suicide clusters, which makes problematic the

long-term systematic evaluation of response strategies.

Lastly, despite the common use of contagion to analogize the spread of suicide, there is a lack of rigorous assessment of the underlying concept or theory supporting the use of the term in existing studies. A review revealed, for example, that about one quarter of several hundred studies examined use contagion as equivalent to clustering, and the rest focus on various aspects of the way clustering occurs or they simply do not provide a definition (Cheng et al. 2014). This has led researchers to argue that an essential first step for future research is to use appropriate operational definitions and correctly identify mechanisms, as only then can the scientific community build the foundation for prevention and intervention strategies.

Conclusion

Suicide among adolescents may constitute a major public health, and some forms may be particularly preventable. However, the nature of the problem does not lend itself to rigorous research. Some findings are robust, such as research indicating that youth are at particular risk for some types of suicides and that suicides (including suicidal ideation and behavior) are a major source of harm for adolescents and reveal considerable distress. Beyond that, research faces challenges that lead them to present what they view as promising studies but that do not necessarily instill confidence. Yet, the studies are all that we have, which makes it difficult to ignore trends in findings and conceptualizations.

Cross-References

- ▶ [Suicidality](#)
- ▶ [Suicide](#)

References

- Askland, K. D., Sonnenfeld, N., & Crosby, A. (2003). A public health response to a cluster of suicidal behaviors: Clinical psychiatry, prevention, and community health. *Journal of Psychiatric Practice, 9*, 219–227.

- Brent, D. A., Kerr, M. M., Goldstein, C., Bozigar, J., Wartella, M. E., & Allan, M. J. (1989). An outbreak of suicide and suicidal behavior in high school. *Journal of the American Academy of Child and Adolescent Psychiatry*, *28*, 918–924.
- Centers for Disease Control and Prevention. (2016). National Center for Injury Prevention and Control. Web-based injury statistics query and reporting system (WISQARS). Available from <http://www.cdc.gov/violenceprevention/suicide/statistics/index.html>. Last accessed 16 Aug 2016.
- Cheng, Q., Li, H., Silenzio, V., & Caine, E. D. (2014). Suicide contagion: A systematic review of definitions and research utility. *PLoS One*, *9*(9), e108724.
- Cox, G. R., Robinson, J., Williamson, M., Lockley, A., Cheung, Y. T. D., & Pirkis, J. (2012). Suicide clusters in young people. *Crisis*, *33*, 208–214.
- Gould, M. S., Wallenstein, S., & Kleinman, M. (1990). Time-space clustering of teenage suicide. *American Journal of Epidemiology*, *131*, 71–78.
- Haw, C., Hawton, K., Niedzwiedz, C., & Platt, S. (2013). Suicide clusters: A review of risk factors and mechanisms. *Suicide & Life-Threatening Behavior*, *43*(1), 97–108.
- Robertson, L., Skegg, K., Poore, M., Williams, S., & Taylor, B. (2012). An adolescent suicide cluster and the possible role of electronic communication technology. *Crisis*, *33*(4), 239–245.
- Robinson, J., Cox, G., Malone, A., Williamson, M., Baldwin, G., Fletcher, K., & O'Brien, M. (2013). A systematic review of school-based interventions aimed at preventing, treating, and responding to suicide-related behavior in young people. *Crisis*, *34*, 164–182.
- Ryabik, B., Schreiner, M., & Elam, S. M. (1995). Triple suicide pact. *Journal of the American Academy of Child and Adolescent Psychiatry*, *34*, 1121–1122.

Summer Camps

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Overview

Summer camps are youth development programs or organizations that strive to foster growth in children. They do so by providing fun, safe, educational experiences supervised by professional adults and older youth. Camps can vary in terms of the children they serve, activities they promote, as well as their place, time, and sponsorship.

Summer camps have long been part of adolescents' experiences, in the United States and in many other countries. Summer camp experiences may have been lionized, but they have not been subjected to rigorous studies to confirm their alleged effects. Still, recent research does report a wide range of positive effects and now seeks to understand the mechanisms and nuances leading to those effects.

