

# Chapter 28

## The Positive Action Program: Improving Academics, Behavior, and Character by Teaching Comprehensive Skills for Successful Learning and Living

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*When I do good, I feel good; when I do bad, I feel bad; and that's my religion. Abraham Lincoln*  
(Fehrenbacher & Fehrenbacher, 1996, p. 245)

### Introduction

It seems like a ‘no-brainer’. There is more to student learning and wellbeing than the ABCs. But *which* ABCs? It is not just the alphabet any more. Today it is Academics plus Behavior and Character – the *new basics* that can make students’ school years relevant for their entire lives. One method of doing this successfully is to teach comprehensive Skills for Successful Learning and Living (SSLL) – and one proven program that does that is the *Positive Action* program. In this chapter we will review the prevalence and impact of behavioral, emotional, and academic problems, discuss the need for SSLL programs and their potential impact, describe the *Positive Action* program, summarize the results of multiple evaluations of the program, and discuss future research needs on SSLL programs.

### Prevalence and Impact of Behavioral, Emotional, and Academic Problems Among Students

Education has an urgent need to learn more about the role of behavior, emotion, values, character, and social skills in improving student academic performance, wellbeing, and life success (Eccles, 2004; Meece, Anderman, & Anderman, 2005).

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Since the passing of the No Child Left Behind Act in the United States, education has increasingly focused on teaching to core content standards to improve academic achievement scores, particularly in reading and math, almost to the total exclusion of the values, character, emotional, social, and behavioral domains (Hamilton et al., 2007). Consequently, education has seen problem behaviors increase (Eisenbraun, 2007) and school safety decrease (Eaton, Kann, et al., 2008) with no real gain in academics (CEBP, 2002; CEP, June 2007; ED, 2000; Heaviside, Rowland, Williams, & Farris, 1999; Perie, Grigg, & Dion, 2005; Perie, Grigg, & Donahue, 2005).

Schools also are expected to prevent violence, substance use, and other disruptive behaviors – all of which are clearly linked to student values, character, and school performance (Fleming et al., 2005; Malecki & Elliott, 2002; Wentzel, 1993). Approximately 30% of high school students engage in multiple high-risk behaviors (e.g., violence, substance use, sex, violence, delinquency) that interfere with their school performance and jeopardize their potential for success in life (Centers for Disease Control and Prevention, 2008; Dryfoos, 1997). The prevalence of discipline problems correlates positively with the prevalence of violent crimes within a school (Heaviside et al., 1999) which, in turn, affects school attendance and achievement (Eaton, Brener, & Kann, 2008; Walberg, Yeh, & Mooney-Paton, 1974). Mental health concerns also become more prevalent as students move into adolescence (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003) and can contribute to behavioral problems that detract from achievement. Similar trends and dynamics are evident for behaviors related to physical health, such as exercise and nutrition (Breinbauer & Maddaleno, 2005), with associated conditions, such as obesity, linked to lower levels of academic achievement (Crosnoe & Muller, 2004). Furthermore, many students believe their teachers do not care about them, disrupt the educational experiences of classmates, and lack social-emotional competence (Benson, Scales, Leffert, & Roehlkepartain, 1999). There is a great need to improve how schools address student outcomes in a range of interrelated areas, including academics, behavior, and character (Allensworth, Lawson, Nicholson, & Wyche, 1997); we call that combination of skills the Skills for Successful Learning and Living (SSLL), the skills for learning and living in the physical, intellectual, social, and emotional domains.

## **The Need for Comprehensive “Skills for Successful Learning and Living” (SSLL) Programs**

A number of different kinds of school-based programs have been developed to address problems of academic achievement (Slavin & Fashola, 1998) and many others have offered the promise of doing so indirectly through a focus on specific disruptive health-related behaviors (Battistich, Schaps, Watson, Solomon, & Lewis, 2000; Biglan et al., 2004; DuPaul & Stoner, 2004; Elias, Gara, Schuyler, Branden-Muller, & Sayette, 1991; Flannery et al., 2003; Flay, 1985; Flay, 2007; Horowitz & Garber, 2006; Leff, Power, Manz, Costigan, & Nabors, 2001; Peters & McMahon,

1996; Smith, Daunic, Miller, & Robinson, 2002; Sussman, Dent, Burton, Stacy, & Flay, 1995; Tolan & Guerra, 1994). Although many of these programs are promising, as a group they have limitations for promoting healthy development and academic achievement. First, most are problem-specific, and tend to address the proximal, micro-level predictors of one problem behavior, not the multifaceted, distal,<sup>1</sup> macro-level factors that influence all important outcomes (Flay, 2002; Flay & Petraitis, 1994; Flay, Snyder, & Petraitis, 2009; Petraitis, Flay, & Miller, 1995; Power, 2003); so they have few sustained effects (Flay, 2002). Second, there has been little effort to structure curricula and other components so that gains in the targeted non-academic domains systematically translate into gains in achievement. This may help to explain the limited and inconsistent pattern of effects of such programs on academic outcomes (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2004; Flay, 2002). To address the preceding limitations, there is a need for comprehensive, coherent, school-wide programs that recognize that students' academic performance, their learning and life skills, multiple behaviors, and character are all interrelated. Otherwise, we run the risk of failing to reduce rates of critical negative behavioral outcomes or to increase rates of positive behavioral and academic outcomes in ways that are truly synergistic, effective, and enduring.

