Clin Child Fam Psychol Rev (2015) 18:252–279
DOI 10.1007/s10567-015-0186-6

Risks, Outcomes, and Evidence-Based Interventions for Girls in the US Juvenile Justice System

Leslie D. Leve[1,2] · **Patricia Chamberlain**[2] · **Hyoun K. Kim**[2]

Published online: 29 June 2015

Abstract The proportion of the juvenile justice population that comprises females is increasing, yet few evidence-based models have been evaluated and implemented with girls in the juvenile justice system. Although much is known about the risk and protective factors for girls who participate in serious delinquency, significant gaps in the research base hamper the development and implementation of theoretically based intervention approaches. In this review, we first summarize the extant empirical work about the predictors and sequelae of juvenile justice involvement for girls. Identified risk and protective factors that correspond to girls' involvement in the juvenile justice system have been shown to largely parallel those of boys, although exposure rates and magnitudes of association sometimes differ by sex. Second, we summarize findings from empirically validated, evidence-based interventions for juvenile justice-involved youths that have been tested with girls. The interventions include Functional Family Therapy, Multisystemic Therapy, Multidimensional Family Therapy, and Treatment Foster Care Oregon (formerly known as Multidimensional Treatment Foster Care). We conclude that existing evidence-based practices appear to be effective for girls. However, few studies have been sufficiently designed to permit conclusions about whether sex-specific interventions would yield any better outcomes for girls than would interventions that already exist for both sexes and that have a strong base of evidence to support them. Third, we propose recommendations for feasible, cost-efficient next steps to advance the research and intervention agendas for this under-researched and under-served population of highly vulnerable youths.

Keywords Juvenile justice · Girls · Delinquency · Intervention · Risk factors · Review

✉ Leslie D. Leve
leve@uoregon.edu

[1] Prevention Science Institute, 6217 University of Oregon, Eugene, OR 97403-6217, USA

[2] Oregon Social Learning Center, 10 Shelton McMurphey Blvd., Eugene, OR 97401, USA

Introduction

Delinquent behaviors have historically been associated with boys, with girls more typically considered in terms of internalizing spectrum disorders such as depression and anxiety (Zahn-Waxler et al. 2008). Most of the large-scale studies guiding theory and interventions related to delinquency have been based on all-male samples (e.g., Loeber and Farrington 2001; Loeber et al. 2000; Patterson et al. 1992); girls' delinquency has received comparatively little scholarly or evidence-led intervention attention. Notable exceptions include the Pathways to Desistance Study (http://www.pathwaysstudy.pitt.edu/), the Rochester Youth Development Study (http://www.albany.edu/hindelang/ryds.php), and the Philadelphia Birth Cohort Study (http://www.icpsr.umich.edu/icpsrweb/RCMD/studies/7729), which include both males and females. The need for research on girls' delinquency is highlighted by the fact that official arrest data show a striking increase in the proportion of youth involved in the juvenile justice (JJ) system who are female (Puzzanchera and Adams 2011; Snyder 2008). A decade ago, girls accounted for 20 % of all juvenile arrests, whereas the most current data show a nearly 50 % increase, with girls accounting for 29 % of all juvenile arrests (Puzzanchera 2013). Girls' rates of simple assault increased by nearly 20 % from 1997 to 2006, while

boys' rates of simple assault declined during this time period, suggesting that the recent increase in the proportion of girls who have had contact with juvenile justice authorities is not merely the result of increasing rates of misdemeanor offenses (Puzzanchera and Adams 2011). However, girls with conduct problems receive mental health and social services less frequently than do their male counterparts (Merikangas et al. 2010; Offord et al. 1990). Girls' delinquency and involvement in the JJ system are therefore of significant public health concern, and increased attention is needed to develop, test, and implement effective interventions for girls who are at risk for entry into the JJ system, are currently involved in it, or are exiting the system. We review the research evidence base in this area, identify gaps, and offer recommendations for future research and intervention work with JJ-involved girls.

Our review examines the empirical evidence across four domains: (a) familial, contextual, and individual risk factors that increase the likelihood that a girl will be detained by JJ authorities, and protective factors that have positive effects on at-risk girls' outcomes and compensate for risk exposure (Sameroff et al. 1998); (b) mental health, substance use, and sexual and physical health characteristics of girls in the JJ system; (c) adjustment and relationship outcomes for JJ-involved girls during late adolescence and adulthood after their initial involvement in the JJ system; and (d) evidence-based interventions for JJ-involved girls. We focus on areas in which findings converge across studies rather than describe the full catalog of studies and findings in the existing literature.

How this Review Differs from Existing Reviews

Numerous articles and books have focused on female juvenile offenders (e.g., Cauffman 2008; Miller et al. 2011; Sprott and Doob 2009; Zahn 2009; Zahn et al. 2010). In addition, an increasing number of Web sites offer advice for working with JJ girls (e.g., https://www.nttac.org/index.cfm?event=gsg.homepage). Further, there is extant work on sex differences in the risk threshold for adolescent delinquency that has compared boys and girls who vary in the extent to which they exhibit delinquent versus non-delinquent trajectories (e.g., Moffitt and Caspi 2001; Wong et al. 2013). This review differs from existing work in several ways. First, we focus exclusively on empirical studies of youths who have had police contact, have been adjudicated, and/or have been otherwise involved in the JJ system in the USA. We do not include the large body of research and intervention work about delinquent behaviors in adolescent community samples, aggressive/delinquent samples, or other high-risk samples of girls unless JJ involvement is specified (e.g., we therefore exclude work from Fontaine et al. 2009; Moffitt and Caspi 2001; Pepler et al. 2010). Although research with these at-risk delinquent populations is important and informative, elevated delinquency is common during adolescence for both males and females, and most youths who engage in delinquent or aggressive behavior during adolescence do not significantly harm others and do not enter the JJ system. In contrast, involvement in the JJ system incurs significant system-, individual-, and community-level costs. Further, it may have its own unique, cascading effects on future adjustment outcomes, and different risk and protective factor thresholds for delinquency may exist in samples that eventually end up in the JJ system versus samples that do not (Wong et al. 2013). Because of our emphasis on protective factors that *prevent* youths with known risk factors from JJ involvement, however, we extend our "risk factors" section of the review to include studies conducted during middle childhood with specified populations of girls who are at high risk for JJ involvement later in development (e.g., girls from high-risk neighborhoods, girls with child welfare involvement) to illustrate the protective effects of specific family and individual characteristics that can ameliorate exposure to risk. This is the only place in this review where such populations are included.

A second distinct aspect of this review is that we focus solely on interventions for JJ youths that have an underlying evidence base and have been evaluated using randomized controlled trials (RCTs). The large number of promising programs, quasi-experimental evaluations, and unevaluated programs are excluded from this review. We specify our definition for *evidence-based interventions* later in this review. Third, we draw direct links between the risk and protective factors described in the following section, and the intervention foci described in our review of evidence-based interventions for JJ youths. This approach negates the assumption that "girls have unique needs, and therefore unique interventions are needed." Rather, the emphasis is on research that examines risk and protective factors and outcomes and the application of that evidence to guide the development of service delivery models. In this way, the matter of male or female sex is not ignored, but the emphasis is placed on identifying individual risk and protective factors that may operate to a greater or lesser (or equal) extent for males and for females (cf., Wong et al. 2013), rather than a "unique needs, unique interventions" model.

Risk and Protective Factors During Early and Middle Childhood

In this section, we review risk factors and risk processes that increase the likelihood of girls' future involvement in the JJ system. In addition, we discuss protective factors that

offset the harmful effects of known risk factors, thereby facilitating resilience. As noted by Wong et al. (2013), examining risk factors for delinquency in the absence of protective/promotive factors can lead to biased results. Due to our focus on a population (JJ-involved girls) that has been exposed to early adversity and prior risk factors, our review emphasizes protective factors (rather than promotive factors). We adopt Rutter (2000) and Masten's (2001) description of protective factors, which suggests that resiliency can occur through ordinary processes involving the operation of basic human adaptational systems, even in the face of severe adversity. These adaptational systems include individual-level characteristics (e.g., cognitive functioning, sociability, self-efficacy), family-level characteristics (e.g., close relationships with caring adults, authoritative parenting), and extrafamilial characteristics (e.g., social support, effective schooling; Masten and Coatsworth 1998). Through these adaptational systems, interventions could enhance child resilience in several ways. First, compensatory effects could be attained if enough positive assets are directly added to the child's life to offset the adversity (Garmezy et al. 1984; Masten 2001). Second, resilience could be attained indirectly, through the targeting of mediating variables that are hypothesized to relate to the desired outcome.

We review the research evidence in three domains: family characteristics (maltreatment, parent criminality, parent–child relationships, caregiver transitions, and placement stability), contextual factors (peer relationships and neighborhoods), and individual characteristics (pubertal timing and early-onset delinquency). Research evidence in this section is drawn from two types of studies: (a) studies of girls involved in the JJ system in cases in which retrospective data or records data exist about risk and protective factors occurring earlier in development and (b) studies of high-risk girls in cases in which prospective data exist that link early risk and protective factors during middle childhood to delinquency-related outcomes later in development. These two approaches have distinct strengths and weaknesses and identify somewhat different populations of girls. For example, the first approach may miss girls who have high levels of delinquency, but have averted detection by and entry into the JJ system. In addition, this approach does not allow for a comparison to girls with serious risk factors who never come into contact with the JJ system due to the presence of protective factors. In contrast, the second approach captures a less homogenous population of girls, of whom only a subsample will ultimately end up in the JJ system. Such studies are better suited for identifying protective factors than the former approach, but may also identify a slightly different set of risk factors as a result of the sample composition. As noted in Wong et al. (2013), sample differences (adjudicated vs. at-risk) can yield different conclusions about sex differences in risk and protective factors for delinquency. Given the importance of both approaches for informing intervention development related to risk and protective factors, we review findings from both types of studies, but caution readers to attend to sampling differences because they may give rise to differential salience of any individual risk or protective factor.

Family Characteristics

Maltreatment

Exposure to maltreatment during childhood is a primary factor associated with involvement in the JJ system. Numerous studies of youths in the JJ system indicate that adolescent female offenders are more likely than their male counterparts to have been victims of sexual and/or physical abuse (e.g., Cauffman et al. 1998; Moore et al. 2013; Zahn et al. 2010). Moreover, among adjudicated girls and girls at risk for adjudication, those with a history of sexual abuse tend to have *more extreme* delinquency outcomes than those without a history of sexual abuse (Goodkind et al. 2006; Wareham and Dembo 2007). Further, studies consistently indicate that rates of childhood sexual and physical abuse are 3.5–10 times higher for girls in the JJ system than for boys (Johansson and Kempf-Leonard 2009; Leve and Chamberlain 2005a). Prospective longitudinal studies of at-risk samples provide additional confirmation of the association between maltreatment and JJ involvement. In a landmark prospective study of court cases of child abuse and neglect in children younger than age 12, Widom (1989) found that abused and neglected youths had higher rates of criminality and arrests for violent offenses between ages 16 and 32 than did control individuals who were matched on demographic characteristics (age, sex, race, and socioeconomic background of the family) but did not have a official record of abuse or neglect. Overall, girls who are exposed to child abuse or interparental violence are more than seven times as likely as control girls (selected from an age-matched community sample who had not been exposed to marital violence) to commit a violent act that is referred to JJ (Herrera and McCloskey 2001).

Parent Criminality

Prospective studies of at-risk girls and retrospective studies of girls in the JJ system suggest the relevance of specific parent and parenting qualities other than extreme forms of parenting (i.e., maltreatment) for increasing girls' risk for JJ involvement. For example, several studies indicate that parent criminality increases the likelihood of JJ involvement for daughters. A study of JJ-involved girls reported

that 61 % of girls had a parent or close family member who was involved with the criminal justice system (Lederman et al. 2004). Although most of the research on the association between parent criminality and youth involvement in the juvenile justice system has been with samples of males (e.g., Farrington 1989; Farrington et al. 2001), there is preliminary evidence that the association between parent criminality and youth involvement in the JJ system may be stronger for girls than for boys: Leve and Chamberlain (2005a) found that 70 % of girls in the JJ system had at least one parent who had been convicted of a crime; for JJ boys living in the same county, the rate was significantly lower at 41 %. The samples in this study were small, however, and additional research on samples with boys and girls is needed to more rigorously test whether parent criminality is as potent (or more potent) of a risk factor for girls as it is for boys.

The Parent–Child Relationship

Caregiver warmth during middle childhood may be a protective factor that helps at-risk girls avoid delinquent behaviors. Higher levels of maternal warmth reduced disruptive behavior and conduct problems in a sample of at-risk girls during middle childhood (Hipwell et al. 2008; van der Molen et al. 2011). Similar protective associations were found between parental warmth and decreases in delinquency over time in a JJ sample of girls (Williams and Steinberg 2011). Father warmth may also play a protective role; a study of JJ-involved girls indicated that the lowest levels of self-reported offending were present in girls who received high levels of paternal warmth combined with low amounts of encouragement of antisocial behavior from their romantic partner (Cauffman et al. 2008). On the other hand, harsh parenting/punishment is a risk factor not only associated with multiple mental health problems (including disruptive behavior and conduct problems) in at-risk girls, both concurrently and prospectively (Hipwell et al. 2008; Loeber et al. 2009; Miller et al. 2009), but also associated with delinquency in samples of JJ girls (Williams and Steinberg 2011). Finally, effective parental monitoring has been associated with longitudinal declines in delinquency in samples of JJ-involved girls (Williams and Steinberg 2011). Taken together, these studies suggest that warm, authoritative parenting may promote healthy adjustment among at-risk girls, making it ripe for consideration as an intervention target because of its potential buffering effects on engagement in delinquent, offending behaviors (Steinberg et al. 2006). The evidence-based interventions described later in this review further emphasize the importance of contingent, responsive parenting with respect to reducing delinquency in JJ-involved girls.

Caregiver Transitions and Placement Stability

Numerous studies highlight caregiver transitions during early and middle childhood as a key factor associated with girls' involvement in the JJ system. For example, a prospective study of girls in foster care examined placement changes (e.g., disruption from one foster home and placement in a new home) between ages 11 and 12 and found that these changes were associated with a cascade of delinquency-related problems 2 years later, including tobacco and marijuana use and early engagement in sexual activity (Kim et al. 2013). Participation in a parenting- and skill-building focused intervention helped increase placement stability and was associated with more positive behavioral outcomes for these at-risk girls. A second study of children in out-of-home care suggested that placement with non-kin foster parents was more likely to be associated with positive adjustment outcomes than placement in kinship care. In that study, longer length of time living with kin was related to greater involvement in risk behaviors, including delinquency, risky sexual behavior, substance use, and tickets/arrests (Taussig and Clyman 2011). In a third study, parenting disruptions were associated with delinquent behavior in a sample of children of substance-abusing parents (Keller et al. 2002). Although this effect was found for boys and for girls, only adolescent females had a higher likelihood of drug use as the number of family disruptions increased, which suggests greater associations between caregiver transitions and delinquency-related outcomes for at-risk girls than for boys. Similarly, retrospective studies of girls in the JJ system have indicated higher than population normative rates of foster care involvement; for example, a large study of consecutive female admissions to a short-term juvenile detention facility found that 20 % of girls were currently in foster care (Lederman et al. 2004).

Another aspect of placement stability is the youth's history of running away from home/their placement. Several retrospective studies of juvenile offenders have found that girls have higher rates of running away than do boys (Johansson and Kempf-Leonard 2009; Leve and Chamberlain 2005a). A primary reason for the high runaway rates is the experiences of maltreatment, as described in the maltreatment section above. For example, Lederman et al. (2004) report that maltreatment is associated with an increased likelihood that a girl will run away from home. In addition, having a history of running away increased the odds of serious, violent, and chronic offending in a sample of JJ-referred girls by 4.8 times, as compared with JJ-referred girls without prior runaway referrals (Johansson and Kempf-Leonard 2009). Thus, there is a high degree of co-occurrence in the risk factors of maltreatment, placement changes, and runaway behavior. The importance of

targeting youths who have had caregiver transitions (e.g., youths in foster care) to prevent entry into the JJ system is discussed in the intervention recommendations section later in this review.