A History of Summer Camps

Summer camps provide children with many psychological and social benefits seen by parents, staff, and campers themselves. Research by the American Camping Association (ACA) (2010), for example, has demonstrated that self-esteem, independence, exploration, and social relationship building are only a few of the common areas of growth seen in children attending summer camps. These positive results are the outcome of numerous decades of learning about camps and the results of several social forces converging to support the development of camp experiences. As a result of many historical movements, over 12,000 summer camps have blossomed in the USA alone, attended by over ten million children annually.

Educators conceived of and directed the earliest camps as not-for-profit experiments designed to provide opportunities to teach children in ways schools did not (see Thurber et al. 2007). For example, in the USA, educators found that the corrupt and depraved nature of the cities failed to educate children successfully in many important ways. This led, as early as the mid-1800s, to programs created to bring children into the New England countryside. These programs were based on three essential components believed to be lacking in schools: community living, novel environments, and outdoors settings. Children participated in physical activity, social skill development, and spiritual events. Soon after, summer camps' potential for minority groups were realized, which spread quickly to the potential benefits that other groups could receive from participating in camp experiences. As early as 1876, camps were being formed specifically to

benefit disabled, poor, and ill children. Today, this movement is realized in camps devoted to AIDS, cancer, diabetes, sports, mental illness, addiction, and educational interests. Although there has been a steady growth of what could be deemed therapeutic camps, camps also have emerged to address a wide variety of interests ranging from culinary interests, to theater, to music and dance. Camps continue to take on a wide variety of missions to address youths' social, medical, emotional, intellectual, spiritual, and vocational needs.

Summer camps take the form of many different organizational styles. Of the 12,000 camps in the USA, about 4,000 are for profit, while the remainder are run by nonprofit organizations. About 5,000 are day camps and 7,000 are residential camps, with the average stay of a camper being around 2 weeks for a residential camp. Around 2,300 camps choose to comply with the 300 health, safety, and program quality regulations put forth by the ACA and thus receive their accreditation. Some camps offer year-round programming for diverse experiences, while trip camps are more focused on camping while traveling, and travel camps offer to take campers to geographical places of interest.

The International Camping Fellowship provides an umbrella to unite camps in different countries. Although these camps remain true to the US camping model, they also bring in local culture and religion. Some camps focus on issues related to particular regions, such as Seeds of Peace, a camp created to unite Arab and Israeli youth. Importantly, these camps may well be a fraction of the camps that youth attend, as many undoubtedly attend day camps associated with social organizations, most particularly, for example, universities and other educational institutions. Clearly, since their inception, summer camps have been continually evolving.

The more traditional summer camp movement has been marked by a move toward greater unification. The unification of the summer camp movement came as the result of controversies associated with differing educational and developmental philosophies. The decision to hire cooks, for instance, came at the expense of an

entirely egalitarian camp. When the ACA formed in 1910, controversy over the for-profit nature of some of the camps, the religious exposure, daily structure, contact with the outside world, inclusion of military traditions and Indian lore, and federational or associational nature of the ACA were debated. Today, these debates continue along with additional points such as the use of electronics, coed camps, and whether competition is healthy.

Research Relating to Summer Camps

Despite their popularity, and with some notable exceptions, summer camps have not been subjected to rigorous empirical scrutiny to confirm their apparent abilities to foster positive youth development. The first systematic research was conducted in the 1920s, by Dimock and Hendry (1929), who provided several informative but still tentative conclusions, such as the findings that camp effects were idiosyncratic in that they depended on such factors as the type of program, peer pressures, quality of leadership, and prevailing attitudes. Since then, numerous studies have examined the nature and effects of camp experiences, but they are remarkable for their focus on short-term effects and incredible variety. Findings, however, do tend to be impressive for the breadth of areas reporting positive effects, such as studies of camp interventions to address the effects of traumas associated with grief (Searles McClatchey et al. 2009), encourage weight loss (Quinlan et al. 2009) and foster emotional self-regulation, and reduce peer rejection and antisocial behavior (Trentacosta and Shaw 2009). And more recently, research has examined the effects of religious summer camps and found longitudinal results linking summer experiences to many positive outcomes such as intellectual, theological, other-focused, and temperance virtues (Schnitker et al. 2014a, b). Despite the wide variety in camp quality and program offerings, the major recurring theme in research supports the conclusion that camp experiences contribute to positive youth development. This general finding

gains support from what currently is deemed the largest, longitudinal study of camps, a study that identified important variation but a general consistency between programs and positive youth development (Thurber et al. 2007).