The preceding trends notwithstanding, there has been a movement in recent years to more comprehensive, multi-modal, and multi-level programs that address multiple behaviors and that involve families; and these generally appear to be more effective (Battistich et al., 2000; Catalano, Berglund, et al., 2004; Derzon, Wilson, & Cunningham, 1999; Elias et al., 1991; Flay, 2000; Flay, Graumlich, Segawa, Burns, & Holliday, 2004; Hawkins, Catalano, Kosterman, Abbott, & Hill, 1999; Hawkins, Catalano, & Miller, 1992; Kellam & Anthony, 1998; Lerner, 2002). The best SLL programs use direct instruction and interactive approaches that are holistic, developmentally appropriate, and culturally sensitive to teach students the values and skills, and to be intrinsically motivated, to have good physical health, learn effectively in school and life, make responsible decisions, solve problems effectively, recognize and manage their emotions and other personal resources, appreciate the perspectives of others (e.g., empathy, tolerance), handle interpersonal situations effectively, be honest with themselves and others, establish positive goals, and engage in self improvement.

Most behavioral management (DuBois, 1996; DuPaul & Stoner, 2004; Kazdin, 2001; Kellam, Rebok, Ialongo, & Mayer, 1994; Sprague & Golly, 2005; Sprague, Golly, Bernstein, Munkres, & March, 1999; Sugai, Sprague, Horner, & Walker, 2000), social and character development (Althof & Berkowitz, 2006; Berkowitz & Battistich, 2008; Berkowitz & Bier, 2004; Lickona, 1993), social and emotional learning (Brown, Roderick, Lantieri, & Aber, 2004; CASEL, 2003; Lemerise &

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<sup>1</sup>Proximal and distal are terms used in various disciplines to suggest the distance between factors in a causal chain. For example, intention to do a behavior is a proximal predictor/cause, while parenting style or is a more distal influence/cause of behavior. These terms are also used when referring to the outcomes of a program, where attitudes might be a proximal outcome and actual behavior a more distal outcome.

Arsenio, 2000; Payton et al., 2000), and positive youth development programs (Catalano, Berglund, et al., 2004; Lerner, Almerigi, Theokas, & Lerner, 2005; Lerner, Dowling, & Anderson, 2003) are manifestations of SSLL. Others have recently written about the links of Positive Youth Development (PYD) to Character Education (CE) (Catalano, Hawkins, & Toumbourou, 2008) and the complimentary nature of Social and Emotional Learning (SEL) and CE (Elias, Parker, Kash, Weissberg, & O'Brien, 2008). The *Positive Action* (PA) program (Flay, 2002; Flay & Allred, 2003; Flay, Allred, & Ordway, 2001) has been recognized by the U.S. Department of Education's What Works Clearinghouse as the only "character education" program to meet the evidentiary requirements for improving both academics and behavior. We believe that the *Positive Action* program incorporates all the best aspects of all three of these major approaches to social and character development (SACD) and is, therefore, one of the most complete manifestations of SSLL that we know.

Evaluations of SSLL-like programs suggest that they have considerable promise for promoting positive student outcomes. They also show potential to enhance students' connection to school through caring and engaging classroom and school practices (McNeely, Nonnemaker, & Blum, 2002; Osterman, 2000) and they appear to be cost-effective (Aos, Lieb, Mayfield, Miller, & Pennucci, 2004). Theoretically, it is expected that (a) learning SSLL is similar to learning other academic skills (i.e., initial learning can be enhanced over time if children are reinforced in applying the skills to increasingly complex situations regarding health, social relationships, and academics), and (b) learning and skill acquisition are best accomplished through a combination of direct instruction, interactive approaches, and engagement in positive activities (Henderson, Karen, & Averett, 2002; Pittman, Irby, Tolman, Yohalem, & Ferber, 2001; Skinner, Kindermann, & Furrer, under review; Tobler et al., 2000), also characterized as sequenced, active, focused, and explicit (SAFE) (Durlak & Weissberg, 2007).

## Potential Impact

Policy-makers, school administrators, and communities are trying to identify and support programs with proven efficacy for improving academic achievement and related outcomes. There is particular interest in programs that can positively impact racial/ethnic and poverty gaps in student learning and wellbeing, and also demonstrate effectiveness when delivered to students making the transition to adolescence and secondary-level schooling. However, most existing programs already identified as "proven" have yielded small effect sizes (Derzon & Wilson, 1999; Tobler et al., 2000; Tobler & Stratton, 1997; Wilson, Gottfredson, & Najaka, 2001) and these effects frequently have not been sustained (Flay, 2002; Greenberg, Domitrovich, & Bumbarger, 2001). Most of these programs are domain specific and few have been structured so that gains in personal, behavioral, and social domains translate into improvements in academic achievement. Given the relationships between student

values and character, social skills, emotional wellbeing, behavior, and academic performance, and because of the pressures of time on the school day, it would be beneficial to make available to schools coherent, school-wide SSLL programs that are easily and inexpensively implemented and that intentionally cultivate positive linkages of SSLL skills, concepts, and activities with achievement (Catalano, Oesterle, Fleming, & Hawkins, 2004; Flay, 2002).

## The *Positive Action* Program

The Positive Action (PA) program was developed and revised by Carol Gerber Allred from 1977 to the present using continuous process monitoring and evaluation. It consists of training and materials for schools, families, and communities, and its content is based on three core elements – a philosophy, the thoughts–actions–feelings circle, and six content units. The PA program consists of a PreK–12 classroom curriculum, kits for school preparation and teacher training, school-wide climate development, a counselors kit, and parent and community involvement manuals. PA uses research-supported strategies and methods of education and behavior change, such as active learning, positive classroom management, social–emotional–behavioral and learning skills development, role-play, a detailed curriculum with almost daily lessons, school-wide reinforcement of positive behaviors, intrinsic motivation, and family and community involvement.