Contextual Factors

Peer Relationships

Peer relationships are perhaps the most widely studied contextual correlate of adolescent delinquent behavior. Studies of JJ girls suggest two key aspects of peer relationships in this population: whom they choose as friends and how much their friends encourage delinquency. Regarding the first aspect, compared with a matched sample of girls who were not involved in the JJ system, girls involved in the JJ system were more likely to identify males as their closest friends (Solomon 2006). In that study, 35 % of JJ-involved girls identified a male as their closest friend, whereas only 5 % of non-JJ-involved girls identified a male. Several studies also indicate that JJ-involved girls tend to have romantic relationships with boys who are several years older. The Solomon study found that, of those JJ girls who reported having a male as their closest friend, 53 % of the time this male friend was at least 3 years older than they were. Conversely, girls with females as their closest friend and non-JJ-involved girls' rates of having friends at least 3 years older were 13 and 2 %, respectively. Moreover, a study of youths adjudicated for serious offenses indicated that girls were more likely than their male counterparts to date partners who were two or more years older (Cauffman et al. 2008). A third study indicated that more than one-third of girls in a JJ facility reported being sexually involved with someone more than 5 years their senior (Lederman et al. 2004). However, the precipitating factor related to offending behavior may not be the age of the partner, but the degree to which the partner encourages them to enlist in antisocial activity (Cauffman et al. 2008). The Solomon study further indicated that most girls in the JJ system reported engaging in delinquent activities with their closest friends; rates were 65 % for girls who had males as their closest friends, 56 % for girls who had females as their closest friends, and 5 % for matched community girls who were not in the JJ system.

On the positive spectrum of peer influences, prospective studies conducted with at-risk girls during middle childhood suggest that peers and positive social relationships can also help promote positive outcomes. One study of preadolescent boys and girls in foster care suggested that social support during middle childhood was associated with reduced risk behavior 6 years later (Taussig 2002). A second study of foster girls transitioning to middle school found that prosocial peer relations were associated with later decreased externalizing and internalizing problems, and prosocial peer relations were also increased through a preventive intervention (Kim and Leve 2011). Conversely, affiliation with problem-prone peers has been shown to be associated with disruptive behaviors in 7- to 8-year-old at-risk girls (Miller et al. 2009). Third, a study with 5- to 11-year-old girls with clinical-level externalizing problems indicated that an intervention focused on social problem solving, emotion regulation, and skill development for girls and positive relationship development for parents was associated with reductions in girls' problem behavior and improvements in parenting skills (Pepler et al. 2010). The centrality of peer and partner influences on girls' proclivity to engage in serious delinquency is highlighted in the intervention recommendations section later in this review.

Schools and Neighborhoods

School is another context in which positive outcomes for at-risk youths can be promoted. Among a sample of children with substantiated maltreatment reports for neglect, low rates of school behavior problems, good grades, and good attendance were associated with substantially reduced delinquent involvement (Zingraff et al. 1994). Overall, however, girls with JJ involvement have very poor academic performance, with an average GPA of 1.05, which is in the failing range (Lederman et al. 2004). The Lederman study indicated that for girls who had had more than one prior detention stay, GPAs were even lower at 0.65. Overall, research also indicates that neighborhoods with higher rates of poverty have greater numbers of arrests for property and personal crime (Steffensmeier and Haynie 2000). A prospective study of girls who experienced violent victimization such as being attacked with a weapon, beaten up, chased, shot at, or threatened with serious harm in the past year, as well as reports of past-year sexual assault, indicated that homicides and concentrated poverty in girls' neighborhoods also were associated with aggression by girls (Molnar et al. 2005), suggesting the dual influence of victimization and neighborhood context. The potential benefit of developing and testing school-based interventions to prevent entry into the JJ system is discussed later in our intervention recommendations section.

Individual Characteristics

Pubertal Timing

Numerous studies have documented that girls who experience pubertal maturation at an earlier age are at increased risk for a host of psychopathological outcomes during adolescence, including increased delinquency (Ge et al.

2011). The effects of early pubertal maturation on rates of delinquency are particularly pronounced when girls have elevated levels of behavioral problems (Ge et al. 1996). Early pubertal timing in girls is linked to family risk factors, such as maltreatment, that have known associations with later involvement in delinquency (as reviewed earlier in this review). For example, a study of maltreated girls indicated that sexual abuse was associated with earlier onset of puberty, whereas physical abuse was associated with more rapid tempo of pubertal development during early adolescence (Mendle et al. 2011). In addition, early pubertal timing is associated with many of the risky peer, neighborhood, and parenting processes described earlier in this section. For example, pubertal timing was correlated with affiliation with an older boyfriend (Mezzich et al. 1997), with risky sexual behavior (Mezzich et al. 1997), and with conflict with parents (Haynie 2003). Further, high-poverty neighborhoods amplified associations between early pubertal timing and delinquency/violent behavior (Obeidallah et al. 2004). In contrast, early pubertal maturation does not appear to be a risk factor for delinquency and JJ involvement for males (e.g., Graber et al. 2004). Together, the research on pubertal timing indicates that early-onset puberty may be a risk factor for girls' involvement in the JJ system but not for boys' involvement, and its effects may operate through downstream correlates, such as entry into sexual relationships with older boys, that can be directly targeted in intervention studies.

Early-Onset Delinquency

In both males and females, involvement in the JJ system at a younger age is associated with an increased likelihood of a subsequent criminal referral and return to juvenile detention (Lederman et al. 2004; Leve and Chamberlain 2004). For example, girls who had been detained previously were 13.8 years old at their first offense; age of first arrest for girls who had not been previously detained was 14.4 years old (Lederman et al. 2004). Prospective studies of at-risk girls similarly suggest that higher levels of problem behavior early in development are linked to increased behavior problems later in development. For example, in a prospective study of 7- to 12-year-old youths in foster care, initial levels of behavior problems were associated with risk outcomes 6 years later (Taussig 2002), and in a sample of girls in urban neighborhoods, externalizing symptoms at age 9 predicted increased psychopathology and reduced social competence during the transition to adolescence (Obradović and Hipwell 2010). Whether early-onset delinquency is simply a marker for people who are endowed with higher risk of serious and sustained criminality, or whether its effects are significant in that youth's life course trajectories are altered due to lost opportunities and relationships at an earlier age remains debatable (see Nagin and Farrington 1992, for a discussion of these issues); however, the identification of early-onset delinquency as a risk factor for entry and sustained involvement in the JJ system suggests the potential benefits of applying a preventive intervention approach to reducing initial involvement in the JJ system, as described later in one of our intervention recommendations.

Summary

A large body of research indicates that the following risk factors predict involvement in the JJ system, with factors that are more predictive for girls than for boys shown in italics: *maltreatment*, parent criminality, harsh parenting, poor parental monitoring, *caregiver transitions, runaways, older male friends and partners*, delinquent peer affiliations, school failure, neighborhood poverty, *early pubertal timing*, and early-onset delinquency. The vast majority of risk factors are relevant for both boys and girls, although studies typically do not conduct analyses to compare risk factors for boys versus girls. However, in no case is a contextual or familial risk factor for one sex and a protective factor for the other sex. A limitation of work in this area is that most studies are retrospective rather than prospective, thus limiting the knowledge base about protective factors that help prevent entry into the JJ system. The few prospective studies with at-risk populations identify parental warmth, prosocial peer affiliation, and school engagement as three protective processes for girls. Additional research about protective factors that uses longitudinal designs with at-risk populations of girls is needed to provide additional insights about resilience processes and to help guide the development of intervention programs aimed at preventing entry into the JJ system.

Characteristics of Girls in the JJ System

In this section, we turn our attention to characteristics of girls upon entry into the JJ system, with a focus on their mental health problems, substance use and abuse, and sexual and physical health problems. Girls in the JJ system typically have a high degree of co-occurring problems, which is not surprising given the risk factors they likely experienced earlier in development (reviewed in the previous section). Their rates of co-occurring mental health problems (and clinical diagnoses), drug use, risky sexual behavior, STD contraction, and physical health problems exceed population prevalence rates by a substantial margin. To be successful, interventions must not only target precipitating risk factors, but also consider constellations of

co-occurring behavior that might propel or sustain involvement in delinquent activities. In this section, we review three co-occurring problems common to girls in the JJ system: mental health problems, substance use and abuse, and sexual and physical health problems.

Mental Health

There is a clear pattern of elevated occurrence of mental health problems among girls in the JJ system. A study of consecutive female admissions to a juvenile detention facility indicated that 78 % of the study participants met diagnostic criteria for at least one mental health disorder described in the Diagnostic Interview Schedule for Children (DISC), and the sample average was three different disorders (Lederman et al. 2004). These rates are similar to those in an epidemiological study of juvenile detainees that also used the DISC (Abram et al. 2003; Teplin et al. 2002). In the Abram et al. (2003) study, 57 % of females met criteria for two or more disorders, whereas 46 % of males met criteria for two or more disorders. A third study using the DISC indicated that prevalence of disorder increased significantly with increasing JJ penetration (Wasserman et al. 2010). For example, the rate of at least one disorder was 15 % at system intake, 37 % for youths in detention, and 41 % for youths in secure post-adjudication settings.

Studies using alternate mental health measures report prevalence rates and sex differences similar to the DISC study rates, suggesting the robustness of the association between JJ involvement and mental health problems for girls in particular. For example, a study that used the Massachusetts Youth Screening Instrument (MAYSI; Grisso and Barnum 1998) and several other screening instruments with adolescent female offenders indicated that 63 % were depressed, 56 % were anxious, and 72 % reported clinical levels of substance use problems (Goldstein et al. 2003). A study of juvenile offenders in California compared the psychiatric profiles for males and females using the MMPI and found that females had more severe externalizing and internalizing profiles than males had (Espelage et al. 2003). Similarly, a large study of youths referred to a JJ court in Texas indicated that 30 % of females (vs. 15 % of males) had some form of mental health problems (Johansson and Kempf-Leonard 2009), and a large-scale study of JJ-referred youths indicated that girls were more likely than boys to exhibit internalizing as well as externalizing problems (Cauffman 2004). The Wasserman et al. (2010) study described earlier also revealed higher rates of internalizing disorders and disruptive behavior disorders for girls in the JJ system than for boys in the system. Thus, a significant body of research suggests that mental health problems appear to be more prevalent in female than in male JJ populations. Further, mental health problems increased the odds of subsequent serious, violent, and chronic offending in girls by 2.2 times relative to rates for JJ-referred girls without mental health problems (Johansson and Kempf-Leonard 2009), suggesting the potential value in intervening with this population. The importance of focusing on co-occurring delinquency and mental health problems is discussed in our research recommendations and in our intervention recommendations.

Substance Use

Alcohol, marijuana, and other illicit drug use are some of the most common problems among girls in the JJ system, with 6-month substance abuse disorder prevalence rates hovering around 50 % in a sample of females arrested and subsequently detained in a juvenile detention center in Illinois (Teplin et al. 2002). Further, 22 % of the girls in Teplin's sample had two or more substance use disorders (McClelland et al. 2004), indicating high comorbidity of multiple forms of substance use. The most common substance use disorders in the Teplin sample involved marijuana (41 %) and alcohol (25 %). Another study indicated that older girls, girls with higher levels of delinquency, and girls who use alcohol to get high have a significantly higher probability of marijuana use at entry into JJ systems (Dembo et al. 2009c), suggesting comorbidity between delinquency and substance use, and between alcohol and marijuana use. Substance use disorder rates may increase with deeper penetration into the JJ system. For example, a study of girls admitted to a "short-term" JJ facility indicated that, compared with the Teplin and the Dembo samples, a somewhat smaller percentage (34 %) of girls met clinical criteria for current alcohol, marijuana, or other substance abuse or dependence (Lederman et al. 2004). These rates are in marked contrast to the prevalence of alcohol and illicit drug use in population-based samples, where 11.9 % of 12–17-year-old females were identified as current drinkers, 8 % were illicit drug users, and only 5.2 % met criteria for substance use dependence or abuse (Substance Abuse and Mental Health Services Administration 2014).

In terms of sex differences in prevalence rates, one study indicated that rates are similar for "any substance use disorder" for males and for females (51 vs. 46 %, respectively; Teplin et al. 2002), although a study of juvenile court-referred youths in Texas indicated that "moderate to severe" substance abuse problems were more prevalent for males (Johansson and Kempf-Leonard 2009). However, comorbidity with mental health problems might be greater for JJ girls who have substance use problems: 29 % of females with substance use disorders in one study also had at least one major mental health disorder. The comorbidity rate was only 21 % for males (Abram et al.

2003). Together, the research in this area indicates that substance use is the most significant co-occurring problem for girls in the JJ system. As reviewed in detail later in this review, targeting co-occurring substance use and delinquency in JJ-involved girls may be an effective and necessary component of intervention programs with this population.

Risky Sexual Behavior and Other Physical Health Outcomes

Engagement in risky sexual behavior (e.g., intercourse without a condom, serial partnerships, intercourse with partners who inject drugs) is associated with substance use and is prevalent among girls in the JJ system. A study of girls in a short-term JJ facility indicated that 76 % were sexually active, with first sexual experiences occurring before age 14 (Lederman et al. 2004). Other studies of detained girls suggest high rates of sexually transmitted infections as evaluated during a physical examination, with 20 % testing positive in one study (Crosby et al. 2004) and 42 % testing positive in a second study (Odgers et al. 2010). This is not surprising, given that more than half of detained girls in one study reported having three or more sex partners, and 10 % reported trading sex for money during adolescence (Odgers et al. 2010). Another study of detained girls indicated that the average number of sex partners in the girl's lifetime was 8.8 (Crosby et al. 2004). Other samples of JJ girls report similarly high rates of risky sexual behavior and associations between risky sexual behavior and delinquent activity (Dembo et al. 2009b; Smith et al. 2006). In contrast, 48 % of a population-based sample of high school girls report ever having had sexual intercourse, and only 13 % report having four or more sexual partners in their lifetime (Kann et al. 2013).

JJ-involved girls' rates of risky sexual behavior increase significantly when accompanied by co-occurring substance use disorders, with one study indicating that 96 % of those with substance use disorders had been sexually active, 62 % had had multiple sex partners in the past 3 months, and 59 % had had unprotected sex in the past month (Teplin et al. 2005). Compared with JJ-involved boys, girls in the JJ system tend to have higher rates of STDs, as documented in at least four separate studies (Biswas and Vaughn 2011; Canterbury et al. 1995; Dembo et al. 2009a; Kelly et al. 2000). Other studies indicate that JJ-involved girls are more likely than JJ-involved boys to have unprotected sex, to have sex with high-risk partners, and to trade sex for money (Teplin et al. 2003). Given that one study showed that 66 % of girls who tested positive for an STD were released back into the community (diversion or non-secure home detention) after arrest (Dembo et al. 2009a), girls' engagement in risky sexual behavior constitutes a serious public health concern in need of intervention services; we address this need in one of our intervention recommendations.

Although not as widely studied as the sexual health outcomes described in this section, the co-occurrence of mental health and physical health problems, particularly among at-risk populations such as JJ-involved youths, is receiving increasing attention. Several studies indicate that girls in the JJ system have poor physical health, including injuries and obesity, possibly as a result of growing up in a risky family context. A study of girls detained in a correctional facility demonstrated very high rates of injuries, with 72 % of the sample having engaged in injury-risk behaviors, such as having a vehicle accident, driving which drunk, carrying a gun, or having an injury that could have caused death, and 61 % having had a serious physical injury (e.g., fracture, head injury, stab wound, blunt trauma) during adolescence (Odgers et al. 2010). The girls were also at elevated risk for cardiovascular and respiratory illnesses, with 57 % classified as obese or overweight on the basis of body mass index and more than 30 % found to have asthma (Odgers et al. 2010). Some of these health afflictions may be associated with family histories, with 55 % of the sample having a family history of diabetes and 25 % having a family history of heart disease (Odgers et al. 2010). The prevention of co-occurring physical health problems is a relatively neglected area of research that could be targeted in future intervention studies and yield significant public health cost savings.

Summary

Girls in the JJ system suffer from an array of co-occurring problems that span emotional, behavioral, and physical health realms. Their rates of co-occurring mental health problems (and clinical diagnoses), drug use, risky sexual behavior, contraction of sexually transmitted infections, and physical health problems exceed population prevalence rates by a substantial margin. In addition, co-occurring mental health problems and risky sexual behaviors among girls in the JJ system tend to have higher prevalence rates than those of their male counterparts. It is unknown *why* girls suffer more from co-occurring mental health problems and sexual misconduct, although this sex difference may be connected to the sex difference in relationship-based risk factors described earlier in this review (e.g., maltreatment and sexual abuse in particular). Although the problem of co-occurrence is increasingly acknowledged by clinicians and service providers, interventions targeting female offenders often do not consider the full spectrum of co-occurring problems or the effects of treating one problem behavior on the rates or symptomatology of another problem behavior. As such, greater consideration of

multiple domains of poor outcomes could help inform the development of specific intervention services for JJ-involved girls.