Despite the above positive findings, camps still tend to not be subjected to vigorous empirical research that would confirm conventional wisdom about the power of camp experiences on adolescents' development. One of the major concerns that summer camps must contend with, for example, is homesickness. Research on how to best overcome homesickness has uncovered ways of preventing deep homesickness as well as to determine who would be at risk for experiencing severe homesickness (see Thurber and Sigman 1998). That research reveals that parents can let their children practice time away from home. Also, youth can rehearse coping strategies, and once they arrive at camp, familiarization with camp culture, structure, and routines can enhance a child's attitudes about camp. Still, even this aspect of camps remains highly unexamined by researchers. Numerous other areas of camping experiences remain to be investigated rigorously, such as the effects of peers, leaders, and types of camps.

Even if success could be documented to support conventional wisdom, the reality is that summer camps must continue to evolve. Summer camps have developed in many ways since their creation in the mid-1800s, and social change is likely to foster continued changes. As a result, camp programs must address changing social environments. Questions such as how to best complement the ever-changing school system, the ways of learning, the new and emerging technologies, the new demands that youth face, and the best methods of program implementation remain. Directors, researchers, and funding organizations wonder how to deal best with the inherent risks of camping, and how fully to accommodate campers with medical, physical, emotional, and behavioral issues. Finally, complying with the ever-increasing number of laws and regulations affecting youth, including the protection of the length of summer vacation, remains an issue.

Conclusion

Summer camps are increasingly common and offer a variety of experiences for youth. They have been championed as having many positive effects on youth, with some of those effects supported by research. Yet much remains unanswered as camps continue to change and address challenges. No doubt remains that while these developments are not easily studied and addressed, campers will continue to enjoy the fundamentals on which the camping movement were based, especially friendship, learning, and opportunities for positive youth development.

Cross-References

► [Homesickness](#)

References

- American Camp Association. (2010). Camp research and trends. <http://www.acacamps.org/research>. Retrieved 1 July 2010.
- Dimock, H. S., & Hendry, C. E. (1929). *Camping and character: A camp experiment in character education*. New York: Association Press.
- Quinlan, N. P., Kolotkin, R. L., Fuemmeler, B. F., & Costanzo, P. R. (2009). Psychosocial outcomes in a weight loss camp for overweight youth. *International Journal of Pediatric Obesity*, 4, 134–142.
- Schnitker, S. A., Felke, T. J., Barrett, J. L., & Emmons, R. A. (2014a). Virtue development following spiritual transformation in adolescents attending evangelistic summer camp. *Journal of Psychology and Christianity*, 33(1), 22–36.
- Schnitker, S. A., Felke, T. J., Barrett, J. L., & Emmons, R. A. (2014b). Longitudinal study of religious and spiritual transformation in adolescents attending young life summer camp: Assessing the epistemic, intrapsychic, and moral sociability functions of conversion. *Psychology of Religion and Spirituality*, 6(2), 83.
- Searles McClatchey, I., Vonk, M. E., & Palardy, G. (2009). Efficacy of a camp-based intervention for childhood traumatic grief. *Research on Social Work Practice*, 19, 19–30.
- Thurber, C. A., & Sigman, M. D. (1998). Preliminary models of risk and protective factors for childhood homesickness: Review and empirical synthesis. *Child Development*, 69, 903–934.
- Thurber, C. A., Scanlin, M., & Scheuler, L. (2007). Youth development outcomes of the camp experience:

Evidence for multidimensional growth. *Journal of Youth and Adolescence*, 36, 241–254.

Trentacosta, C. J., & Shaw, D. S. (2009). Emotional self-regulation, peer rejection, and antisocial behavior: Developmental associations from early childhood to early adolescence. *Journal of Applied Developmental Psychology*, 30, 356–365.