The first core element of the program is the *Positive Action* philosophy, which is grounded in a broad theory of self-concept (Combs, 1962; Purkey, 1970; Purkey & Novak, 1970). This theory posits that people determine their self-concepts by what they do; that actions, more than thoughts or feelings, determine self-concept; and that making positive and healthy behavioral choices results in feelings of self-worth/esteem. In accordance with recent theory and supporting research in “Positive Psychology” (Fredrickson, 2000; Seligman & Csikszentmihalyi, 2000), the program also assumes that when people feel positive about themselves, they will, in a reflexive manner, have more positive thoughts and engage in more positive behavior. This can be compared to the ABCD (affective–behavioral–cognitive–dynamic) model of Greenberg and Kusché’s PATHS program (Kam, Greenberg, & Kusche, 2004). Positive emotions about self also may prove a superior method for regulating and mitigating negative emotions and their ill effects on self-control (Fredrickson, 2000, 2001; Izard, 1977; Lazarus, 1991).

The second core component of the program is the Thoughts–Actions–Feelings about self circle (Fig. 28.1). The content of the classroom curriculum, and all other components of the program, is based on the intuitive idea that “You feel good about yourself when you do positive actions and there is always a positive way to do everything.” The Thoughts–Actions–Feelings about self circle illustrates this self-reinforcing process that is taught to students; showing them that thoughts lead to actions, actions lead to feelings about self, and feelings about self lead to more thoughts. The circle can be positive or negative.

**Fig. 28.1** The Thoughts-Action-Feelings about Self Circle



Values are the key to everything we want to achieve. If we can get students to value being good, achieving, and contributing, then that is what they will be and do. *Positive Action* helps them do this by understanding that when they do good things they feel good about themselves. An important aspect of the TAF circle is whether there is a plus or a minus sign in the center that exemplifies good/right vs. bad/wrong. The way to achieve our educational goals is to help students come to value positive actions and to motivate them to engage in positive behaviors by understanding that they feel good about themselves when they do so. Cycles of positive or negative actions become habits, habits then become character, and character becomes destiny. As USA theologian, Tryon Edwards (1959) suggests, thoughts lead on to purposes, purposes go forth in action, actions form habits, habits decide character, and character ultimately fixes our destiny.

The aim of PA is to get everyone into the positive cycle by making positive choices consciously; this is intrinsically motivated change, where people choose to do positive actions to feel good about his or her self. Research strongly suggests that intrinsically motivated learning and behavior change are more likely to be sustained than extrinsically motivated learning or behavior change (Deci, 2009; Deci, Koestner, & Ryan, 1999, 2001; Deci & Ryan, 1985; Gottfried, Marcoulides, Gottfried, & Oliver, 2009; Ryan & Deci, 2000, 2006). Indeed, this process of change, involving teachers, students, other school staff, parents, and community members, allows participants to feel good about the change and about their involvement in it, an approach also recently found to be effective in large-scale school reform (Deci, 2009).

The third core component of the program is the actual content. The program teaches specific positive actions for the whole self: the physical, intellectual, social, and emotional areas. The content of all program components is taught through six units:

- Unit 1. Self-Concept: What it is, how it is formed, and why it is important (the PA philosophy and circle).
- Unit 2. Positive actions for body (physical) and mind (intellectual). For example, nutrition (including not using harmful substances), exercise, sleep, hygiene,

motivation to learn, thinking skills, problem solving, decision-making, creativity, curiosity, and study skills.

- Unit 3. Social and emotional positive actions for managing yourself responsibly. For example, self-management, self-control, managing personal resources like time, talent, energy, thoughts, actions, feelings, money, and possessions.
- Unit 4. Social and emotional positive actions for getting along with others by treating them the way you like to be treated. For example, with respect, empathy, kindness, fairness, cooperation.
- Unit 5. Social and emotional positive actions for being honest with yourself and others. For example, taking responsibility for telling self and others the truth, admitting mistakes, not blaming others or rationalizing, doing what you say you will do, knowing your strengths and weaknesses.
- Unit 6. Social and emotional positive actions for improving yourself continually. For example, setting and achieving goals, believing in potential, having the courage to try, turning problems into opportunities, persisting, and broadening horizons.

Together, these make up the comprehensive set of skills for successful learning and living (SSL). The program trains teachers and parents to identify, teach, and reinforce positive thoughts, actions, and feelings about themselves by students and others in the school, leading to continual reinforcement of positive actions and enhanced student bonding with parents and school, consistent with multiple social learning theories (Akers, 1977, 1998; Bandura, 1977, 1986) and other current theories about and approaches to social development, health promotion, and prevention of unhealthy behaviors (Flay & Petraitis, 1994; Flay et al., 2009; Hawkins & Weis, 1985; Peters & McMahon, 1996). Research supports the program's focus on positive emotions and actions, showing, for example, that children who display empathy and sympathy and are sensitive to the wellbeing of others, also act pro-socially in other respects, even altruistically (Eisenberg & Fabes, 1998; Izard et al., 2000). Self-consistency becomes moral when our understanding and reasoning about social issues/problems becomes related to our feelings about ourselves and motivations to act responsibly; when we intend to do right (Blasi, 2004; Higgins-D'Alessandro & Power, 2005).

All components of PA are based on the same content that is taught through the six unit concepts, the SSL. Students coming from less effective homes (disadvantaged, high-risk, low parenting skills) have fewer of these skills and need to have them taught. Standard education does little to compensate for lack of skills – they mostly teach the same way to all students regardless of student readiness to learn. Even students from homes where these skills are taught need to have them reinforced in school. Teaching these skills provides an opportunity for disadvantaged students to catch up and for students with the skills to practice and improve them (Freire, 1976; Noguera, 1995). In Unit 4 of the program, participants are asked how they like to be treated. Regardless of age, socioeconomic status, gender, or culture, students and adults all over the world suggest the same top values of respect, fairness, kindness, honesty, understanding/empathy, and love, consistent with others' findings (Nucci,

2001). These values, or ways people like to be treated, are then adopted as the code of conduct for the classroom and school.

This broad-based approach engages students because the topic is about their self-empowerment – who they are, who they can become, and how they can be someone admirable. By building in relevance, *Positive Action* provides a foundation of strong, proactive behavior, character development, and academic achievement (see boxed text below). Students gain social and emotional maturity and sound decision-making skills – aspects of a positive character that easily translate into active citizenship.