Young Adult Outcomes

In this section, we focus on young adulthood and examine adjustment outcomes for girls who were involved in the JJ system during adolescence. Despite the increasing attention paid to female juvenile offenders in recent years, surprisingly few studies have systematically examined outcomes into young adulthood (Cernkovich et al. 2008; Henneberger et al. 2014; Odgers et al. 2010). Given their at-risk characteristics described previously, many of these young women are ill prepared to meet the demands and responsibilities of adult roles (Bright and Jonson-Reid 2010; Cauffman 2008). We examine six areas that are directly related to health disparities for young women themselves, as well as for their offspring: delinquency/incarceration, substance use, early pregnancy and associated outcomes, victimization, schooling and associated outcomes, and mental and physical health.

Delinquency/Incarceration

Although systematic research about recidivism in female juvenile offenders is very limited, recent evidence suggests that these females are likely to continue to offend in adulthood (Bright and Jonson-Reid 2010; Cauffman 2008; Giordano et al. 2004; Henneberger et al. 2014; Odgers et al. 2007). For instance, Benda et al. (2001) found that approximately 75 % of the girls who were released from Arkansas's serious offender programs had entered the state's adult correctional system within the following 2 years. Similarly, in a prospective study of youths released from New York state juvenile correctional facilities, Colman et al. (2009) found that 81 % of the girls had been arrested on adult charges at least once, 69 % were convicted, and 32 % were incarcerated as an adult by age 28. Further, 69 % of these girls were arrested on more than one occasion ($M = 5.95$ arrests). Felony-related charges were most common, with 63 % of girls having at least one felony offense in adulthood (Colman et al. 2009; Colman et al. 2010). In comparison, Colman et al. (2010) reported that in a sample of age-matched boys who were discharged from New York state juvenile correctional facilities, 89 % of the JJ-involved boys were arrested on adult charges at least once, 83 % of the boys who recidivated were arrested more than once ($M = 8.97$ arrests), 85 % were convicted, and 71 % were incarcerated by age 28 (Colman et al. 2010). Although the JJ-involved girls showed statistically lower rates of recidivism than did the JJ-involved boys, the girls' reentry in the criminal justice system as young adults remains extremely high (Colman et al. 2010). However, growing evidence also suggests that there may be significant heterogeneity in females' offending patterns during young adulthood (Bright et al. 2014; Henneberger et al. 2014; Odgers et al. 2007). For instance, Colman et al. (2009) found that although 32 % of girls in their study were rare/non-offenders as adults (with 82 % of girls in this group being arrest free from age 21 and forward), 14 % of the sample had a recidivist trajectory (either a low-rising or high-chronic trajectory). Further, 54 % of the sample was low-chronic offenders. Girls on the low-chronic, low-rising, and high-chronic trajectories were arrested 4.7, 13.1, and 18.1 times on average during the 12-year study period, respectively, and those in the low-rising and high-chronic trajectories were responsible for 45 % of all adult arrests recorded during the same study period. Bright et al. (2014) have also found that there are subgroups of JJ-involved girls with distinctive at-risk profiles (examined based on 10 risk factors such as history of child maltreatment, ethnicity, and history of JJ intervention) and that these subgroups of girls are associated with different young adult outcomes. Of the five subgroups identified, the group characterized by no maltreatment history in childhood, high levels of poverty, and entirely African American living in poor urban contexts was most likely to be involved in the adult criminal justice system (14.7 %) and receive TANF (26.7 %). Interestingly, another subgroup with similar characteristics except for residing in less poor neighborhoods showed lower levels of adult criminal justice system involvement (8.8 %) and TANF receipt (10.5 %) than did the subgroup mentioned above. In another study, Odgers et al. (2007) found three subgroups of JJ-involved girls with different profiles characterized by violence and delinquent, delinquent only, and low offending patterns. When using a similar approach to group JJ-involved girls into violence and delinquent, delinquent only, and low offending subgroups, Henneberger et al. (2014) found that girls in the violent and delinquent subgroup showed significantly higher rates of recidivism, internalizing psychopathology, and physical discomfort as young adults than the delinquent only subgroup. Taken together, these findings suggest that although a considerable proportion of delinquent girls may desist from criminal activity by early adulthood, the vast majority of the girls involved in the JJ system are likely to continue to be involved in the adult criminal justice system as young adults (Colman et al. 2009), thereby contributing significantly to correctional system costs. Later in this review, we emphasize the need for the development of booster interventions during the transition out of the JJ system and into young adulthood.

Substance Use

Surprisingly very few studies have examined substance use behaviors into adulthood for girls involved in JJ, although substance use is the most common problem among JJ-involved girls as mentioned above. The limited available evidence suggests that these girls are likely to face continued problems with substance use dependence issues. A long-term, follow-up study of JJ-involved girls indicated that approximately 40 % were using marijuana and about one-third were using other illicit drugs as a young adult (Leve et al. 2013). In a qualitative study of female juvenile offenders, Bright and Jonson-Reid (2010) also found that substance use is a contributing factor to criminality in young adulthood: Of the nine females interviewed in the study, five reported engagement in criminal activities to procure illicit drugs, such as prostitution, theft, and robbery. In a second study, Brown (2006) interviewed females who were on parole in Hawaii and found that a majority were experiencing significant substance use problems: more than two-thirds of the sample experienced disruption of their lives as a result of alcohol use and more than one-third required alcohol dependence treatment. Family context, particularly intimate relationships, appears to be particularly salient for substance use in female juvenile offenders; both studies suggested that many of the females were introduced to and became involved in illicit substances through significant others in their lives (Bright et al. 2011; Brown 2006). All the women who were struggling with substance use problems in Bright et al.' study (2010) indicated a close link between their substance use and either their intimate partner's or a family member's drug use. This pattern replicates the associations reviewed in the first section of this review, in that the influence of peers, romantic partners, and parents appear to be key factors associated with girls' initial involvement in the JJ system and their continued engagement in problem behavior (substance use) in adulthood.

Early Pregnancy, Parenting, and Child Welfare System Involvement

Female juvenile offenders tend to have children at a young age, and premature childrearing can be particularly challenging for those with limited social, emotional, and financial support networks (Cauffman 2008). A combination of socioeconomic disadvantages and a lack of support systems may lead to compromised parenting skills in many females with a history of JJ system involvement (Cauffman 2008). For instance, Leve et al. (2013) found that approximately one-quarter of the JJ-involved girls in the sample were involved in the child welfare system as young parents, for neglectful or maltreating parenting of their own children. In a qualitative study of females with a history of JJ involvement, Bright and Jonson-Reid (2010) also found that seven of the nine females interviewed became mothers during adolescence and early adulthood. Furthermore, Colman et al. (2010) found that 62 % of the girls who had been released from JJ facilities were investigated by child protective services (CPS) at least once as an alleged perpetrator of abuse and neglect before age 28. Further, 42 % of them had a confirmed case of perpetration of child maltreatment and 68 % of those investigated were named in two or more cases during the 12-year study period, with a mean of 3.95 investigations per study female. Similarly, Brown (2006) found that almost 50 % of the mothers who were on parole had been involved with CPS, supporting the argument that many female juvenile offenders are at increased risk for placing their children in vicious cycles of system involvement and health disparities. These cyclical intergenerational effects appear to be more pronounced in females; a study by Colman et al. (2010) found that girls were approximately 3.5 times more likely than their male counterparts to be identified as a perpetrator of child abuse and neglect during young adulthood. These findings underscore the potential benefit of conducting booster interventions as girls transition out of the JJ system, to prevent some of the negative outcomes described in this review.

Victimization

Many female juvenile offenders appear to continue to experience victimization as young adults, potentially contributing to the mental health and substance use outcomes described elsewhere in this section (Oudekerk and Reppucci 2010). In a 2-year follow-up study of female juvenile offenders who were initially recruited while incarcerated in a correctional facility, Odgers et al. (2010) found that more than 90 % had experienced at least one form of abuse or exposure to domestic violence during childhood and 80 % of the sample continued to experience victimization (e.g., kicked, bit, attacked with a fist, attacked with a weapon) in adolescence and young adulthood. Furthermore, more than 80 % of the sample reported exposure to serious forms of violence (e.g., seeing someone get stabbed or shot) in their home, school, or neighborhood. In addition, female juvenile offenders appear to be particularly vulnerable for partner violence in young adulthood (Cauffman 2008; Odgers et al. 2010). Odgers et al. (2010) found that almost two-thirds of a sample of female juvenile offenders reported having been victimized by their romantic partners in young adulthood (Odgers et al. 2010). Further, these young women also perpetrate violence against their partners and others (Cauffman 2008). The potential relevance of intervening to prevent partner violence is discussed in one of our intervention recommendations.

School, Employment, and Independent Living

Juvenile offenders are at high risk for academic failure and poor academic outcomes compared with their non-delinquent peers (Moffitt et al. 2002; Siennick and Staff 2008). Contact with the JJ system may have lasting adverse effects on education and subsequent employment as adults (Chung et al. 2005). In general, only 12 % of youths who were involved in JJ systems received their high school diploma or GED as young adults (National Center for Education Statistics 2001). Giordano et al. (2004) found that only 16.8 % of the incarcerated females in one study graduated from high school (Giordano et al. 2004). More recently, Henneberger et al. (2014) found that 62 % of the incarcerated girls (71 out of 114) had an education level lower than high school. Such poor academic attainment is linked to a range of problems during adulthood, including low occupational status, more frequent job changes, and heavy reliance on welfare (Cauffman 2008). Bright and Jonson-Reid (2010) found that 21 % (149 out of 700) of the female juvenile offenders in their sample reported having had at least one spell of Temporary Assistance for Needy Families (TANF), with the first TANF spell occurring approximately 5 years after the first juvenile petition. Such financial difficulties may be related to continued involvement in criminal activities in young adulthood (Giordano et al. 2004). Because academic achievement and stable employment are closely linked to subsequent adult adjustment, poor adjustment in this domain during young adulthood is likely to perpetuate involvement in multiple public systems among females with a history of JJ involvement, suggesting the need for booster intervention services into young adulthood for JJ-involved girls.

Mental and Physical Health

As described previously, co-occurring mental health problems are common to female juvenile offenders. Serious mental illness (e.g., schizophrenia), affective disorders (e.g., major depressive disorder), personality disorders (e.g., borderline personality disorder), post-traumatic stress syndrome, substance dependence disorders, eating disorders, suicide risk, and self-injurious behaviors documented during adolescence (e.g., Teplin et al. 2002) are likely to continue to challenge this population into young adulthood (Bright et al. 2014). However, research about the unique needs of this population is seriously limited. In the only study we were able to identify that examined the mental health of females following juvenile detention, Teplin and colleagues (Teplin et al. 2012) found that, 5 years after baseline, nearly 30 % of females had one or more psychiatric disorders with associated impairment. Females had higher rates of depression than did males and lower rates of substance use disorders. In a separate study, the research team followed the youths for as many as 16 years and found that JJ-involved females died violently at nearly five times the rate of the general population, and their overall death rates, regardless of cause, were nine times higher than that of the general population (Teplin et al. 2014). The causes of these evaluated death rates appear to be multifaceted. Odgers et al. (2010) found that 40 % of the female juvenile offenders engaged in injury-risk behaviors (e.g., vehicle accident, driving while intoxicated, carrying a gun) as young adults and approximately 20 % reported attempted suicide. Overall, about one-quarter the sample had been hospitalized for an accident or injury since their release from custody (Odgers et al. 2010).

Summary

In spite of the growing evidence base about risk factors and characteristics of girls in the JJ system, our review of the research on female juvenile offenders' young adult outcomes indicates that very little is known about this vulnerable subpopulation's adjustment during the transition to young adulthood, in young adulthood, and beyond. This period is known to be challenging to individuals in general, with prevalence rates of several health-risking behaviors (e.g., substance use and unprotected sex) reaching their peak (Arnett 2000). In the face of limited social support networks and resources, such difficulties are likely to play a key role in continued offending behaviors and other associated problems among females with a history of JJ involvement. Accordingly, evidence suggests that the problems in adolescence tend to persist into young adulthood. Specifically, these young women have high rates of recidivism, substance use, child welfare system involvement, continued victimization, low educational attainment, poverty, and mental and physical health problems, including elevated death rates. Their rates of involvement in the child welfare system for maltreatment concerns about their parenting are higher than rates for their male counterparts. This evidence, albeit limited, suggests the significance of family context (e.g., intimate partners or other family members) in the continuity and onset of problem behaviors among female juvenile offenders in young adulthood. Contrary to male offenders, for whom adult responsibilities such as marriage and child rearing have been known to serve as a turning point and render desistance from crimes, female offenders' partnering has been linked to increases in drug use and crime (Brown 2006; Cauffman 2008). Moreover, continued involvement in the justice system, early pregnancy and child rearing, inadequate parenting, violent relationships, chronic health-risking behaviors, and other related mental health problems aggregate to significantly increase odds that their children

will follow their vulnerable paths. These findings accentuate the need to better understand and develop more effective support for this vulnerable group in young adulthood, as proposed in one of the intervention recommendations described later in this review.

Evidence-Based Interventions for Youths Involved in the Juvenile Justice System

The research reviewed thus far indicates a core set of risk and protective factors associated with entry into the JJ system that generally overlaps for males and females. Although some risks may be more prevalent for girls than for boys, particularly those that are relationship oriented (e.g., maltreatment, caregiver transitions, older male friends and partners), all of the familial and contextual factors identified in this review nevertheless constitute "risks" for both boys and girls. The key topic for this section of the review is the question of whether sex-specific intervention models are needed, in view of the great overlap in risk factors between boys and girls. Specifically, "what works" for reducing the criminal behavior of girls referred by the JJ system, and is it different than "what works" for boys?

Unfortunately, no research-based study has been conducted to address this question directly. We could not locate a single RCT that specifically tested (and was adequately powered to test) whether JJ-involved boys and girls have better outcomes when they receive sex-specific services. Because of the dearth of evidence-based practices (EBPs) conducted specifically with JJ-involved girls, we therefore focus our review in this section on EBPs that have been *tested in both male and female JJ samples using RCT designs*. We then synthesize the results of these EBPs to offer our perspective about "what works" for girls.

We define EBPs as "… those clinical and administrative practices that have been proven to consistently produce specific intended results. These practices have been studied in both research settings such as controlled, clinical trials, and in real-world environments…" (Morris et al. 2010, p. 15). While quasi-experimental designs also provide useful information, we chose to restrict our review to EBPs using RCT designs because the majority of "evidence-based practice" lists now require that interventions have to have been examined using an RCT design. To identify relevant EBPs in this area, we conducted several types of searches, including PsycInfo and ProQuest Social Science Journals database searches (with *delinquency*, *girl*, *female*, *JJ*, or *intervention* as key words) and Internet searches of evidence-based practice Web sites. We also consulted key source references (e.g., OJJDP Girls Study Group Web site, http://www.ojjdp.gov/programs/girlsdelinquency.html) and key researchers in the field to verify that we were not overlooking key EBPs. We excluded intervention trials conducted in non-US countries, even though some were EBPs, because the JJ system in the USA differs in substantial ways from parallel systems in other countries.

Currently, it is estimated that EBP intervention models are being implemented for only a fraction of the eligible population of boys and girls who are juvenile offenders in the USA. This means that the vast majority of youths in US JJ systems are receiving programs and services that have little empirical support or that have been shown to actually exacerbate antisocial behavior (Greenwood 2008). These mainstream, commonly implemented approaches include services such as processing by the JJ system (e.g., probation: Petrosino et al. 2010), juvenile transfer laws (Redding 2010), surveillance (Howell 2003), shock incarceration (Greenwood 2007), boot camps (Szalavitz 2006), and residential and group home placements (Ryan and Testa 2005). As experts consider developing effective services for girls within these systems, it will be critical to consider the current backdrop of community resources, to build on the strongest models, and to avoid those that have demonstrated iatrogenic effects.

Our search identified three EBP models that have served boys and girls in the JJ system: Functional Family Therapy (FFT), Multisystemic Therapy (MST), and Treatment Foster Care Oregon (TFCO; formerly known as Multidimensional Treatment Foster Care [MTFC]). In addition, we included a fourth model, Multidimensional Family Therapy (MDFT). MDFT is an EBP that was originally developed to treat youths referred because of substance use. We included the model because a significant portion of the youths enrolled in the MDFT studies had been referred from the JJ system (consistent with the review of co-occurring problems presented in the Characteristics of Girls in the JJ System section of this review) and because both boys and girls are represented in the MDFT studies.