Synapse

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Overview

A synapse refers to the junction between nerve cells that relays information through electrical impulses. The development and function of synapses is important during adolescence because they relate to pathologies, have a role in plasticity and inhibitory networks, and link to physical developmental effects. Links between synapses and recovery from brain damage also have been found, and age-specific differences between stages of adolescent brain development are suspected to involve synapses, although most evidence thus far manifests physically outside of the brain.

The Nature and Function of Synapse

A synapse is the junction between two nerve cells (known as neurons) or between a neuron and a gland or muscle cell. The junction serves to relay information. Neurotransmitters carry impulses across the tiny gap between the cells, which is called the synaptic cleft. The synaptic cleft is the target of medications for disorders, such as bipolar disorder, depression, and schizophrenia; the medications change the activity or availability of neurotransmitters.

How synapses develop, as well as their function, is of significance to adolescence. The disorders mentioned above, for example, often have their first symptoms during adolescence, and

those symptoms are often linked to brain development. For example, adolescence has been shown to reveal a loss of approximately 30% of the synapses formed in the visual cortex during childhood. This loss of synapses appears to occur because synapses with low efficacy for transmission are eliminated in favor of those with higher efficacy. Theoretically, the loss enhances the function of neural networks. However, large synapse losses are linked to a failure of network functions. It has been shown that relevant parts of the prefrontal cortex of individuals suffering from schizophrenia are very low, approximately 60% lower than that observed in normal childhood. It is not known whether this relatively low percentage is due to additional losses that occur during normal adolescence or to a failure to form a normal complement of synapses during childhood (see Bennett 2008).

The Role of Synapses in Adolescent Development

Although the mechanisms remain complex, changes in synapses have long been associated with pathologies. For example, such changes have been viewed as prime suspects in the cause of schizophrenia, and recent research has seen promising developments in supporting this view (see Mirnics et al. 2001; Ramsey et al. 2011), which makes the period of adolescence quite important to the study of these diseases and to understanding the role of synapses in them. Indeed, recent research has found that dopamine can have an unexpected effect on synapse maturation. Dopamine can affect spine maturation and in turn brain chemistry, potentially having powerful implications for how to treat the “psychosis of schizophrenia” and especially for adolescents because synapse maturation is a part of their healthy brain development as well as how their spine physically matures (Yin et al. 2013).

Research also has investigated the role of synapses in depression and antidepressant responses. In particular, synaptic deficits have been found to be caused by stress and linked to depression, while synaptic formation through ketamine has

been linked to a rapid antidepressant response (Li et al. 2010). Because the mechanisms behind adolescent depression (and treatment options) have not been well understood historically, that synapses provide insight into the physical causes of depression underscores their importance for adolescent health.

Synapses also have been examined in the context of neurodevelopmental disorders in adolescents. When doing so, research has examined the nuanced and intersecting roles of these connectors, which underscore how they can be central to many pathologies and deeply influence adolescent development and the adolescent experience. For example, synaptic plasticity – the ability of synapses to strengthen or weaken in response to increases or decreases in activity – has been explored in the context of pathologies. Developmental disorders such as autism and Rett syndrome (which are generally diagnosed after 12–18 months of seemingly normal infant development followed by silence or abrupt stop to normal development) result from disruption of postnatal synaptic plasticity (Zoghbi 2003). Providing a seemingly more logical explanation than these disorders beginning before birth but having a dormancy period though not being completely validated by research in the community, the link between synaptic plasticity and questions related to developmental disorders demonstrates how these connections continue to be increasingly well understood, and yet many questions arise as old ones are answered.

Researchers also have examined the role of synapses as neurodevelopment following a loss of brain function (trauma, stroke, etc.). Research exploring synaptic plasticity after a stroke (in adults) has found that immediately after the one-time damage to the brain, a “time-limited window of neuroplasticity” allows for greater rewiring and strengthening of synapses than usual (Murphy and Corbett 2009). Although strokes during adolescence are a quite rare, the limited opportunity to make large strides in recovery following brain damage (as can occur with the well-known tendency of adolescents to take risk) might well apply for adolescents following brain trauma, and researchers now express interest in

exploring how synaptic involvement might be used in treatment.