### **The New Essential ABC's: Academics, Behavior, and Character**

How Positive Action Works for **Academics**: *Positive Action* creates an intellectually stimulating learning environment and helps students retain academic lessons by applying them to real-life situations. The lessons also inspire students to value learning and education, and to engage in setting personal goals for a happy and successful life. Thus, disciplinary referrals and drop-out rates decline and graduation rates improve. A counselor at a California middle school reported that *Positive Action* lessons and academic subjects are a powerful combination. “The student-teacher connection deepens,” she said. “*Positive Action* gives a platform to address behavior and give positive feedback, and allows teachers to tie academic content into the lessons.”

How Positive Action Works for **Behavior**: *Positive Action* is an effective tool for teachers to use for behavior management. By teaching the Thoughts–Actions–Feelings Circle, students become empowered to take control of their behavior in an intentional and deliberate way. Traditionally, educators focus on the *act* itself without considering the *thought* that precedes the *action* and the relationship of the *act* to the *feeling you get about yourself* that follows. Once students understand the role and importance of all three parts of the circle – thoughts, actions, and feelings about self – they become skilled and motivated managers of themselves, freeing the teacher to focus on academics.

How Positive Action Works for **Character**: The Thoughts–Actions–Feelings Circle also helps students develop a positive character by teaching how important their values are to all aspects of their lives – including education. When you add positive (right or good) or negative (wrong or bad) to the circle, you are adding values to the behavior process. If you value positive actions, you do them; if you do not value positive actions, you do negative actions. The goal is to help students value positive actions, like learning to achieve academically and becoming a good person, so that they can achieve success and happiness – or feel good about who they are, how they treat others, and what they are doing with their lives.



As discussed earlier, broad and long-term effectiveness in improving both school performance and other desired student outcomes requires addressing more distal influences on behavior in a holistic way. The PA program attempts this with a holistic approach to school reorganization, teacher–student relations, parent and community involvement, instructional practices, and development of the self-concept of all parties (students, teachers, parents, and community members). The goal is for students and adults to gain not only the knowledge, attitudes, norms, and skills that they might gain from other programs, but also improved values, self-concept, family bonding, peer selection, communication, and appreciation of school. PA is designed to affect more distal (and more fundamentally influential) influences on school climate and student behavior and performance. The expected result is improvement in a broad range of behaviors (both negative and positive), emotional wellbeing, and school performance.

Figure 28.2 presents a logic/theoretic model for the PA program when delivered in schools. The most direct and immediate impact of the implementation of the program’s different components is to increase the amount and quality of social/emotional and character development activities used by the school (see School & Classroom SSLL Practices). The school climate component leads to changes in school-wide activities such as reinforcement and recognition of positive

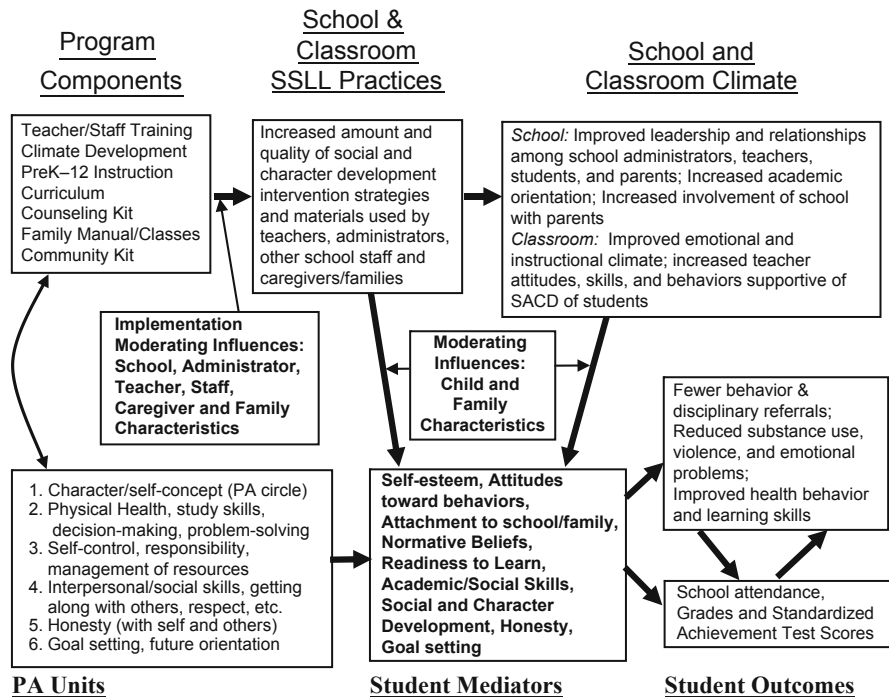


Fig. 28.2 Logic/Theoretic model of the effects of the *Positive Action* program

behavior and character attributes demonstrated by students, as well as assemblies and other events that focus on SSSL. The family involvement component leads to changes in opportunities for family involvement with the school focused on SSSL, as well as positive increases in the discussion and utilization of SSSL principles in school–parent and parent–child relations. The teacher/staff training promotes more effective implementation of classroom curriculum and also contributes to greater integration of SSSL activities, materials, and concepts into classroom management and instructional strategies as well as parent–teacher relations. The classroom curriculum contributes to greater amounts and quality of dedicated classroom instruction in SSSL knowledge and skills in areas that are the focus of the six Units of PA. Implementation of the program components and, thus, effects on SSSL activities in the school, is moderated by school/administrator, teacher/staff, and family characteristics. Enhanced SSSL, in turn, impact student social and character development and supportive attitudes and skills (see Student Effects) both directly and through improvements in relevant facets of the school and classroom environment (see School Climate and Classroom Climate; for ease of exposition and presentation we include effects involving families under school climate). Child and family characteristics moderate the strength and pattern of these impacts of SSSL activities. Improvements in student social and character development and supportive areas then yield both reductions in student behavioral and emotional problems and gains in school attendance, grades, and test scores, with impacts in these two domains mutually facilitating one another.