All four intervention models have been evaluated in numerous studies using "gold standard" randomized, controlled designs. FFT, MST, and TFCO were first identified as meeting criteria for being evidence-based by the Blueprints for Violence Prevention Initiative (Elliott 1998; http://www.colorado.edu/cspv/blueprints/; now called Blueprints for Healthy Youth Development) that reviewed more than 900 programs and designated these three as being effective for treatment of juvenile delinquency. They were subsequently included in the US Surgeon General's report on youth violence (U.S. Department of Health and Human Services 2000) and on best practices Web sites, including Social Programs That Work, Coalition for Evidence-Based Policy (www.evidencebasedprograms.org), California Evidence-based Clearing House for Child Welfare (http://www.cebc4cw.org/), and

the National Registry of Evidence-Based Programs and Practices (www.NREPP). These models have also been evaluated in several meta-analyses (Drake et al. 2009; Lipsey 2009), in journal reviews (Eyberg et al. 2008), and in books about EBPs (Greenwood 2007; Howell 2003). Beyond evaluations of immediate effectiveness, numerous follow-up studies have examined the long-term outcomes of these models. All these models have included both boys and girls in their studies. However, as expected because of the lower proportion of females relative to males served by the JJ system, girls represent a minority of the participants, averaging about 24.5 % of those enrolled in the RCTs conducted with these models. This proportion is less than the estimated prevalence of females in the US JJ population in general (i.e., 29 %), so it is clear that girls have been somewhat underrepresented in intervention research. Of these EBP models, only TFCO has conducted studies with female-only samples; as such, we will describe TFCO in this review separately from the other three EBPs.

During the past decade, these four EBPs have had an increased presence in routine care of youths in JJ. Recent surveys indicate that approximately 9 % of youths per year in the USA are served by one of these four EBP models, or about 15,000 of 160,000 JJ-involved youths (Henggeler and Schoenwald 2011). This speaks not only to the feasibility of implementing research-based programs in community settings, but also to the need to expand the reach of these effective programs and to develop new implementation models; both of these points are addressed in the section on research and intervention recommendations. Hopefully, new research-based intervention models will address the gaps in prior studies, including the underrepresentation of females. However, we argue that new models should build upon previous work rather than start from scratch to develop new interventions for girls. As is reviewed later, there is a wealth of positive outcomes across the four EBPs reviewed here; it would be unwise to ignore the tried-and-true evidence base and start anew to design new programs. A positive sign for future work is that the four evidence-based models share several areas of focus and use many similar intervention methods. Clearly, potentially valuable lessons can be learned from previous work that can provide the basis for expanded and improved services in the next generation of effective interventions for girls. Before discussing the common features of these models, we address the issue of their relevance to interventions for girls.

Is the Knowledge Gained from Mixed-Sex Intervention Studies Relevant for Girls?

During the 1980s, the consensus in the field of JJ treatment was that "nothing worked" (e.g., Lipton et al. 1975). At that time, previous research had not supported the effectiveness of treatments for juvenile offenders of either sex. It is now well accepted that during the ensuing 30 years, effective interventions have been developed and validated, but the conclusions that can be drawn about the effectiveness of these interventions specifically for females are less clear. Previous reviews have disregarded these studies because the interventions were not designed specifically for girls, and girls were the minority of the participants. In this review, we take a different approach and include all studies of EBPs that enrolled youths referred by JJ systems, including at least some proportion of females.

Table 1 shows information about the mixed-sex studies conducted using the FFT, MST, and MDFT models, the sample sizes, and the proportion of girls they enrolled. Within each intervention, we have ordered the table by publication date. As noted in the table, more than 800 girls have participated in RCT studies testing these interventions. There have been documented reductions in criminal offending by both sexes. Sex-specific treatment effects were neither found nor reported across any of these studies, and girls did no better or worse than did boys on outcomes in any single study, with the exception of Asscher et al. (2013) who reported larger effects for boys than girls on hostility outcomes following MST. Does this prove that these three EBPs are generally equally effective for males and for females? No, and considering the lower level of statistical power available to detect intervention effects for females given their minority status in any single study, it is difficult to draw any firm conclusions about the effectiveness of EBPs on key outcomes for girls. Further, these studies were not designed to test the question of whether the intervention was as effective for girls as it was for boys. But taken as a body of work and because collectively more than 900 girls have participated in these three RCTs, we argue that prior studies from the past 30 years provide valuable insight into the elements needed to develop and implement effective EBPs for girls. This logic is bolstered by findings from the TFCO studies that focused solely on girls, as described later in this section.

Brief Description of EBP Models and Outcomes

Functional Family Therapy

Functional Family Therapy (FFT; Alexander and Parsons 1982) is a family-based treatment that emphasizes family engagement and systems interventions. In FFT, the presenting problem of the youth is viewed as a symptom of dysfunctional family relations, consistent with some of the family risk factor research reviewed earlier. Therefore, interventions are aimed at establishing and maintaining new and more functional patterns of family behavior to

Table 1 Juvenile justice-involved females treated in evidence-based models

Study	Intervention	Population	Sample *N*	Girls (%)	Outcomes
Parsons and Alexander (1973)	FFT	Juvenile offenders	40	55	↑ Family interactions
Waldron et al. (2001)	FFT	Substance-abusing adolescents	120	20	↓ Substance use
Sexton and Turner (2011)	FFT	Juvenile offenders	917	21	↓ Behavioral problems ↓ Recidivism
Henggeler et al. (1986)	MST	Juvenile offenders	116	16	↑ Family relations ↓ Behavioral and emotional problems ↓ Association with deviant peers
Henggeler et al. (1993)[a]	MST	2.5-Year follow-up of Henggeler et al. (1986)	84	23	↓ Recidivism
Borduin et al. (1995)	MST	Violent and chronic juvenile offenders	200	32.5	↑ Family relations ↓ Psychiatric symptomatology for parents ↓ Recidivism
Henggeler et al. (1997)	MST	Violent juvenile offenders	155	18	↓ Youth psychiatric symptomatology ↓ Incarceration ↓ Recidivism
Henggeler et al. (1999)	MST	Substanceuse/abusing delinquents	118	21	↓ Drug use post-treatment ↓ Days in out-of-home settings ↓ Criminal arrests
Henggeler et al. (2002)[a]	MST	4-Year follow-up of Henggeler et al. (1999)	80	17	↓ Violent crime ↑ Marijuana abstinence
Schaeffer and Borduin (2005)[a]	MST	4-Year follow-up of Henggeler et al. (1999)	176	31	↓ Youth behavior problems ↓ Re-arrests ↓ Days incarcerated
Timmons-Mitchell et al. (2006)	MST	Juvenile justice youths	93	22	↑ Youth functioning ↓ Substance use problems ↑ School functioning ↓ Re-arrests
Borduin et al. (2009)	MST	Juvenile sexual offenders	48	4	↓ Problem behaviors and symptoms ↑ Family relations, peer relations, academic performance ↓ Caregiver stress ↓ Sex offender recidivism ↓ Recidivism for other crimes ↓ Days incarcerated
Letourneau et al. (2009)	MST	Juvenile sexual offenders	127	2	↓ Sexual behavior problems ↓ Delinquency, substance use, externalizing symptoms ↓ Out-of-home placement
Glisson et al. (2010)	MST	Juvenile justice youths	615	31	↓ Out-of-home placement
Butler et al. (2011)	MST	Juvenile Justice youth	108	17.6	↓ Non-violent offending at 18-month follow-up ↓ Youth self-report of delinquency across BL thru 18-month follow-up ↓ Parent reports of aggressive and delinquent behavior across BL thru 18-month follow-up
Asscher et al. (2013)	MST	Adolescents referred by public agencies	256	26.6	↓ Youth externalizing behavior, ODD, CD, and property offenses ↓ Youth hostility ↑ Personal failure ↑ Associations with prosocial peers

Table 1 continued

Study	Intervention	Population	Sample *N*	Girls (%)	Outcomes
					↑ Parental sense of competence
					↑ Parental report and observer ratings of relationship quality
					↓ Observer rated inept discipline
Weiss et al. (2013)	MST	Adolescents who were in self-contained behavior intervention classrooms	164	17	↓ Parent report and adolescent report of externalizing behavior
					↓ The number of absent days in school
					↓ Permissive parenting behavior
					↓ Parental internalizing psychology
Liddle et al. (2001)	MDFT	Adolescent drug abusers	182	20	↑ Family functioning
					↑ Prosocial behaviors
					↓ Drug use
Liddle et al. (2004)	MDFT	Adolescent substance abusers	80	27.5	↓ Substance use
Liddle et al. (2008)	MDFT	Adolescent drug abusers	224	19	↓ Marijuana use
					↓ Alcohol use
Liddle et al. (2009)	MDFT	Adolescent substance abusers	83	26	↓ Substance abuse
					↓ Delinquency, internalized distress
					↓ Risk in family, peer, school domains
Rigter et al. (2013)	MDFT	Adolescents with Cannabis use disorder	450	14	↑ Treatment retention
					↓ Cannabis dependence
					↓ The number of cannabis consumption days
Rowe et al. (2013)					↓ Substance use frequency
					↓ Cannabis dependence diagnoses
Schaub et al. (2014)					↓ Adolescent self-reported externalizing problems
Dakof et al. (2015)	MDFT	Juvenile Justice youths	112	12	↑ Maintenance of treatment gains for externalizing behavior, commission of serious crimes, and felony arrests at 24-month follow-up

[a] Follow-up study

replace the dysfunctional ones. In addition, FFT integrates behavioral (e.g., communication training) and cognitive behavioral interventions (e.g., assertiveness training, anger management) into treatment protocols. There is a strong emphasis on family engagement. FFT uses a phase-based model with initial emphases on engaging and motivating family members, followed by extensive efforts at individual- and family-level behavior change, and concluding with interventions to sustain such behavior change. FFT also has intensive training protocols for therapists and a well-developed system for monitoring model adherence and maintaining program standards.

As shown in Table 1, three FFT outcome studies, including both RCTs and a quasi-experimental study, have been published with girls with JJ involvement. Participants in these studies have included an estimated 240 girls comprising approximately 22 % of their samples. Samples include youths ranging from those with status offenses to those presenting serious antisocial behavior. Most of the evaluations of the FFT model have demonstrated decreases in antisocial behavior for youths in the FFT conditions. During the past decade, FFT has become one of the most widely transported evidence-based family therapies, with 270 programs worldwide treating more than 17,500 youths and their families annually.

Multisystemic Therapy

Multisystemic Therapy (MST; Henggeler et al. 2009) is a community- and family-based treatment that focuses on youths with serious problems with delinquency who are at risk for out-of-home placement, including those with violent behavior, sexual offenders, and substance-abusing juvenile offenders. MST has been evaluated extensively in terms of both immediate impact and long-term results, with some published studies that have examined outcomes

22 years post-intervention. An estimated 468 girls have participated in the MST RCTs and comprised approximately 23 % of the study samples.

MST is a family therapy approach informed by Bronfenbrenner's theory of social ecology (1979), in which youths are viewed as being nested within multiple systems (e.g., family, peer, school, neighborhood) that have direct (e.g., parenting practices) and indirect effects (e.g., neighborhoods) on the development and maintenance of conduct problems that are considered to be multiply determined. The family is considered to be the most powerful agent of change, and, consistent with the risk and protective factor research reviewed earlier, MST studies have shown that improved family functioning and decreased association with deviant peers are critical processes for producing favorable outcomes for juvenile offenders. Interventionists have small caseloads (from three to five families) and have multiple contacts with parents and the youth each week. These contacts take place in the family's home and in the community. MST is a home-based intervention model. The motto of MST is "whatever it takes," and this includes providing the family and youth with a range of services and supports, including family budgeting, getting neighbors on board to help monitor the youth, and mobilizing diverse community supports. MST therapists are intensively trained and supervised using a well-defined strategy for analyzing the youth and family behavior, including generating testable hypotheses about what drives the behavior, what reinforces it, and what the opportunities are for modifying maladaptive patterns. MST treatment is intensive and short term, averaging 16 weeks.

As seen in Table 1, RCTs of the MST intervention have generated an impressive array of outcomes in multiple key areas, including reduced juvenile offending rates, improved family relations, reduced substance use, reduced out-of-home placements, and reduced mental health problems, compared with youths and families in the control condition. Further, multiple long-term follow-up studies show that these changes are enduring and meaningful over time. Therefore, although the MST intervention has not focused exclusively on females, there is substantial evidence to suggest that this intervention is applicable and beneficial to females.

Multidimensional Family Therapy

Multidimensional Family Therapy (MDFT; Liddle et al. 2004) is a multiple systems-oriented treatment that is integrative and family-based and was originally developed for adolescent drug abuse and related behavior problems (Liddle 2002). As reviewed earlier, co-occurring problems with substance use are prevalent in females in JJ samples. MDFT studies have enrolled approximately 199 girls (18 % of the study populations). Several versions of the approach are used in various settings, including office-based, in-home, brief, intensive outpatient, day treatment, and residential treatment settings (Liddle et al. 2005). MDFT is typically delivered from one to three times per week during the course of 3–6 months, depending on the treatment setting and the severity of adolescent problems and family functioning. Regardless of the version, therapists work simultaneously in four interdependent treatment domains according to the particular risk and protection profile of the adolescent and family, consistent with the research reviewed in the first section of this review. The *adolescent domain* helps teens engage in treatment, communicate and relate effectively with parents and other adults, and develop social competence and alternative behaviors to drug use. The *parent domain* engages parents in therapy, increases their behavioral and emotional involvement with the adolescents, and improves parental monitoring and limit setting. The *family interactional domain* focuses on decreasing conflict and improving emotional attachments and patterns of communication and problem solving by using multiparticipant family sessions. The *extrafamilial domain* fosters family competency and collaborative involvement in the social systems the teen participates in (e.g., school, JJ, recreational). Throughout treatment, therapists meet alone with the adolescent, alone with the parent(s), or together with the adolescent and parent(s), depending on the treatment domain and specific problem being addressed. Results from outcome studies show reductions in rates of substance use and delinquency and improved family functioning and school outcomes.

Treatment Foster Care Oregon

Treatment Foster Care Oregon (TFCO) is the only EBP model that has been tested in RCTs that exclusively comprise girls. The model was originally developed for and tested with males (Chamberlain and Reid 1998), but as an increasing number of females were referred for services, the emphasis was expanded to developing and testing an intervention approach that was specifically tailored for girls. Two consecutive cohorts of TFCO beginning in 1997 and concluding in 2008 were convened using rolling recruitment of all eligible girls meeting the following criteria: female, 13–17 years old, at least one criminal referral in the previous year, court-mandated placement in out-of-home care, and not currently pregnant. Girls were randomly assigned to group care (GC) or to TFCO. The combined sample included 81 TFCO girls and 85 GC girls. Recruitment procedures for the two cohorts were identical and continuous. In GC, girls were placed in 1 of 35 programs that had 2–83 youths in residence ($M = 13$) and

Table 2 Results from TFCO studies with girls

Study	Population	Sample *N*	Outcomes
Leve et al. (2005)	Juvenile justice girls	81	↓ Days in locked settings
			↓ Recidivism and criminal activity
Leve and Chamberlain (2005b)			↓ Delinquent peer affiliations
			↑ Homework completion
Leve and Chamberlain (2007)			↑ School attendance
Chamberlain et al. (2007)	2-Year follow-up	81	↓ Delinquency
			↓ Criminal referrals
			↓ Days in locked settings
Kerr et al. (2009)	2-Year follow-up	166[a]	↓ Pregnancies
Leve et al. (2011)			↓ Delinquency
Harold et al. (2013)	2-Year follow-up	166[a]	↓ Depressive symptoms
Poulton et al. (2014)	2-Year follow-up	166[a]	↓ Psychotic symptoms
Rhoades et al. (2014)	7–9 Year follow-up	166[a]	↓ Illicit drug use

[a] These studies included 81 girls from the original sample (Cohort 1) and 85 new participants from Cohort 2

1–85 staff members ($Mdn = 9$). The results from the TFCO studies with girls are summarized in Table 2.

Enhancements to TFCO for Girls Five specific enhancements were developed to be responsive to the needs and clinical profiles presented by girls. They were based on the previous research described earlier and on clinical experiences, which resulted in additional training for foster parents and therapists on new strategies and protocols relevant for working with girls. The female-focused intervention components included the following adaptations: (a) providing girls with reinforcement and sanctions for coping with and avoiding social/relational aggression; (b) working with girls to develop and practice strategies for emotional regulation, such as early recognition of their feelings of distress and problem-solving coping mechanisms; (c) helping girls develop peer relationship-building skills, such as initiating conversations and modulating their level of self-disclosure to fit the situation; (d) teaching girls strategies to avoid and deal with sexually risky and coercive situations; and (e) helping girls understand their personal risks for drug use, including priority setting using motivational interviewing and provision of incentives for abstinence from drug use monitored through random urinalysis. In addition, pilot work added a trauma-focused intervention component for a subsample of girls and compared outcomes for them with mental health outcomes of TFCO (without trauma focus) and with outcomes for girls randomly assigned to GC (Smith et al. 2012). Additional detail on each of the five enhancements for girls can be found in Leve et al. (2011).