Researchers also have increasingly explored the roles of synapses in age-related developmental effects of adolescents. For example, networks of inhibitory neurons (known as inhibitory networks) play a crucial role in how adolescents (as well as adults and mammals in general) adapt to new experiences (Postma et al. 2011). Electrical synapses being created or destroyed increase or decrease the inhibition, whose name is somewhat of a misnomer in that greater inhibitory neurons correlate with a higher efficacy of the adaptation of the brain (Postma et al. 2011). Because inhibition’s effects on plasticity can be mitigated by experience-dependent plasticity, this appears to have strong implications for adolescent development since adolescents at the same stage of biological development can easily be at different levels of experiential development. In addition, synaptic reduction (which often is a part of a healthy formation, maintenance, and elimination cycle) has been found to decrease with age, especially after puberty, which in turn is developmentally correlated with a decrease in spine density (Ramsey et al. 2011). And research has also found that serotonin (which is used increasingly effectively with age) deliberately interferes with synapses between inhibitory neurons to mitigate their automatic responses or potential adaptations (as an example, they stabilize the rhythmicity of breathing when in extreme pain) (Manzke et al. 2009). Though the picture on how synapses and plasticity work together or disparately across adolescent age groups remains incomplete, current evidence makes a rather solid case for further research exploring nuances.

Conclusion

Many reasons make the synapses important for the study of adolescence. They are important because of their innumerable functions in healthy adolescent brain function and development, because of their roles in pathologies (especially developmental one), and because of their plasticity in enabling the adolescent brain to be resilient

and self-regulate can be critical to brain health. Age-related differences and recovery from brain damage notwithstanding, research demonstrates just how key synapses are to the big picture of adolescent brain development.

Cross-References

► Brain Maturation

References

- Bennett, R. M. (2008). Dual constraints on synapse formation and regression in schizophrenia: Neuregulin, neuroligin, dysbindin, DISC1, MuSK and agrin. *The Australian and New Zealand Journal of Psychiatry*, *42*, 662–677.
- Li, N., Lee, B., Liu, R. J., Banasr, M., Dwyer, J. M., Iwata, M., . . . , & Duman, R. S. (2010). mTOR-dependent synapse formation underlies the rapid antidepressant effects of NMDA antagonists. *Science*, *329*(5994), 959–964.
- Manzke, T., Dutschmann, M., Schlaf, G., Mörschel, M., Koch, U. R., Ponimaskin, E., . . . , & Richter, D. W. (2009). Serotonin targets inhibitory synapses to induce modulation of network functions. *Philosophical Transactions: Biological Sciences*, *364*(1529), 2589–2602.
- Mirnic, K., Middleton, F. A., Lewis, D. A., & Levitt, P. (2001). Analysis of complex brain disorders with gene expression microarrays: Schizophrenia as a disease of the synapse. *Trends in Neurosciences*, *24*(8), 479–486.
- Murphy, T., & Corbett, D. (2009). Plasticity during stroke recovery: From synapse to behavior. *Nature Reviews Neuroscience*, *10*, 861–872.
- Postma, F., Liu, C. H., Dietsche, C., Khan, M., Lee, H. K., Paul, D., & Kanold, P. O. (2011). Electrical synapses formed by connexin36 regulate inhibition- and experience-dependent plasticity. *Proceedings of the National Academy of Sciences of the United States of America*, *108*(33), 13770–13775.
- Ramsey, A. J., Milenkovic, M., Oliveira, A. F., Escobedo-Lozoya, Y., Seshadri, S., Salahpour, A., . . . , & Caron, M. G. (2011). Impaired NMDA receptor transmission alters striatal synapses and DISC1 protein in an age-dependent manner. *Proceedings of the National Academy of Sciences of the United States of America*, *108*(14), 5795–5800.
- Yin, D. M., Xiong, W. C., & Mei, L. (2013). Adolescent dopamine slows spine maturation. *Nature Neuroscience*, *16*(11), 1514–1516.
- Zoghbi, H. (2003). Postnatal neurodevelopmental disorders: Meeting at the synapse? *Science*, *302*(5646), 826–830.

Systemic Therapy

► Family-Based Therapy