## **Prior Evaluations of Positive Action Programs**

Many schools and districts around the world have experienced success with the “Positive Action Program.” See boxed text below for one anecdote. Proof of effectiveness requires more than anecdotes and, fortunately, PA has been researched and evaluated in many different kinds of schools by the program’s developer, school districts, and third-party evaluators.

### **A California Success Story**

Some schools are striking a balance without compromising academic achievement goals. In fact, schools using *Positive Action* are finding that their students are not only learning for life, but exceeding their academic benchmarks as well.

Allan Petersdorf faced this curriculum dilemma when he became the principal of Discovery Bay Elementary School in 2005. The school’s Academic Performance Index (API) was at 753; he knew that he was expected to at least reach his state’s goal of 800. He also knew that students need more

than just reading and math skills for a successful, engaged life. He found the happy medium when his teachers attributed recent improvements in behavior and academics to *Positive Action*, which they had been using since 2003. Mr. Petersdorf embraced the program, concluding that it was the missing link between academics and learning for life. “I’ve used other character education programs in the past and they have all been beneficial,” said Mr. Petersdorf, “but *Positive Action* goes beyond character education and that’s what we were looking for.”

Since then, Discovery Bay API scores have been steadily rising: to 772 in 2006, 816 in 2007, and 839 in 2008. Equally intriguing to Mr. Petersdorf, however, were the changes in student behavior. They are participating in class, demonstrating good character, and engaging in civic activities.

One particularly impressive activity began when a 4th grade student, Tyler Page, took what he learned in class from *Positive Action* and applied it to a real-world cause. While watching an Oprah Winfrey television episode, Tyler learned that children in Ghana were sold into slavery, where they suffered from backbreaking work, violent beatings, and malnutrition. He challenged his classmates: “Let’s team up and show others how *Positive Action* in your community can change lives. Wouldn’t you like to BE the difference and be a hero? Together as a team we can do it.” He spearheaded a carwash fundraiser with friends and parents in order to buy a child’s freedom for 1 year for \$240. The fundraiser was a success, raising over \$50,000 in 17 months, and altering the lives of over 200 children. This success inspired his family and friends to start their own non-profit organization, Kids Helping Kids Leadership Academy, Inc. (<http://www.kidzhelpingkids.org>).

Discovery Bay Elementary School is one of many success stories from schools that have experienced the beneficial effects of *Positive Action* for over 26 years in more than 13,000 schools and districts around the world. However, educators need to see the science behind the stories, and *Positive Action* has that, too.

During the late 1990s, the authors collaborated to conduct matched-control group studies on archival data from three school districts that used the PA program during the 1990s (Flay & Allred, 2003; Flay et al., 2001). For two school districts in Hawai‘i and Nevada that had used PA in a significant number of elementary schools for several years, we used School Report Card (SRC) data on poverty (a major predictor of achievement) and mobility (a strong predictor of disciplinary problems) to match each PA school with the best-matched schools with similar ethnic distribution (Flay et al., 2001). We then analyzed the difference between PA schools and matched controls using ANCOVA, controlling for the matching variables, and testing for interactions between covariates and PA. Analyses of school-level data from the 1995–1996 and 1996–1997 school years in Nevada found that PA schools scored 16% better than non-PA schools (53.9 vs. 46.4) in their percentile ranking

of 4th grade achievement scores; reported 85% fewer incidences of violence; and reported 4.5% lower rates of absenteeism. All of these differences were statistically significant and equal in schools with high vs. low minority populations and mobility. We found similar results using 1995–1998 data from Hawai'i (Flay et al., 2001).

In subsequent research with a large Southeastern school district, we expanded the variables on which PA and non-PA schools were matched to include outcome variables (achievement) assessed before the introduction of PA (Table 2 in Flay & Allred, 2003). Findings were very similar to those reported from Nevada & Hawai'i – for example, 45% improvement in Florida Reading Test scores and 68% reduction in violence-related disciplinary referrals (Table 3 in Flay & Allred, 2003).

*Hawai'i RCT:* With support from the National Institute on Drug Abuse of NIH, the first author and his colleagues conducted a school-based randomized trial of the PA program in 20 K-5 schools in Hawai'i. Using SRC data, we stratified the eligible schools into strata ranked on a “risk score” comprised from multiple demographic variables, characteristics of the school and indicators of student behavioral and performance outcomes. We randomly selected schools from within strata and randomly assigned them to program or control conditions before recruitment. The study sample consisted of two cohorts of students (Grades 1 and 2 at pretest in 2000–2001 through to Grades 5 and 6 by the wave 5 follow-up in 2004–2005), their parents, their teachers each year of the study, and all other teachers and staff in project schools. In the spring of each year we surveyed the two cohorts of students and their teachers and parents, and all other teachers in all study schools. We also asked teachers of cohort students in both PA and control schools to rate the behavior of their students on approximately 70 behavioral items. We did not follow students who left project schools and we added students who entered project schools during the study.

The program developer (C.G. Allred) and the local PA Implementation Coordinator provided annual teacher and staff training to each school in the program condition — 1 day in the first year and a half day in subsequent years. In addition, we provided support for teachers and staff during the entire study period through individual consultation with the PA Implementation Coordinator. This person also provided regular consultation with Principals to ensure that the PA curriculum and other program components were implemented in adherence to the guidelines established by the program developer. Finally, to enhance implementation fidelity, we brought school leaders and selected teachers from all PA schools together for a workshop each year to share experiences and learn from the developer and each other.