As shown in Table 2, outcomes for girls participating in TFCO are superior to outcomes for those who were randomly assigned to GC in a number of key areas, including recidivism, incarceration time, lower pregnancy rates, increased school engagement, lower illicit drug use, and lower depressive and psychotic symptoms. Results from the trauma-focused pilot study suggested improved outcomes on anxiety and depression with these additional treatment components (Smith et al. 2012).

Common Intervention Targets and Processes in Interventions for Juvenile Justice Girls

To understand *why* these EBPs for JJ girls are effective and to inform future intervention work with JJ girls, it is useful to consider common intervention targets and processes across the set of four EBPs reviewed here. The MST, FFT, MDFT, and TFCO models share five key features, as noted by Henggeler and Schoenwald (2011): (a) they are family-based treatment models; (b) they emphasize risk and protective factors; (c) they use behavioral interventions to target a constellation of problem behaviors, including delinquency, mental health symptoms, and health-risking behaviors; (d) they are implemented within the youth's natural community environment; and (e) they use highly specified and manualized intervention procedures, and the intervention implementation is closely monitored to achieve model fidelity. Of note, some of the most popular interventions for girls in the JJ system do not include most of these key features, and include additional features that are not evidence based. For example, group-care treatments typically fail to meet criteria a, d, and e. In addition, research has shown that group-based interventions can have the opposite effect as what was intended, and be harmful for delinquent teens (Dishion et al. 1999). Similarly, recently popularized wilderness therapy or boot-camp approaches also employ a group-based approach and

do not contain any of the aforementioned key features. Based on the review of findings described here, we conclude this section by integrating across the four EBPs to present five intervention facets that are appear to be key to producing positive changes for girls in the JJ system and that therefore should serve as cornerstones for future intervention research with girls who are at risk for or who are currently involved in the JJ system.

Effective Interventions are Family Based

It is widely accepted that adolescent development occurs within a context of nested systems, with the most proximal and critical being the family system. As noted at the beginning of this review, the family context plays a critical role in determining whether a youth will engage in delinquent behavior. Families serve multiple functions, such as nurturing, instrumental support, protection, monitoring, teaching, and socialization. Thus, it is not surprising that ecological–contextual intervention models, such as the ones reviewed here, have been developed, given the known importance of social–contextual factors for shaping developmental trajectories (Cohen and Siegel 1991). Family-based treatments targeting the multiple areas of the teen's functioning and social environment are recognized as the most promising interventions for reducing delinquency, substance abuse, and related problems (e.g., Henggeler et al. 1998; Liddle 2002). Positive outcomes have resulted from studies that focus on working with parents or other caretaking adults rather than from studies that focus individually on girls alone. The emphasis on the family underscores the importance of the girl's parenting and community contexts. Individually based approaches whose change efforts consist solely of strengthening the girl's internal psychological resources have not produced comparably positive outcomes. Interventions that strengthen parents or other caretaking adults in ways that help them monitor, set limits, mentor, and support girls are most effective. In other words, to achieve positive outcomes, work with the adults in the girl's life. This is not to say that girls are to be excluded from treatment. In fact, all four models reviewed include strong youth involvement components that use modes such as individual therapy for the girl (TFCO), skills coaching (TFCO and MST), and inclusion of the girl's perspective in family therapy (all models). However, all RCTs to date that have shown positive effects on outcomes for JJ girls have had a strong emphasis on family treatment, with the exception of one trial that tested a CBT approach with incarcerated youths (Guerra and Slaby 1990). This study suffered from differential attrition in the control and experimental groups at follow-up, so long-term efficacy could not be determined.

Effective Interventions Focus on Enhancing Known Risk and Protective Factors

Consistent with the research on protective factors reviewed earlier, each of the EBPs presented in this review emphasizes the importance of increasing protective and positive daily living contexts for girls. This strategy involves increasing the support provided by caretaking adults and the use of methods to improve the safety of the girl's daily living environment. In adolescence, peers constitute another key socializing context, and delinquency and substance use are escalated by access to peers who are antisocial (Dodge et al. 2006). Avoidance of antisocial peers and of participation in risky situations requires increased monitoring and supervision by adults. As noted earlier, parental monitoring has been identified as a protective factor in previous longitudinal work (Steinberg et al. 2006) and in the prevention of child behavioral problems and drug use (Dishion and McMahon 1998). The skills required for monitoring an adolescent who is engaged in delinquent and health-risking behavior, such as drugs/alcohol use and unprotected sex, are complex, especially because the same adults who are responsible for such monitoring are the primary mentors for the youth, and mentoring requires a positive relationship. All of the EBP models described earlier include well-specified methods for simultaneously promoting increased parental monitoring and mentorship. This dual emphasis is an important component of the interventions that is solidly based in the research literature about risk and protective factors described earlier. Further, this approach also helps promote positive school engagement for youths, which is another protective factor identified earlier in this review. All four EBP models work directly with parents and in most instances, directly with school personnel to assist with and support the youth's educational engagement and academic success.

Effective Interventions Focus on Behavioral Interventions

Behavioral interventions that teach caregivers and youths to explicitly identify antecedents or triggers to impending delinquent or health-risking behaviors and to practice skills to avoid the occurrence of those behaviors or teach adults to deliver appropriate consequences when they do occur are mainstay features in the EBP approaches described previously. Clinical methods, such as role plays or practice of skills and/or enactments of problem and positive interactions, are used in intervention sessions to give youths and parents experience with new and constructive ways to deal with difficult or entrenched patterns that have contributed to past problems.

Effective Interventions are Community Based

All the EBP interventions discussed in this review situate the treatment activities in real-world community contexts, thereby minimizing the need for later generalization. This approach contrasts with that of interventions that occur in residential or group care, where the youth's daily living environment bears little resemblance to the community contexts to which they will eventually be discharged.

Effective Interventions Use Manualized Treatment Methods and Fidelity Monitoring

All four EBPs described earlier are being implemented in community agencies throughout the USA and in Europe. All have well-specified training protocols and have manuals that detail treatment components and phases of treatment. In addition, each of the models has strategies for monitoring intervention fidelity. They include computer-based management information systems that track treatment goals and progress, daily reports from parents of the occurrence/non-occurrence of youth problems and parental reactions, questionnaires from parents and therapists about what takes place in treatment sessions, and coding of video/audio recordings of sessions. Numerous studies have documented the link between fidelity and outcomes (Schoenwald et al. 2004), and measuring fidelity has been shown to be a critical aspect of intervention implementation.

Summary

Four EBPs (FFT, MST, MDFT, TFCO) have been tested in multiple intervention trials with samples that include girls involved in the JJ system, or in the case of TFCO, in samples of girls only. The results of these trials indicate that the interventions are associated with improved outcomes across a host of domains, and in particular, that they lead to reductions in delinquency and recidivism. In each study, the intervention was effective for the sample as a whole, and with a single exception (Asscher et al. 2013), no differences were identified with respect to outcomes based on sex. However, girls were underrepresented in these trials relative to the population base rates for JJ-involved youths, except for TFCO, in which the trials included only girls. In addition, none of the trials was designed to test whether the EBP worked as well for girls as it did for boys or whether different intervention components by sex were indicated, and the studies were generally underpowered to detect sex differences, should any differences exist. Therefore, although we can conclude that these EBPs are effective for girls involved in the JJ system, there is insufficient evidence to identify differential effectiveness by sex or to provide sex-specific recommendations for future research. However, we can conclude that all four EBPs share a common set of principles that are highly relevant to girls' characteristics and to girls' risk and protective factors, as described earlier in this review.

Specifically, all four EBPs rely on a family-based treatment model conducted in a community-based context rather than in an institutional setting. In that family and relationship characteristics are particularly salient risk factors for girls, relative to boys, family-based interventions would therefore seem to be an ideally suited platform for service delivery for girls. In addition, all four EBPs share a focus on targeting identified risk and protective factors, such as avoidance of delinquent peer associations, avoidance of drug use and risky sexual behavior, and high levels of parental monitoring, all of which have been shown to be risk/protective factors for girls. Last, all four EBPs have a behavioral orientation and include manualized protocols with fidelity monitoring, factors known to improve effectiveness across a range of interventions. However, despite these common components, clear gaps remain in our understanding of "what works" for girls involved in the JJ system. Despite these theoretical and practice-related commonalities, it is not known whether other key treatment components would be beneficial to include in female-focused treatment approaches. In addition, the evidence-based models described are all multifaceted and therefore complex to implement. This makes them difficult and expensive to scale up, even though MST and FFT in particular have been widely scaled in the USA and internationally. The question of whether more straightforward focused approaches could be developed or are being implemented already within community settings remains. In addition, many of the original trials were conducted by the developers of the intervention. Although there have been numerous recent independent RCTs led by individuals not associated with the intervention development (e.g., Asscher et al. 2013; Westermark et al. 2010), additional independent trials would make valuable contributions to the conclusions that can be drawn from the evidence. What is clear is that further research is need that targets this vulnerable growing population of girls and young women who are at high risk for a plethora of negative outcomes. In the final section of this review, we offer specific recommendations to help fill these gaps.

Recommendations

It is estimated that only 5–9 % of eligible high-risk juvenile offenders in the USA are given an evidence-based treatment (Greenwood 2008; Henggeler and Schoenwald 2011). Despite the EBP evidence provided in this review,

the vast majority of JJ youths are given intervention services that have not been proven effective nor been evaluated. In the final section of this review, we propose a set of research recommendations and a set of intervention recommendations that connect the existing knowledge about risk factors, outcomes, and EBPs for JJ-involved girls with areas of opportunity.

Research Recommendations

Address the Question of Whether Existing EBPs Work as Well for Girls as They Do for Boys

Pool Data Across Samples of Girls Within Existing EBPs The four EBPs for JJ youths reviewed comprise a combined sample of more than 1050 girls. In contrast to examining any single study alone, pooling data across these studies to examine outcomes and mechanisms of change for girls in the JJ system would provide a significantly more powerful test of whether EBP interventions used with JJ populations are effective for girls and especially whether these interventions are as effective for girls as they are for boys. The enhanced statistical power provided by aggregating across data sets would allow a much more robust test of the effectiveness of existing EBPs for JJ girls. Analyses could also provide clues about which aspects of the programs appear to drive the effects, which could lead to refinements in existing EBPs. In addition, this aggregate approach would provide sufficient power to examine subgroup factors, such as ethnicity or early risk exposure, to test whether they are related to intervention efficacy. Although existing research does not indicate substantial or widespread disparities by ethnicity in the processing and outcomes for girls in the JJ system (e.g., Crosby et al. 2004; Knight et al. 2004; Steffensmeier and Demuth 2006), examination of ethnicity-based differences in intervention outcomes has not been accomplished in these EBPs for girls. Similarly, very little is known about differential effectiveness of these EBPs for girls with specific constellations of risk factors (e.g., maltreatment). A future research endeavor that would aggregate existing data could be a cost-effective means of capitalizing on the strengths of existing data to make significantly stronger conclusions about the efficacy of existing EBPs for girls in the JJ system.

Analyze System-Level Outcomes for EBPs Being Implemented Wide-scale implementation of the four EBPs is currently occurring in JJ populations throughout the USA and internationally. However, the outcomes of these implementation efforts are not being measured, despite the fact that existing system data could provide very informative data about outcomes (e.g., recidivism, type of offense, length of sentence). This is because most service-level implementation efforts do not have a research component attached to them; they are service delivery programs only. Because several thousand girls have already received one of the EBPs in a service (non-research) setting and system-level data already exist, analyses of outcomes would also be a cost-effective research addition that would be a powerful way to (1) examine the efficacy of EBPs for a very large number of girls in the JJ system by comparing system-level outcomes for these girls with outcomes of a sample of matched girls who received non-EBP services; (2) compare outcomes for boys versus girls; and (3) test whether the efficacy of these EBPs remains high when service delivery is in implementation (non-research) mode versus RCT mode of delivery, by comparing effect sizes in implementation settings with those in published RCT studies.

Use Existing Risk Assessment Tools to Individualize Services

As reviewed earlier, JJ girls often have wide-ranging and severe mental health problems, and there is a strong call to assess the mental health of girls in JJ facilities (Desai et al. 2006). Effective screening tools for mental health and other problems (e.g., the MAYSI-2; Cauffman 2004) are currently being administered in detention centers in many states. Such existing tools could be more effectively used to examine whether outcomes are comparable for boys and for girls, given specific constellations of risk factors identified on the screening tool. That is, given similar risk profiles on screening tools, do girls and boys in the JJ system have similar outcomes? For example, we know that childhood maltreatment is associated with offending behavior and that girls are the victims of sexual abuse more often than boys are. However, if a selected sample of boys and girls had equal rates of exposure to sexual abuse, would JJ outcomes be comparable for boys and girls? In addition, research studies could help bolster the connection between risk assessment tools and the translation to intervention services. What services are most effective for youths with specific sets of risks identified on the screener? What are the protocols for translating information from the screening tool to inform and tailor intervention services at the individual level? First generating an evidence base and then translating a screening tool to effective services would improve outcomes for JJ girls and help further implementation efforts with validated screening tools.

Conduct Cost Analyses to Measure the Costs of Poor Mental and Physical Health Outcomes

Established methods and reports have documented the costs of juvenile delinquency to society and to victims

(e.g., Drake et al. 2009). For example, the value of saving a 14-year-old high-risk juvenile from a life of crime ranges from 2.6 to 5.3 million dollars (Cohen and Piquero 2009). However, in view of the high incidence of comorbid mental and physical health issues described earlier, it is increasingly clear that JJ costs are only a small portion of the societal costs of delinquency. Extending economic analysis studies to include mental health and physical health variables would be a logical extension of current models and would more accurately capture the multiple realms in which involvement in the JJ system costs society and capture the cost benefits of EBPs in multiple realms. In addition, a focus on health outcomes is particularly timely, given the recent dramatic increases in US healthcare costs and the burden they place on individuals and on government systems, such as Medicaid and other costs associated with the Affordable Care Act.

Intervention Recommendations

Develop Preventive Interventions in Child Welfare and School Settings to Prevent Entry into the Juvenile Justice System

Girls are less likely to receive educational or other supportive services than are their male counterparts (Merikangas et al. 2010; Offord et al. 1990) and therefore are less likely to receive preventive services shown to be effective at obviating future problems. On the basis of this review, preventive services in two areas appear to be most critical: services in child welfare and services in schools.

Child Welfare Interventions are needed to prevent maltreatment and increase placement stability for girls who are already placed in foster care. Although maltreatment and placement instability are clear risk factors for both boys and girls, girls are especially vulnerable. Providing interventions for girls enrolled in the child welfare system who have not yet entered the JJ system could be an opportune way to prevent entry into JJ for this population.

School Interventions are needed to identify girls who are at risk for school-related problems, including those who have low attendance or display other risk factors, such as child welfare involvement or having parents who are involved in the criminal justice system. Currently, girls typically are identified later than their male counterparts as having school-related problems, and they receive fewer school-related services (Offord et al. 1990). These circumstances potentially increase their risk for subsequent failure and drop-out. Further, as summarized earlier, engagement in school is a protective factor for at-risk girls.

By focusing on additional development, testing, and implementation of interventions for girls in child welfare and school systems, we can help prevent entry into the JJ system. A benefit of targeting girls in these systems is that the population is already clearly identified and services can be delivered by individuals who already are in a position to facilitate children's healthy adjustment (e.g., school counselors, case workers, foster parents).

Provide Booster Services as Juvenile Justice Girls Transition to Young Adulthood

JJ girls do not fare well as they transition out of the JJ system and into young adulthood. Further, upon exit from child welfare systems, youths lose access to a host of services, including mental health and medical services. In young adulthood, they often continue to have serious problems with substance use, make poor intimate partner choices, and become pregnant during their teenage years, increasing their reliance on multiple public health systems. Research about the transition to adulthood for this population is quite limited, despite the numerous problems associated with this transition. As reviewed previously, peers and partners are keys to initiating and maintaining girls' delinquency trajectories. As girls exit adolescence, the family context is significantly diminished as a primary intervention site. The focus of interventions that target the transition to young adulthood necessarily must shift to the proximal context for young women: intimate partner relationship. Interventions that target partner selection and the elimination of violence in relationships could help ameliorate some of the poor outcomes that JJ girls experience and could have lasting effects in terms of outcomes for the children of JJ-involved girls.