There was variability between schools on a range of implementation indices, especially in Year 1, with improvements over time. By Years 3 and 4, two schools were still implementing at a low level, three at a moderate-to-high level, and five at a high level. Through interviews of school leaders and systematic observation of classrooms and schools we found that control schools reported implementing an average of 10.2 SSLL programs compared with 4.2 – in addition to PA – in the program schools. Teachers in control schools spent an average of 108 min/week on SSLL-related activities. PA school teachers spent the expected amount of time

on PA (55.1 min/week), yet, overall they still spent only 35 min/week more on SSSL-related activities than teachers in control schools. Control schools reported that teachers were involved in SSSL-related activities for an average of 24 weeks per school year. In contrast, teachers in PA schools reported delivering PA almost every week of the school year as well as being involved in other SSSL-related activities for 25 weeks/year. Both PA and control school teachers reported receiving training to implement approximately half of the SSSL-related programs (52.3 and 53.3%, respectively) that they reported implementing other than PA (100% trained).

For his dissertation, Michael Beets conducted some analyses of the predictors of program implementation and the links between implementation, dosage, and outcomes (Beets & Flay, 2007; Beets et al., 2008; Beets, Vuchinich, Acock, Allred, & Flay, 2007). He found that level of implementation was influenced by school principal attitudes and support, and teacher attitudes about SACD activities in general and PA in particular. In turn, level of implementation predicted student reports of exposure to the program elements. Student attitudes influenced student involvement in the program. Student exposure and involvement were related to student outcomes.

At 5th grade, we asked students from whom we obtained active parental consent (76.7%) about substance use (SU), violence, and sexual behaviors. We used multi-level logistic regression to compare never and ever engaging in SU or violence. Students in PA schools were 43% less likely than students in control schools to have engaged in SU behaviors (22.7 vs. 40.7%), 51.9% less likely to have engaged in serious violence behaviors (16.9 vs. 35.1%), and 63% less likely to have engaged in sexual intercourse by Grade 5 (2.4 vs. 6.5%) (Beets et al., 2009). Each of these effects was statistically significant; indeed, differences for each of the individual behaviors (e.g., smoking, drinking, using drugs) were also statistically significant. Teacher reports of substance use and violence were also statistically significant.

School-level data also showed substantial positive effects of PA (Snyder et al., 2010). For school-level data regarding average daily absences and percent proficiency in Grade 5 reading and math, we conducted growth curve analyses to examine rates of change. In all cases, there were no significant differences between PA and control conditions in intercept (baseline), but significant differences in slope, all indicating reduced absenteeism or better performance (e.g., academic test scores) for PA schools compared with control schools. Average daily absences in PA schools decreased compared to remaining stable in control schools, with 9.8 days absent on average in PA schools by 2005 vs. 11 for control schools. Over the three academic years PA schools experienced greater gains in both math and reading percent proficiency, in comparison to control schools. PA schools achieved 26% proficiency in math, for example, compared to 21% in control schools during 2005, up from 15 to 14% in PA and control schools, respectively, in 2002. State means also improved over this period as a result of NCLB and other efforts, and the gap between state means and control schools increased over time, while the gap for PA schools narrowed. These data demonstrate yet another reason for smaller than expected effect sizes in current prevention and SSSL studies – we are trying to row faster than the prevailing current (Hulleman & Cordray, 2009)!

The school district conducts School Quality Surveys (SQS) of students, teachers, and parents every 2 years and makes the data available at the school level. Parent ratings of parent involvement were significantly higher in PA schools (70.4% positive response) than control schools (67%) in 2005 compared with 68.8 and 68.4% in 2002. Parents also thought that PA schools had improved “sustained and focused action,” “professionalism and system capacity,” “student safety and wellbeing,” and “satisfaction” significantly more than did parents of students in control schools (ESs 0.32–0.9). Student ratings of PA schools improved significantly more than student ratings of control schools for “Quality of student support” and “coordinated team work” (ESs 0.89–1.08). Teacher ratings significantly improved more for PA than control schools for “coordinated team work,” “responsiveness of the system,” “involvement,” and “satisfaction” (ESs 0.23–0.75) (Flay, Acock, Vuchinich, & Beets, 2006).

*Chicago RCT:* The Institute of Education Sciences of the U.S. Department of Education sponsored the Social and Character Development (SACD) cooperative agreement, and Chicago was selected as one of seven sites nationwide evaluating the effects of seven different school-based interventions designed to promote children’s social and character development using a matched-pair, school-based, randomized controlled trial. Similar procedures to those used in Hawai`i were used to select, match, and randomly assign schools to conditions (Ji, DuBois, Flay, & Brechling, 2008). University of Illinois (UIC) and Oregon State University (OSU) investigators/staff collected data in 14 K-8 Chicago Public Schools (7 PA schools and 7 control schools) beginning in September, 2004, and continuing through June, 2007. The data collection instruments used to assess program impact included a battery of multi-site surveys (administered by the multi-site contractor, Mathematic Policy Research [MPR]) given to children, parents, teachers, and school administrators at all sites, along with site-specific (administered by local staff) surveys of students more aligned with proximal outcomes of PA. We followed one cohort of students ( $N \sim 600$ ) – those in Grade 3 in the 2004–2005 school year – surveyed at baseline (fall 2004) and in subsequent waves over a 3-year-period (spring 2005, fall 2005, spring 2006, and spring 2007). Response rates for the Teacher Reports were high in all four waves of data collection, with 85–100% of teachers returning surveys.

Training and technical support were similar to those provided in Hawai`i. In addition, to enhance implementation fidelity, we held a workshop with cohort student teachers each year. As with the Hawai`i study, we assessed program implementation with multiple instruments. By the use of extensive reminders and incentives, we obtained Weekly Implementation Reports from 59% of teachers, and 75% submitted reports at the end of each unit. Similar to the Hawai`i study, there was variability between schools in all of the above implementation indices, especially in Year 1, with improvements over time. By the end of Year 3, one school was still implementing at a fairly low level, four at a moderate level, and two at high levels. From these two trials, we have learned that it takes much more time for many low-performing schools to fully adopt and implement a comprehensive program than it did in prior years. Along with other comprehensive program developers and

researchers (e.g., Schaps, Slavin), we believe that many under-performing schools need 3–7 years to fully adopt and implement a comprehensive program.

At each wave, students were surveyed using both the multi-site and site-specific surveys. Active parental consent was required for all aspects of the Chicago study and we have published one paper on our methods for obtaining a high return rate (Ji et al., 2006). We also asked teachers of cohort students to complete behavior checklists on each student in the cohort, asked parents/guardians of the cohort students to complete a survey on their children's behavior, and surveyed the 3rd–5th grade teachers and Principals in all 14 schools regarding issues such as school climate, instructional practices, and implementation of SSLL-related programs. We also conducted extensive assessments of program implementation, as discussed in the previous section. Along with student, parent, and teacher surveys, we collected data from school records on attendance, disciplinary incidents, and achievement at the school level.

MPR conducted analyses on the impact of programs on teachers' reports of using materials and strategies in their classrooms to promote social and character development goals. Importantly, these analyses showed that teachers in PA schools were significantly more likely than control teachers to report using programs and materials to promote social and character development; although control teachers also reported substantial use. For example, PA teachers were substantially more likely than control teachers to report that they engaged in activities for at least 1 hour/week to promote violence prevention/peace promotion (43.6% in treatment schools vs. 17.1 % in control schools,  $ES = 0.40$ ), social and emotional development (51.3 and 14.7%, respectively,  $ES = 0.59$ ), and character education (66.9 and 26.3%, respectively,  $ES = 0.53$ ).

For substance use, violence, bullying, and disruptive behaviors, we analyzed counts of the number of behaviors in each category in which students reported having engaged, using three-level (i.e., students nested within schools within school pairs), overdispersed Poisson models (Li et al., under review). Findings indicated that students in the intervention endorsed 31% fewer substance use behaviors (incidence rate ratio [IRR]=0.69) and 37% fewer violence-related behaviors (IRR=0.63), 41% fewer bullying behaviors (IRR=0.59), respectively, compared to students in the control schools. A 27% reduction in reported disruptive behaviors (IRR = 0.73) was not statistically significant. These results replicate findings from the Hawai'i trial using the same type of study design and, importantly, extend evidence of its effectiveness to youth attending large urban school systems. The effects were a little smaller than those reported from the Hawai'i trial, probably reflecting the difference between 3 and 4 years of the program.

For other outcomes, preliminary latent growth curve analyses, with all standard errors adjusted for clustering of students within schools and baseline covariates included in the model, indicated evidence of emerging positive effects of PA on a substantial number of both local- and multi-site measures (Flay, DuBois, & Ji, 2007). All emerging effects were in a direction indicating favorable impact of the PA program, thus arguing strongly against the pattern of findings being due to chance. The majority of emerging effects were for measures that correspond to Student

Effects in our logic/theoretic model (Fig. 28.2) – social and character development and related skills and attitudes, which are expected to be precursors to more distal effects on academic, behavioral, and emotional outcomes (“Expected Impacts”). These findings indicated, for example, relative improvements in character and social development as well as reduced endorsement of negative values, normative beliefs favoring aggression, affiliation with friends engaged in bad behaviors, improved social competence/problem-solving, and greater reliance on positive vs. negative processes for self-esteem formation. We also found emerging effects on variables from this area of the model with direct ties to academics, including student engagement (vs. disengagement) with learning and school self-esteem (feelings of pride regarding school work). We also found evidence of some effects involving school and classroom climate, a pathway through which the PA program may impact student outcomes such as those just described. These include, for example, reduced negative orientation to school among students as well as increased parent–teacher involvement and positive parenting, as reported by parents. Although less prevalent, there were trends toward positive effects of PA on several measures of more distal student academic, behavioral, and emotional outcomes, including improvements in self-reported grades and improved life satisfaction. Teacher reports of improved student academic motivation/competence and decreased problem behavior were marginally significant by wave 5.

## Discussion

### *Summary of Evaluation Results*

Multiple quasi-experimental and experimental studies have demonstrated consistently positive effects of the *Positive Action* program on a wide range of outcomes, including student-level values, character, positive and negative behaviors, and school-level indicators of all of these plus attendance, disciplinary referrals, and academic achievement. The fact that these results have been obtained from multiple studies of different designs, using different measures, and conducted in different geographical areas with different populations of students and families, supports their robustness, reliability, and validity. Nevertheless, evaluations by researchers independent of the program developer are still needed to provide further evidence of the effectiveness of the program in real-world settings (Eisner, 2009; Flay et al., 2005; Gorman & Huber Jr, 2009; Valentine et al., under review).

The comprehensive results of the *Positive Action* program suggest that a single, well-designed SLL program that is implemented with moderate to high fidelity can have positive effects on multiple behavioral, character, and academic (ABC) outcomes. The multiple positive outcomes observed reinforce each other and so are likely to increase over time rather than decay as the effects of most programs do. Theoretically, changes in multiple domains are more likely to be maintained as



students develop; and programs that produce multiple outcomes are more likely to be sustained in schools, families, and communities.