Consider Increasing the Emphasis on Co-occurring Problems in Interventions for Girls

Given the documented mental health problems, victimization, and risky sexual behavior histories of girls in the JJ system, it may be prudent to expand intervention targets for girls to include a broader array of treatment components (pending the results of the first two Research Recommendations, to help determine whether such modifications are needed for girls). In addition, studies could be designed to expand the measurement of outcomes to address a more comprehensive array of factors than has been done in previous intervention studies. We do not recommend the development of new interventions, however; rather, given the EBP evidence base presented in this review, we recommend building upon existing EBPs that have been previously evaluated in JJ settings and modifying them to simultaneously address issues related to trauma, substance

use, risky sexual behavior, and/or other mental health problems (some of these co-occurring components are already targeted by one of more of the four EBPs reviewed here). In view of the research support for family-based interventions for JJ youths reviewed here, we recommend maintaining a strong family-based emphasis when modifying interventions that address issues of comorbidity.

Increase the Research Base Regarding Implementation Efforts

Four existing EBPs appear to be effective for improving outcomes for girls in the JJ system, and ongoing implementation efforts with these EBPs are occurring throughout the USA. However, there are known implementation barriers to broad-scale uptake of these EBPs (Proctor et al. 2011), and it is not known how widely these programs are being implemented with girls and how to successfully increase uptake. Meaningful research is needed to answer implementation-related questions in multiple areas, including the following: What are the most effective methods for increasing uptake of EBPs for JJ-referred girls? Are community providers less likely to implement EBPs with girls, and if so, what supports and/or incentives could be used to increase their willingness? How can intervention fidelity be feasibly measured and improved in real-world contexts? What are the most effective and cost-efficient methods for providing ongoing supervision and staff training for programs serving girls? How can EBPs for girls be sustained over time in the face of high staff turnover and changes in organizational leadership? How effective are EBPs in non-research, non-RCT settings for achieving adolescent and family outcomes that are comparable to those in RCT studies? Studies that compare alternative methods of implementing EBPs in real-world settings could yield new information to improve implementation success and ultimately increase the number of girls in the JJ system who receive EBPs.

Conclusions

This review focused on the precursors and sequelae of girls' involvement in the JJ system in the USA. We described four EBPs with known efficacy with populations of JJ girls, and on the basis of our review of the evidence, we offer recommendations for feasible next steps in research and intervention for this under-researched and underserved population. Although most of the risk and protective factors reviewed here apply to both boys and girls in or at risk for entering the JJ system, a few are particularly relevant for girls' vulnerability. Specifically, the results from published studies underscore the importance of the family context for girls, including maltreatment and exposure to caregiver transitions, as well as positive facets of the family context, such as parental warmth. In addition, the peer context is a salient risk and protective factor for girls; a strong risk factor for girls involved in the JJ system is the tendency to choose males as their closest friend or partner, unlike girls who are not in the system. Conversely, the development of prosocial peer relationships earlier in development is a protective factor for girls.

Research also points to the importance of school involvement as a protective factor for girls. Those who are involved in JJ tend to have disrupted school involvement and low academic achievement, which speaks to the need to develop strategies to increase stability in educational settings. Research concerning girls' individual characteristics has shown that, like their male counterparts, those with elevated levels of externalizing behavior problems as children have poor long-term prognoses as adolescents. In addition, girls in JJ are more vulnerable than their male counterparts to having comorbid mental health disorders. Problems with substance use are severe for youths in JJ of both boys and girls, but for girls, problems with substance abuse appear to go hand in hand with high levels of participation in health-risking sexual behavior. Girls are more likely than boys to participate in risky sexual practices, which put them at risk for contracting sexually transmitted diseases and for being subjected to sexual exploitation. As such, it is not surprising that girls in JJ tend to become pregnant as teens and face enormous challenges as parents, which in turn commonly leads to involvement in the child welfare system and accompanying high societal costs. Also costly are physical health problems of girls in JJ, including elevated rates of injuries, obesity, and asthma and of cardiovascular and respiratory illness. The occurrence of physical health problems among this population is a particularly under-researched area.

Girls have been somewhat underrepresented in RCTs of youths in the JJ system, relative to estimates of their overall prevalence in the JJ system in the USA. JJ system girls comprised just 21.5 % of the samples in mixed-sex RCTs, and they are estimated to comprise 29 % of youths in the JJ system (Puzzanchera 2013). However, more than 1050 girls have been enrolled in mixed-sex or female-only studies of well-established EBP models that treat youths referred by the JJ system, including FFT, MST, MDFT, and TFCO. Results from these studies indicate that there likely are positive short- and long-term effects for girls with respect to an array of outcomes, although sample sizes in the mixed-sex EBPs preclude drawing firm conclusions. An aggregation of data for girls across these studies is recommended. The four EBPs reviewed here are currently being implemented throughout the USA but are reaching

less than 10 % of the total JJ population (girls and boys; the specific reach for girls alone is unknown). Examination of outcomes for these real-world EBP implementations is recommended. The four EBPs share key features that are relevant to girls' risk and protective factors, including a focus on family-based interventions, attention to risk and protective factors as intervention targets, inclusion of behavioral interventions, community-based implementations, and attention to specification of treatment procedures and fidelity monitoring. The commonalities and potentially positive outcomes suggest that future interventions for girls in the JJ system should build upon this ongoing work. Recommendations for next steps stem from the studies described in this review. They focus on specific and potentially actionable areas that are logical next steps for promoting the understanding of girls in the JJ system and improving services and outcomes for them.

Although much is known about JJ-involved girls, several critical questions remain. For example, it is unclear if sex-specific or individualized services are needed. On the basis of current evidence from existing EBPs, existing services appear to be effective for girls. That said, there is insufficient evidence to suggest the *necessity* for sex-specific services. Aggregating data across existing research studies and existing implementations of EBPs will help further address this question, as would new studies sufficiently powered with sufficient numbers of male and female participants. We do not know whether individualized services tailored to specific risk factors would be more effective than the current EBP models. Use of screening instruments to address individual needs and connecting this information to intervention development would help address this knowledge gap. In addition, work is needed that identifies girls at risk for JJ involvement earlier in development and that provides services to prevent involvement in JJ. A number of well-validated preventive intervention programs that are currently available for at-risk girls could be used and tested among a broader population of girls to increase prevention efforts that target JJ involvement (e.g., Kim and Leve 2011; Pepler et al. 2010). Because of tragic histories of multigenerational system involvement and the subsequent involvement in the child welfare system of girls' own children, the development of intervention models that address intimate partner choices and subsequent relationship adjustment are clearly indicated for JJ-involved girls. Intervention theory is needed to inform and guide efforts to address the problem of negative relationships that females with delinquency tend to have and to reduce the level of multigenerational involvement in the US child welfare and JJ systems.

Acknowledgments Support for this work was provided by the John D. and Catherine T. MacArthur Foundation and by Grants R01 DA024672 (PI: Leve) and P50 DA035763 (PIs: Chamberlain and Fisher) from the National Institute on Drug Abuse, US PHS. Chamberlain is the developer of TFCO and a partner in TFC Consultants, Inc., which disseminates TFCO. Chamberlain and Leve received an honorarium from the John D. and Catherine T. MacArthur Foundation for the writing of portions of this review.

Compliance of Ethical Standards

Conflict of interest Kim has no conflict of interest.

References

Abram, K. M., Teplin, L. A., McClelland, G. M., & Dulcan, M. K. (2003). Comorbid psychiatric disorders in youth in juvenile detention. *Archives of General Psychiatry, 60*, 1097–1108. doi:10.1001/archpsyc.60.11.1097.

Alexander, J. A., & Parsons, B. V. (1982). *Functional family therapy*. Monterey, CA: Brookes-Cole.

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*, 469–480.

Asscher, J. J., Dekovic, M., Manders, W. A., van der Laan, P. H., & Prins, P. J. M. (2013). A randomized controlled trial of the effectiveness of multisystemic therapy in the Netherlands: Post-treatment changes and moderator effects. *Journal of Experimental Criminology, 9*, 169–187.

Benda, B. B., Corwyn, R. F., & Toombs, N. J. (2001). Recidivism among adolescent serious offenders: Prediction of entry into the correctional system for adults. *Criminal Justice and Behavior, 28*, 588–613. doi:10.1177/009385480102800503.

Biswas, B., & Vaughn, M. G. (2011). Really troubled girls: Gender differences in risky sexual behavior and its correlates in a sample of juvenile offenders. *Children and Youth Services Review, 33*, 2386–2391. doi:10.1016/j.childyouth.2011.08.010.

Borduin, C. M., Mann, B. J., Cone, L. T., Henggeler, S. W., Fucci, B. R., Mlaske, D. M., & Williams, R. A. (1995). Multisystemic treatment of serious juvenile offenders: Long-term prevention of criminality and violence. *Journal of Consulting and Clinical Psychology, 63*, 569–578. doi:10.1037/0022-006X.63.4.569.

Borduin, C. M., Schaeffer, C. M., & Heiblum, N. (2009). A randomized clinical trial of multisystemic therapy with juvenile sexual offenders: Effects on youth social ecology and criminal activity. *Journal of Consulting and Clinical Psychology, 77*, 26–37. doi:10.1037/a0013035.

Bright, C. L., & Jonson-Reid, M. (2010). Young adult outcomes of juvenile court-involved girls. *Journal of Social Service Research, 36*, 94–106. doi:10.1080/01488370903577993.

Bright, C. L., Kohl, P. L., & Jonson-Reid, M. (2014). Females in the juvenile justice system: Who are they and how do they fare? *Crime and Delinquency, 60*, 106–125.

Bright, C. L., Ward, S. K., & Negi, N. J. (2011). "The chain has to be broken": A qualitative investigation of the experiences of young women following juvenile court involvement. *Feminist Criminology, 6*, 32–53. doi:10.1177/1557085110393237.

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.

Brown, M. (2006). Gender, ethnicity, and offending over the life course: Women's pathways to prison in the Aloha state. *Critical Criminology, 14*, 137–158. doi:10.1007/s10612-006-9001-5.

Butler, S., Baruch, G., Hickey, N., & Fonagy, P. (2011). A randomized controlled trial of multisystemic therapy and a statutory therapeutic intervention for young offenders. *Journal of*

the American Academy of Child and Adolescent Psychiatry, 50(12), 1220–1235. doi:10.1016/j.jaac.2011.09.017.

Canterbury, R. J., McGarvey, E. L., Sheldon-Keller, A. E., Waite, D., Reams, P., & Koopman, C. (1995). Prevalence of HIV-related risk behaviors and STDs among incarcerated adolescents. *The Journal of Adolescent Health, 17*, 173–177. doi:10.1016/1054-139X(95)00043-R.

Cauffman, E. (2004). A statewide screening of mental health symptoms among juvenile offenders in detention. *Journal of the American Academy of Child and Adolescent Psychiatry, 43*, 430–439. doi:10.1097/00004583-200404000-00009.

Cauffman, E. (2008). Understanding the female offender. *The Future of Children, 18*, 119–142. doi:10.1353/foc.0.0015.

Cauffman, E., Farruggia, S. P., & Goldweber, A. (2008). Bad boys or poor parents: Relations to female juvenile delinquency. *Journal of Research on Adolescents, 18*, 699–712. doi:10.1111/j.1532-7795.2008.00577.x.

Cauffman, E., Feldman, S. S., Waterman, J., & Steiner, H. (1998). Posttraumatic stress disorder among female juvenile offenders. *Journal of the American Academy of Child and Adolescent Psychiatry, 37*, 1209–1216. doi:10.1097/00004583-199811000-00022.

Cernkovich, S., Lanctot, N., & Giordano, P. (2008). Predicting adolescent and adult antisocial behavior among adjudicated delinquent females. *Crime and Delinquency, 54*, 3–33. doi:10.1177/0011128706294395.

Chamberlain, P., Leve, L. D., & DeGarmo, D. S. (2007). Multidimensional Treatment Foster Care for girls in the juvenile justice system: 2-Year follow-up of a randomized clinical trial. *Journal of Consulting and Clinical Psychology, 75*, 187–193. doi:10.1037/0022-006X.75.1.187.

Chamberlain, P., & Reid, J. (1998). Comparison of two community alternatives to incarceration for chronic juvenile offenders. *Journal of Consulting and Clinical Psychology, 6*, 624–633. doi:10.1037//0022-006X.66.4.624.

Chung, H. L., Little, M., & Steinberg, L. (2005). The transition to adulthood for adolescents in the juvenile justice system: A developmental perspective. In D. W. Osgood, E. M. Foster, C. Flanagan, & G. R. Ruth (Eds.), *On your own without a net: The transition to adulthood for vulnerable populations* (pp. 68–91). Chicago, IL: University of Chicago Press.

Cohen, M. A., & Piquero, A. R. (2009). New evidence on the monetary value of saving a high-risk youth. *Journal of Quantitative Criminology, 25*, 25–49. doi:10.1007/s10940-008-9057-3.

Cohen, R., & Siegel, A. W. (Eds.). (1991). *Context and development*. Hillsdale, NJ: Erlbaum.

Colman, R., Kim, D. H., Mitchell-Herzfeld, S., & Shady, T. A. (2009). Delinquent girls grown up: Young adult offending patterns and their relation to early legal, individual, and family risk. *Journal of Youth and Adolescence, 39*, 355–366. doi:10.1007/s10964-008-9341-4.

Colman, R., Mitchell-Herzfeld, S., Kim, D. H., & Shady, T. A. (2010). From delinquency to the perpetration of child maltreatment: Examining the early adult criminal justice and child welfare involvement of youth released from juvenile justice facilities. *Children and Youth Services Review, 32*, 1410–1417. doi:10.1016/j.childyouth.2010.06.010.

Crosby, R., Salazar, L. F., DiClemente, R. J., Yarber, W. L., Caliendo, A. M., & Staples-Horne, M. (2004). Health risk factors among detained adolescent females. *American Journal of Preventative Medicine, 27*, 404–410. doi:10.1016/j.amepre.2004.07.017.

Dakof, G. A., Henderson, C. E., Rowe, C. L., Boustani, M., Greenbaum, P. E., Wang, W., et al. (2015). A randomized clinical trial of family therapy in juvenile drug court. *Journal of Family Psychology, 29*(2), 232–241. doi:10.1037/fam0000053.

Dembo, R., Belenko, S., Childs, K., & Wareham, J. (2009a). Drug use and sexually transmitted diseases among female and male arrested youths. *Journal of Behavior Medicine, 32*, 129–141. doi:10.1007/s10865-008-9183-2.

Dembo, R., Childs, K., Belenko, S., Schmeidler, J., & Wareham, J. (2009b). Gender and racial differences in risk factors for sexually transmitted diseases among juvenile justice involved youth. *Neurobehavioral HIV Medicine, 1*, 9.

Dembo, R., Wareham, J., Greenbaum, P. E., Childs, K., & Schmeidler, J. (2009c). Marijuana use among juvenile arrestees: A two-part growth model analysis. *Journal of Child and Adolescent Substance Abuse, 18*, 379–397. doi:10.1080/10678280903185542.

Desai, R. A., Goulet, J. L., Robbins, J., Chapman, J. F., Migdole, S. J., & Hoge, M. A. (2006). Mental health care in juvenile detention facilities: A review. *Journal of the American Academy of Psychiatry and the Law, 34*, 204–214.

Dishion, T. J., McCord, J., & Poulin, F. (1999). When interventions harm: Peer groups and problem behavior. *American Psychologist, 54*, 755–764.

Dishion, T. J., & McMahon, R. J. (1998). Parental monitoring and the prevention of child and adolescent problem behavior: A conceptual and empirical formulation. *Clinical Child and Family Psychology Review, 1*, 61–75. doi:10.1023/A:1021800432380.

Dodge, K. A., Dishion, T. J., & Lansford, J. E. (Eds.). (2006). *Deviant peer influences in programs for youth: Problems and solutions*. New York, NY: Guilford.

Drake, E., Aos, S., & Miller, M. (2009). *Evidence-based public policy options to reduce crime and criminal justice costs: Implications in Washington State*. Olympia: Washington State Institute for Public Policy.

Elliott, D. S. (Ed.). (1998). *Blueprints for violence prevention*. Boulder, CO: Institute of Behavioral Science, Regents of the University of Colorado.

Espelage, D. L., Cauffman, E., Broidy, L., Piquero, A. R., Mazerolle, P., & Steiner, H. (2003). A cluster-analytic investigation of MMPI profiles of serious male and female juvenile offenders. *Journal of the American Academy of Child and Adolescent Psychiatry, 42*, 770–777. doi:10.1097/01.CHI.0000046877.27264.F6.

Eyberg, S. M., Nelson, M. M., & Boggs, S. R. (2008). Evidence-based psychosocial treatments for children and adolescents with disruptive behavior. *Journal of Clinical Child and Adolescent Psychology, 37*, 215–237. doi:10.1080/15374410701820117.

Farrington, D. P. (1989). Early predictors of adolescent aggression and adult violence. *Violence and Victims, 4*(2), 79–100.

Farrington, D. P., Jolliffe, D., Loeber, R., Stouthamer-Loeber, M., & Kalb, L. M. (2001). The concentration of offenders in families, and family criminality in the prediction of boys' delinquency. *Journal of Adolescence, 24*(5), 579–596.

Fontaine, N., Carbonneau, R., Vitaro, F., Barker, E. D., & Tremblay, R. E. (2009). Research review: A critical review of studies on the developmental trajectories of antisocial behavior in females. *Journal of Child Psychology and Psychiatry, 50*, 363–385. doi:10.1111/j.1469-7610.2008.01949.x.

Garmezy, N., Masten, A. S., & Tellegen, A. (1984). The study of stress and competence in children: A building block for developmental psychopathology. *Child Development, 55*, 97–111.

Ge, X., Conger, R. D., & Elder, G. H., Jr. (1996). Coming of age too early: Pubertal influences on girls' vulnerability to psychological distress. *Child Development, 67*, 3386–3400. doi:10.2307/1131784.

Ge, X., Natsuaki, M. N., Jin, R., & Biehl, M. C. (2011). A contextual amplification hypothesis: Pubertal timing and girls' emotional and behavioral problems. In M. Kerr, H. Stattin, R. C. M. E. Engles, G. Overbeerk, & A. Andershed (Eds.), *Understanding girls' problem behavior: How girls' delinquency develops in the context of maturity and health, co-occurring problems, and relationships, Hot topics in developmental research* (pp. 11–29). New York, NY: Wiley-Blackwell.

Giordano, P. C., Cernkovich, S. A., & Lowery, A. R. (2004). A long-term follow up of serious adolescent female offenders. In M. Putallaz & K. Bierman (Eds.), *Aggression, antisocial behavior and violence among girls: A developmental perspective.* Duke Series in Child Development and Public Policy (pp. 186–202). New York, NY: Guilford Publications.

Glisson, C., Schoenwald, S. K., Hemmelgarn, A., Green, P., Dukes, D., Armstrong, K. S., & Chapman, J. E. (2010). Randomized trial of MST and ARC in a two-level evidence-based treatment implementation strategy. *Journal of Consulting and Clinical Psychology, 78*, 537–550. doi:10.1037/a0019160.

Goldstein, N. E., Arnold, D. H., Weil, J., Mesiarik, C. M., Peuschold, D., Grisso, T., & Osman, D. (2003). Comorbid symptom patterns in female juvenile offenders. *International Journal of Law and Psychiatry, 26*, 565–582.

Goodkind, S., Ng, I., & Sarri, R. C. (2006). The impact of sexual abuse in the lives of young women involved or at risk of involvement with the juvenile justice system. *Violence Against Women, 12*, 456–477. doi:10.1177/1077801206288142.

Graber, J. A., Seekey, J. R., Brooks-Gunn, J., & Lewinsohn, P. M. (2004). Is pubertal timing associated with psychopathology in young adulthood? *Journal of the American Academy of Child and Adolescent Psychiatry, 43*, 718–726. doi:10.1097/01.chi.0000120022.14101.11.

Greenwood, P. (2007). Real solutions to youth violence: Evidence-based practices. In J. Greene & K. Pranis (Eds.), *Gang wars: The failure of enforcement tactics and the need for effective public safety strategies* (pp. 95–97). Washington, DC: Justice Policy Institute.

Greenwood, P. (2008). Prevention and intervention programs for juvenile offenders. *The Future of Children, 18*, 185–210. doi:10.1353/foc.0.0018.

Grisso, T., & Barnum, B. (1998). *Massachusetts Youth Screening Instrument: Preliminary manual and technical report*. Worcester, MA: University of Massachusetts Medical School.

Guerra, N. G., & Slaby, R. G. (1990). Cognitive mediators of aggression in adolescent offenders. *Developmental Psychology, 26*, 269–277. doi:10.1037/0012-1649.26.2.269.

Harold, G. T., Kerr, D. C. R., Van Ryzin, M., DeGarmo, D. S., Rhoades, K. A., & Leve, L. D. (2013). Depressive symptom trajectories among girls in the juvenile justice system: 24-Month outcomes of an RCT of multidimensional treatment foster care. *Prevention Science, 14*(5), 437–446. doi:10.1007/s11121-012-0317-y.

Haynie, D. L. (2003). Contexts of risk? Explaining the link between girls' pubertal development and their delinquency involvement. *Social Forces, 82*, 355–397. doi:10.1353/sof.2003.0093.

Henggeler, S. W., Clingmepeep, W. G., Brondino, M. J., & Pickrel, S. G. (2002). Four-year follow up of Multisystemic Therapy with substance-abusing and substance-dependent juvenile offenders. *Journal of the American Academy of Child and Adolescent Psychiatry, 41*, 868–874. doi:10.1097/00004583-200207000-00021.

Henggeler, S. W., Melton, G. B., Brondino, M. J., Scherer, D. G., & Hanley, J. H. (1997). Multisystemic Therapy with violent and chronic juvenile offenders and their families: The role of treatment fidelity in successful dissemination. *Journal of Consulting and Clinical Psychology, 65*, 821–833. doi:10.1037/0022-006X.65.5.821.

Henggeler, S. W., Melton, G. B., Smith, L. A., Schoenwald, S. K., & Hanley, J. H. (1993). Family preservation using multisystemic treatment: Long-term follow-up to a clinical trial with serious juvenile offenders. *Journal of Child and Family Studies, 2*, 283–293. doi:10.1007/BF01321226.

Henggeler, S. W., Pickrel, S. G., & Brondino, M. J. (1999). Multisystemic treatment of substance-abusing and -dependent delinquents: Outcomes, treatment fidelity, and transportability. *Mental Health Services Research, 1*, 171–184.

Henggeler, S. W., Rodick, J. D., Borduin, C. M., Hanson, C. L., Watson, S. M., & Urey, J. R. (1986). Multisystemic treatment of juvenile offenders: Effects on adolescent behavior and family interaction. *Developmental Psychology, 22*, 132–141. doi:10.1037/0012-1649.22.1.132.

Henggeler, S. W., & Schoenwald, S. K. (2011). Evidence-based interventions for juvenile offenders and juvenile justice policies that support them. *Society for Research in Child Development: Social Policy Report, 25*, 1–20.

Henggeler, S. W., Schoenwald, S. K., Borduin, C. M., Rowland, M. D., & Cunningham, P. B. (1998). *Multisystemic treatment of antisocial behavior in children and adolescents*. New York, NY: Guilford Press.

Henggeler, S. W., Schoenwald, S. K., Borduin, C. M., Rowland, M. D., & Cunningham, P. B. (2009). *Multisystemic therapy for antisocial behavior in children and adolescents* (2nd ed.). New York, NY: Guilford.

Henneberger, A. K., Oudekerk, B. A., Reppucci, N. D., & Odgers, C. L. (2014). Differential subtypes of offending among adolescent girls predict health and criminality in adulthood. *Criminal Justice and Behavior, 41*, 181–195. doi:10.1177/0093854813500957.

Herrera, V. M., & McCloskey, L. A. (2001). Gender differences in the risk for delinquency among youth exposed to family violence. *Child Abuse and Neglect, 25*, 1037–1051. doi:10.1016/S0145-2134(01)00255-1.

Hipwell, A., Keenan, K., Kasza, K., Loeber, R., Stouthamer-Loeber, M., & Bean, T. (2008). Reciprocal influences between girls' conduct problems and depression, and parental punishment and warmth: A six year prospective analysis. *Journal of Abnormal Child Psychology, 36*, 663–677. doi:10.1007/s10802-007-9206-4.

Howell, J. C. (2003). *Preventing and reducing juvenile delinquency: A comprehensive framework*. Thousand Oaks, CA: Sage.

Johansson, P., & Kempf-Leonard, K. (2009). A gender-specific pathway to serious, violent, and chronic offending? Exploring Howell's risk factors for serious delinquency. *Crime and Delinquency, 55*, 216–240. doi:10.1177/0011128708330652.

Kann, L., Kinchen, S., Shanklin, S. L., Flint, K. H., Hawkins, J., Harris, W. A., et al. (2013). Youth Risk Behavior Surveillance System: United States, 2013. *Morbidity and Mortality Weekly Report, 63*, 1–172.

Keller, T. E., Catalano, R. F., Haggerty, K. P., & Fleming, C. B. (2002). Parent figure transitions and delinquency and drug use among early adolescent children of substance abusers. *American Journal of Drug and Alcohol Abuse, 28*, 399–427. doi:10.1081/ADA-120006734.

Kelly, P. J., Blair, R. M., Baillargeon, J., & German, V. (2000). Risk behaviors and the prevalence of Chlamydia in a juvenile detention facility. *Clinical Pediatrics, 39*, 521–527. doi:10.1177/000992280003900903.

Kerr, D. C. R., Leve, L. D., & Chamberlain, P. (2009). Pregnancy rates among juvenile justice girls in two RCTs of Multidimensional Treatment Foster Care. *Journal of Consulting and Clinical Psychology, 77*, 588–593.

Kim, H. K., & Leve, L. D. (2011). Substance use and delinquency among middle school girls in foster care: A three-year follow-up

of a randomized controlled trial. *Journal of Consulting and Clinical Psychology, 79*, 740–750. doi:10.1037/a0025949.

Kim, H. K., Pears, K. C., Leve, L. D., Chamberlain, P. C., & Smith, D. K. (2013). Intervention effects on health-risking sexual behavior among foster care girls: The role of placement disruption and substance use. *Journal of Child and Adolescent Substance Abuse, 22*, 370–387.

Knight, G. P., Little, M., Losoya, S., & Mulvey, E. P. (2004). The self-report of offending among serious juvenile offenders. *Youth Violence and Juvenile Justice, 2*, 273–295. doi:10.1177/1541204004265878.

Lederman, C. S., Dakof, G. A., Larrea, M. A., & Li, H. (2004). Characteristics of adolescent females in juvenile detention. *International Journal of Law and Psychiatry, 27*, 321–337. doi:10.1016/j.ijlp.2004.03.009.

Letourneau, E. J., Henggeler, S. W., Schewe, P. A., Borduin, C. M., McCart, M. R., Chapman, J. E., & Saldana, L. (2009). Multisytemic Therapy for juvenile sexual offenders: 1-Year results from a randomized effectiveness trial. *Journal of Family Psychology, 23*, 89–102. doi:10.1037/a0014352.

Leve, L. D., & Chamberlain, P. (2004). Female juvenile offenders: Defining an early-onset pathway for delinquency. *Journal of Child and Family Studies, 13*, 439–452. doi:10.1023/B:JCFS.0000044726.07272.b5.

Leve, L. D., & Chamberlain, P. (2005a). Girls in the juvenile justice system: Risk factors and clinical implications. In D. Pepler, K. Madsen, C. Webster, & K. Levine (Eds.), *Development and treatment of girlhood aggression* (pp. 191–215). Mahwah, NJ: Erlbaum.

Leve, L. D., & Chamberlain, P. (2005b). Association with delinquent peers: Intervention effects for youth in the juvenile justice system. *Journal of Abnormal Child Psychology, 33*, 339–347. doi:10.1007/s10802-005-3571-7.

Leve, L. D., & Chamberlain, P. (2007). A randomized evaluation of Multidimensional Treatment Foster Care: Effects on school attendance and homework completion in juvenile justice girls. *Research on Social Work Practice, 17*, 657–663. doi:10.1177/1049731506293971.

Leve, L. D., Chamberlain, P., & Reid, J. B. (2005). Intervention outcomes for girls referred from juvenile justice: Effects on delinquency. *Journal of Consulting and Clinical Psychology, 73*, 1181–1185. doi:10.1037/0022-006X.73.6.1181.

Leve, L. D., Chamberlain, P., Smith, D. K., & Harold, G. T. (2011). Multidimensional treatment foster care as an intervention for juvenile justice girls in out-of-home care. In S. Miller, L. D. Leve, & P. K. Kerig (Eds.), *Delinquent girls: Contexts, relationships, and adaptation* (pp. 147–160). New York, NY: Springer.

Leve, L. D., Kerr, D. C., & Harold, G. T. (2013). Young adult outcomes associated with teen pregnancy among high-risk girls in an RCT of multidimensional treatment foster care. *Journal of Child and Adolescent Substance Abuse, 22*, 421–434.

Liddle, H. A. (2002). Multidimensional family therapy for adolescent cannabis users. *Cannabis Youth Treatment (CYT) Series, Volume 5.* Rockville, MD: Center for Substance Abuse Treatment, Substance Abuse and Mental Health Services Administration.

Liddle, H. A., Dakof, G. A., Parker, K., Diamond, G. S., Barrett, K., & Tejada, M. (2001). Multidimensional Family Therapy for adolescent drug abuse: Results of a randomized clinical trial. *American Journal of Drug and Alcohol Abuse, 27*, 651–688. doi:10.1081/ADA-100107661.

Liddle, H. A., Dakof, G. A., Turner, R. M., Henderson, C. E., & Greenbaum, P. E. (2008). Treating adolescent drug abuse: A randomized trial comparing multidimensional family therapy and cognitive behavioral therapy. *Addiction, 103*, 1660–1670. doi:10.1111/j.1360-0443.2008.02274.x.

Liddle, H. A., Rodriguez, R. A., Dakof, G. A., Kanzki, E., & Marvel, F. A. (2005). Multidimensional Family Therapy: A science-based treatment for adolescent drug abuse. In J. L. Lebow (Ed.), *Handbook of clinical family therapy* (pp. 128–163). New York, NY: Wiley.

Liddle, H. A., Rowe, C. L., Dakof, G. A., Henderson, C. E., & Greenbaum, P. E. (2009). Multidimensional Family Therapy for young adolescent substance abuse: Twelve-month outcomes of a randomized controlled trial. *Journal of Consulting and Clinical Psychology, 77*, 12–25. doi:10.1037/a0014160.

Liddle, H. A., Rowe, C. L., Dakof, G. A., Ungaro, R. A., & Henderson, C. E. (2004). Early intervention for adolescent substance abuse: Pretreatment to posttreatment outcomes of a randomized trial comparing Multidimensional Family Therapy and Peer Group Treatment. *Journal of Psychoactive Drugs, 36*, 49–63. doi:10.1080/02791072.2004.10399723.

Lipsey, M. W. (2009). The primary factors that characterize effective interventions with juvenile offenders: A meta-analytic overview. *Victims and Offenders, 4*, 124–147. doi:10.1080/15564880802612573.

Lipton, D., Martinson, R., & Wilks, J. (1975). *The effectiveness of correctional treatment: A survey of treatment evaluation studies*. New York, NY: Praeger Publishers.

Loeber, R., & Farrington, D. P. (Eds.). (2001). *Child delinquents: Development, intervention, and service needs*. Thousand Oaks, CA: Sage Publications Inc.

Loeber, R., Green, S. M., Lahey, B. B., Frick, P. J., & McBurnett, K. (2000). Findings on disruptive behavior disorders from the first decade of the Developmental Trends Study. *Clinical Child and Family Psychology Review, 3*, 37–60. doi:10.1023/A:1009567419190.

Loeber, R., Hipwell, A., Battista, D., Sembower, M., & Stouthamer-Loeber, M. (2009). Intergenerational transmission of multiple problem behaviors: Prospective relationship between mothers and daughters. *Journal of Abnormal Child Psychology, 37*, 1035–1048. doi:10.1007/s10802-009-9337-x.

Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist, 56*, 227–238.

Masten, A. S., & Coatsworth, J. D. (1998). The development of competence in favorable and unfavorable environments: Lessons from research on successful children. *American Psychologist, 53*, 205–220.

McClelland, G. M., Elkington, K. S., Teplin, L. A., & Abram, K. M. (2004). Multiple substance use disorders in juvenile detainees. *Journal of the American Academy of Child and Adolescent Psychiatry, 43*, 1215–1224. doi:10.1097/01.chi.0000134489.58054.9c.

Mendle, J., Leve, L. D., Van Ryzin, M., Natsuaki, M., & Ge, X. (2011). Associations between early life stress, child maltreatment, and pubertal development among girls in foster care. *Journal of Research on Adolescence, 21*, 871–880. doi:10.1111/j.1532-7795.2011.00746.x.

Merikangas, K. R., He, P., Brody, D., Fisher, P. W., Bourdon, K., & Koretz, D. S. (2010). Prevalence and treatment of mental disorders among US children in the 2001–2004 NHANES. *Pediatrics, 125*, 75–81. doi:10.1542/peds.2008-2598.

Mezzich, A. C., Tarter, R. E., Giancola, P. R., Lu, S., Kirisci, L., & Parks, S. (1997). Substance use and risky sexual behavior in female adolescents. *Drug and Alcohol Dependence, 44*, 157–166. doi:10.1016/S0376-8716(96)01333-6.

Miller, S., Leve, L., & Kerig, P. K. (Eds.). (2011). *Delinquent girls: Context, relationships, and adaptation*. New York, NY: Springer Books.

Miller, S., Loeber, R., & Hipwell, A. (2009). Peer deviance, parenting and disruptive behavior among young girls. *Journal of Abnormal*

Child Psychology, 37, 139–152. doi:10.1007/s10802-008-9265-1.

Moffitt, T. E., & Caspi, A. (2001). Childhood predictors differentiate life-course persistent and adolescence-limited antisocial pathways, among males and females. *Development and Psychopathology, 13*, 355–375. doi:10.1017/S0954579401002097.

Moffitt, T. E., Caspi, A., Harrington, H., & Milne, B. (2002). Males on the life-course persistent and adolescence-limited antisocial pathways: Follow-up at age 26 years. *Development and Psychopathology, 14*, 179–206.

Molnar, B. E., Browne, A., Cerda, M., & Buka, S. L. (2005). Violent behavior by girls reporting violent victimization: A prospective study. *Archives of Pediatrics and Adolescent Medicine, 159*, 731–739. doi:10.1001/archpedi.159.8.731.

Moore, E., Gaskin, C., & Indig, D. (2013). Childhood maltreatment and post-traumatic stress disorder among incarcerated young offenders. *Child Abuse and Neglect, 37*, 861–870. doi:10.1016/j.chiabu.2013.07.012.

Morris, J. A., Day, S., & Schoenwald, S. K. (2010). *Turning knowledge into practice: A manual for human service administrators and practitioners about understanding and implementing evidence-based practices* (2nd ed.). Boston, MA: MacArthur Foundation.

Nagin, D. S., & Farrington, D. P. (1992). The stability of criminal potential from childhood to adulthood. *Criminology, 30*(2), 235–260.

National Center for Education Statistics. (2001). *Dropout rates in the United States: 2000*. Washington, DC: U.S. Department of Education.

Obeidallah, D., Brennan, R. T., Brooks-Gunn, J., & Earls, F. (2004). Links between pubertal timing and neighborhood contexts: Implications for girls' violent behavior. *Journal of the American Academy of Child and Adolescent Psychiatry, 43*, 1460–1468. doi:10.1097/01.chi.0000142667.52062.1e.

Obradović, J., & Hipwell, A. (2010). Psychopathology and social competence during transition to adolescence: The role of family adversity and pubertal development. *Development and Psychopathology, 22*, 621–634. doi:10.1017/S0954579410000325.

Odgers, C. L., Moretti, M. M., Burnette, M. L., Chauhan, P., Waite, D., & Reppucci, N. D. (2007). A latent variable modeling approach to identifying subtypes of serious and violent female juvenile offenders. *Aggressive Behavior, 33*, 339–352. doi:10.1002/ab.20190.

Odgers, C. L., Robins, S. J., & Russell, M. A. (2010). Morbidity and mortality risk among the "Forgotten Few": Why are girls in the justice system in such poor health? *Law and Human Behavior, 34*, 429–444. doi:10.1007/s10979-009-9199-3.

Offord, D. R., Boyle, M. H., & Racine, Y. A. (1990). *Children at risk*. Toronto, ON: Queen's Printer for Ontario.

Oudekerk, B., & Reppucci, N. D. (2010). Romantic relationships matter for girls' criminal trajectories: Recommendations for juvenile justice. *Court Review, 2010*(46), 52–56.

Parsons, B. V., & Alexander, J. F. (1973). Short-term family intervention: A therapy outcome study. *Journal of Consulting and Clinical Psychology, 41*, 195–201. doi:10.1037/h0035181.

Patterson, G. R., Reid, J. B., & Dishion, T. J. (1992). *A social learning approach. IV. Antisocial boys*. Eugene, OR: Castalia.

Pepler, D., Walsh, M., Yuile, A., Levene, K., Jiang, D., Vaughan, A., & Webber, J. (2010). Bridging the gender gap: Interventions with aggressive girls and their parents. *Prevention Science, 11*, 229–238. doi:10.1007/s11121-009-0167-4.

Petrosino, A., Turpin-Petrosino, C., & Guckenburg, S. (2010). *Formal system processing of juveniles: Effects on delinquency*. Oslo, NOR: Campbell Systematic Reviews.

Poulton, R., Van Ryzin, M. J., Harold, G. T., Chamberlain, P., Fowler, D., Cannon, M., et al. (2014). Effects of Multidimensional Treatment Foster Care on psychotic symptoms in girls. *Journal of the American Academy of Child and Adolescent Psychiatry, 53*(12), 1279–1287.

Proctor, E., Silmere, H., Raghavan, R., Hovmand, P., Aarons, G., Bunger, A., et al. (2011). Outcomes for implementation research: Conceptual distinctions, measurement challenges, and research agenda. *Administration and Policy in Mental Health Research, 38*, 65–76. doi:10.1007/s10488-010-0319-7.

Puzzanchera, C. (2013). Juvenile arrests 2011. *OJJDP Juvenile Justice Bulletin*. Retrieved from http://www.ojjdp.gov/pubs/244476.pdf.

Puzzanchera, C., & Adams, B. (2011). Juvenile arrests 2009. *OJJDP Juvenile Justice Bulletin*. Retrieved from http://www.ojjdp.gov/pubs/236477.pdf.

Redding, R. (2010). *Juvenile transfer laws: An effective deterrent to delinquency?* OJJDP Bulletin. Washington, DC: U.S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention.

Rigter, H., Henderson, C. E., Pelc, I., Tossmann, P., Phan, O., Hendriks, V., et al. (2013). Multidimensional Family Therapy lowers the rate of cannabis dependence in adolescents: A randomised controlled trial in Western European outpatient settings. *Drug and Alcohol Dependence, 130*, 85–93. doi:10.1016/j.drugalcdep.2012.10.013.

Rhoades, K. A., Leve, L. D., Harold, G. T., Kim, H., & Chamberlain, P. (2014). Drug use trajectories after a randomized controlled trial of MTFC: Associations with partner drug use. *Journal of Research on Adolescence, 24*, 40–54. doi:10.1111/jora.12077.

Rowe, C., Rigter, H., Henderson, C., Gantner, A., Mos, K., Nielsen, P., & Phan, O. (2013). Implementation fidelity of Multidimensional Family Therapy in an international trial. *Journal of Substance Abuse Treatment, 44*(4), 391–399. doi:10.1016/j.jsat.2012.08.225.

Rutter, M. (2000). Resilience reconsidered: Conceptual considerations, empirical findings, and policy implications. In J. P. Shonkoff & S. J. Meiseis (Eds.), *Handbook of early childhood intervention* (2nd ed., pp. 651–682). New York, NY: Cambridge University Press.

Ryan, J. P., & Testa, M. F. (2005). Child maltreatment and juvenile delinquency: Investigating the role of placement and placement instability. *Children and Youth Services Review, 27*, 227–249. doi:10.1016/j.childyouth.2004.05.007.

Sameroff, A. J., Bartko, W. T., Baldwin, A., Baldwin, C., & Seifer, R. (1998). Family and social influences on the development of child competence. In M. Lewis & C. Feiring (Eds.), *Families, risk, and competence* (pp. 161–186). Mahwah, NJ: Lawrence Erlbaum.

Schaeffer, C. M., & Borduin, C. M. (2005). Long-term follow-up to a randomized clinical trial of multisystemic therapy with serious and violent juvenile offenders. *Journal of Consulting and Clinical Psychology, 73*, 445–453. doi:10.1037/0022-006X.73.3.445.

Schaub, M. P., Henderson, C. E., Pelc, I., Tossmann, P., Phan, O., Hendriks, V., et al. (2014). Multidimensional family therapy decreases the rate of externalising behavioural disorder symptoms in cannabis abusing adolescents: Outcomes of the INCANT trial. *BMC Psychiatry, 14*(1), 26. doi:10.1186/1471-244X-14-26.

Schoenwald, S. K., Henggeler, S. W., Brondino, M. J., & Rowland, M. D. (2004). Multisystemic Therapy: Monitoring treatment therapy. *Family Process, 39*, 83–103. doi:10.1111/j.1545-5300.2000.39109.x.

Sexton, T., & Turner, C. W. (2011). The effectiveness of Functional Family Therapy for youth with behavioral problems in a community practice setting. *Couple and Family Psychology: Research and Practice, 1*, 3–15. doi:10.1037/2160-4096.1.S.3.

Siennick, S. E., & Staff, J. (2008). Explaining the educational deficits of delinquent youths. *Criminology, 46*, 609–636. doi:10.1111/j.1745-9125.2008.00118.x.

Smith, D. K., Chamberlain, P., & Deblinger, E. (2012). Adapting Multidimensional Treatment Foster Care for the treatment of co-occurring trauma and delinquency in adolescent girls. *Journal of Child and Adolescent Trauma, 5*, 224–238.

Smith, D. K., Leve, L. D., & Chamberlain, P. (2006). Adolescent girls' offending and health-risking sexual behavior: The predictive role of trauma. *Child Maltreatment, 11*, 346–353. doi:10.1177/1077559506291950.

Snyder, H. N. (2008). Juvenile arrests 2006. *OJJDP Juvenile Justice Bulletin.* Retrieved from https://www.ncjrs.gov/pdffiles1/ojjdp/221338.pdf.

Solomon, B. J. (2006). Other-sex friendship involvement among delinquent adolescent females. *Youth Violence and Juvenile Justice, 4*, 75–96. doi:10.1177/1541204005282313.

Sprott, J. B., & Doob, A. N. (2009). *Justice for girls? Stability and change in the youth justice systems of the United States and Canada*. Chicago, IL: University of Chicago Press.

Steffensmeier, D., & Demuth, S. (2006). Does gender modify the effects of race-ethnicity on criminal sanctioning? Sentences for male and female White, Black, and Hispanic defendants. *Journal of Quantitative Criminology, 22*, 241–261. doi:10.1007/s10940-006-9010-2.

Steffensmeier, D., & Haynie, D. (2000). Gender, structural disadvantage, and urban crime: Do macro social variables also explain female offending rates? *Criminology, 38*, 403–439.

Steinberg, L., Blatt-Eisengart, I., & Cauffman, E. (2006). Patterns of competence and adjustment among adolescents from authoritative, authoritarian, indulgent, and neglectful homes: A replication in a sample of serious juvenile offenders. *Journal of Research on Adolescence, 16*, 47–58. doi:10.1111/j.1532-7795.2006.00119.x.

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, MD: Substance Abuse and Mental Health Services Administration.

Szalavitz, M. (2006). *Help at any cost: How the troubled-teen industry cons parents and hurts kids*. New York, NY: Riverhead Books.

Taussig, H. N. (2002). Risk behaviors in maltreated youth placed in foster care: A longitudinal study of protective and vulnerability factors. *Child Abuse and Neglect, 26*, 1179–1199. doi:10.1016/S0145-2134(02)00391-5.

Taussig, H. N., & Clyman, R. B. (2011). The relationship between time spent living with kin and adolescent functioning in youth with a history of out-of-home placement. *Child Abuse and Neglect, 35*, 78–86. doi:10.1016/j.chiabu.2010.09.001.

Teplin, L. A., Abram, K. M., McClelland, G. M., Dulcan, M. K., & Mericle, A. A. (2002). Psychiatric disorders in youth in juvenile detention. *Archives of General Psychiatry, 59*, 1133–1143. doi:10.1001/archpsyc.59.12.1133.

Teplin, L. A., Elkington, K. S., McClelland, G. M., Abram, K. M., Mericle, A. A., & Washburn, J. J. (2005). Major mental disorders, substance use disorders, comorbidity, and HIV-AIDS risk behaviors in juvenile detainees. *Psychiatric Services, 56*, 823–828. doi:10.1176/appi.ps.56.7.823.

Teplin, L. A., Jakubowski, J. A., Abram, K. M., Olson, N. D., Stokes, M. L., & Welty, L. J. (2014). Firearm homicide and other causes of death in delinquents: A 16-year prospective study. *Pediatrics, 134*, 63–73.

Teplin, L. A., Mericle, A. A., McClelland, G. M., & Abram, K. M. (2003). HIV and AIDS risk behaviors in juvenile justice detainees: Implications for public health policy. *American Journal of Public Health, 93*, 906–912.

Teplin, L. A., Welty, L. J., Abram, K. M., Dulcan, M. K., & Washburn, J. J. (2012). Prevalence and persistence of psychiatric disorders in youth after detention: A prospective longitudinal study. *JAMA Psychiatry, 69*, 1031–1043.

Timmons-Mitchell, J., Bender, M. B., Kishna, M. A., & Mitchell, C. C. (2006). An independent effectiveness trial of Multisystemic Therapy with juvenile justice youth. *Journal of Clinical Child and Adolescent Psychology, 35*, 227–236. doi:10.1207/s15374424jccp3502_6.

U.S. Department of Health and Human Services. (2000). Prevention of violence. In *Mental health: A report of the Surgeon General* (DHHS publication No. DSL 2000-0134-P). Washington, DC: U.S. Government Printing Office.

van der Molen, E., Hipwell, A. E., Vermeiren, R., & Loeber, R. (2011). Maternal characteristics predicting young girls' disruptive behavior. *Journal of Clinical Child and Adolescent Psychology, 40*, 179–190. doi:10.1080/15374416.2011.546042.

Waldron, H. B., Slesnick, N., Brody, J. L., Turner, C. W., & Peterson, T. R. (2001). Treatment outcomes for adolescent substance abuse at 4- and 7-month assessments. *Journal of Consulting and Clinical Psychology, 69*, 800–813. doi:10.1037//0022-006X.69.5.802.

Wareham, J., & Dembo, R. (2007). A longitudinal study of psychological functioning among juvenile offenders: A latent growth model analysis. *Criminal Justice and Behavior, 34*, 259–273. doi:10.1177/0093854806289828.

Wasserman, G. A., McReynolds, L. S., Schwalbe, C. S., Keating, J. M., & Jones, S. A. (2010). Psychiatric disorder, comorbidity, and suicidal behavior in juvenile justice youth. *Criminal Justice and Behavior, 37*, 1361–1377. doi:10.1177/0093854810382751.

Weiss, B., Han, S., Harris, V., Catron, T., Ngo, V. K., Caron, A., et al. (2013). An independentrandomized clinical trial of multisystemic therapy with non-court-referred adolescents with serious conductproblems. *Journal of Consulting and Clinical Psychology, 81*(6), 1027–1039. doi:10.1037/a0033928.

Westermark, P. K., Hansson, K., & Olsson, M. (2010). Multidimensional treatment foster care (MTFC): Results from an independent replication. *Journal of Family Therapy, 33*, 20–41.

Widom, C. S. (1989). Child abuse, neglect, and adult behavior. Research design and findings on criminality, violence, and child abuse. *American Journal of Orthopsychiatry, 59*, 355–367.

Williams, L., & Steinberg, L. (2011). Reciprocal relations between parenting and adjustment in a sample of juvenile offenders. *Child Development, 82*, 633–645. doi:10.1111/j.1467-8624.2010.01523.x.

Wong, T. M. L., Loeber, R., Slotboom, A., Bijleveld, C. C. J. H., Hipwell, A. E., Stepp, S. D., & Koot, H. M. (2013). Sex and age differences in the risk threshold for delinquency. *Journal of Abnormal Child Psychology, 41*, 641–652. doi:10.1007/s10802-012-9695-7.

Zahn, M. A. (Ed.). (2009). *The delinquent girl*. Philadelphia, PA: Temple University Press.

Zahn, M. A., Agnew, R., Fishbein, D., Miller, S., Winn, D. M., Dakoff, G., et al. (2010). *Causes and correlates of girls' delinquency: Girls study group, understanding and responding to girls' delinquency.* U. S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention.

Zahn-Waxler, C., Shirtcliff, E. A., & Marceau, K. (2008). Disorders of childhood and adolescence: Gender and psychopathology. *Annual Review of Clinical Psychology, 4*, 275–303. doi:10.1146/annurev.clinpsy.3.022806.091358.

Zingraff, M. T., Leiter, J., Johnsen, M. C., & Meyers, K. A. (1994). The mediating effect of good school performance on the maltreated–delinquency relationship. *Journal of Research in Crime and Delinquency, 31*, 62–91. doi:10.1177/0022427894031001003.