### ***Further Research Needs***

Despite much previous research, we still do not have enough SSSL (or prevention or social and character development) programs that produce the kinds of effects we would like or that do all that theory suggests is possible. The PA program is one that comes close, in our estimation, to incorporating most of the factors that current theory and empirical data suggest for comprehensive SSSL. However, despite these characteristics and the positive results reported previously, we still know very little about how it actually works. Research on coherent, integrated SSSL programs is in an early stage. In addition to clarifying fundamental issues of program efficacy and effectiveness, it is crucial to establish more clearly how and why effective SSSL programs actually work. Theory and available research highlight several promising directions to pursue that could help to clarify (a) the most salient mechanisms of influence in SSSL interventions (i.e., mediators), (b) influences on integrity of program implementation, (c) the implications of differences in student exposure, and (d) which subgroups of students are most likely to be impacted by them (i.e., moderators). Such research could identify specific improvements to school-based SSSL preventive interventions that could improve their effectiveness in simultaneously decreasing adolescent health problems (substance use, violence, unsafe sex) and improving positive behaviors, academic achievement, and success in life.

Advancing the development, efficacy, effectiveness, and readiness for dissemination (Flay et al., 2005) of comprehensive SSSL programs requires a sound understanding of the intervening processes that mediate, or account for, the effects of these types of programs on academic achievement and other targeted outcomes. The first requirement is that such programs actually result in an increase in the amount and quality of SSSL intervention strategies and materials used by teachers, administrators, and other school staff. This is not necessarily a given because of the implementation difficulties that can threaten the integrity of program delivery. School-based SSSL programs appear to be most beneficial when they simultaneously improve the quality of the environments in which students are educated, as well as enhance students' personal and social assets (Catalano, Oesterle, et al., 2004; Eccles & Gootman, 2002; Flay, 2002; Weissberg, Greenberg, Sigel, & Renninger, 1997). A positive school environment should improve student character and self-esteem (Cauce, Comer, & Schwartz, 1987; Felner et al., 1993), reduce problem behavior (Battistich & Hom, 1997), and improve achievement (Bulach, Malone, & Castleman, 1995; Cauce et al., 1987). Evidence indicates that PA meets these objectives.

Delivering a SSSL program with integrity (i.e., high dosage and fidelity) is obviously of critical importance (Basch, 1984; Dane & Schneider, 1998; Durlak,

1998; Emshoff et al., 1987; Weissberg, 1990), since higher quality implementation creates the potential for stronger program outcomes (Domitrovich & Greenberg, 2000; Dusenbury, Brannigan, Falco, & Hansen, 2003; Harachi, Abbott, Catalano, Haggerty, & Fleming, 1999; Kam et al., 2004). A number of factors appear to influence teacher adherence: attitudes toward expected program outcomes, motivation to change child behavior, attributions of behavior change to the program, self-efficacy to deliver the program, level and quality of training, and leadership/principal support for the program (Beets et al., 2008; Fagan, Hanson, Hawkins, & Arthur, 2008; Han & Weiss, 2005; Kam, Greenberg, & Walls, 2003; Kealey, Peterson, Gaul, & Dinh, 2000; Rohrbach, Graham, & Hansen, 1993; Smith, McCormick, Steckler, & McLeroy, 1993). We used a combination of qualitative and quantitative data on teacher implementation of the PA program to inform and further develop a working model of influences on the amount and quality of teacher implementation of the curriculum and other classroom-based program components. Preliminary analyses have identified several factors that are influential in shaping integrity of teacher implementation. These include the extent to which teachers receive support from their principal, collaborate with and receive support from other teachers when implementing the program, teacher's own attitudes and beliefs regarding the need for schools to do SLL, and the perceived likely effectiveness of the program (Beets et al., 2008).

Program fidelity is one obvious mediator of program effects. Prior research has also found factors that are important determinants of program fidelity. These include quality of school leadership (Alig-Mielcarek & Hoy, 2008; Kam et al., 2003), quality of relationships among school administrators, teachers, students, parents, and community (Catalano, Oesterle, et al., 2004; Comer, 1988; Juvonen, 2007; Wentzel, 1998), quality of teacher–student and student–student relationships (Pianta, Hamre, & Stuhlman, 2003; Wentzel, Barry, & Caldwell, 2004), time on task for academic learning and support for higher-order thinking (Anderman & Midgley, 1998; Lumsden, 1994), teacher's endorsement of and capacity to model positive social-emotional skills and behaviors (Davis, 2003), norms supportive of academic achievement (Brand, Felner, Shim, Seitsinger, & Dumas, 2003), and parental involvement (Griffith, 1998; Grolnick, Ryan, & Deci, 1991; Shaver & Walls, 1998; Walberg & Lai, 1999; Zellman, 1998).

At the school level, the most promising prevention programs positively impact school climate and these effects appear to promote better student outcomes (Adelman & Taylor, 2000; Greenberg et al., 2001; Griffith, 2000; Kuperminc, Leadbeater, Emmons, & Blatt, 1997; Roeser, Eccles, & Sameroff, 2000). Because the school climate effects of SLL programs such as PA are most likely to accrue through school-wide program components (e.g., coordinating committee, assemblies, use of common terminology, reinforcement of positive behaviors, involvement of parents), it is critically important to assess the integrity with which these activities are implemented and the factors that affect integrity. High levels of implementation integrity are necessary for individual students and classrooms of students within schools to receive high levels of exposure to program activities (i.e., dosage). Program effects typically appear greater when focusing on students with greater

levels of program exposure and participation. Selection effects (e.g., those teachers who are already prone to elicit positive student outcomes also tend to deliver the program at higher levels) may bias such analyses, although data analytic procedures such as propensity score analysis attempt to control for these types of confounds (Foster, 2003; Rosenbaum & Rubin, 1983).

Program fidelity and dosage received are not the only mediators of program effects on student outcomes. Other kinds of mediators of effects on student behavioral and academic outcomes are related to immediate program effects. For example, measures of self-concept/esteem (how people think and feel about themselves) have been correlated with both fewer problem behaviors and better academic performance (Beane & Lipka, 1980; Coleman et al., 1966; Filozof et al., 1998; Paulson, Coombs, & Richardson, 1990; Purkey & Novak, 1970; Symons, Cinelli, James, & Groff, 1997), though the causal ordering of these associations remains in question (Bandura, Barbaranelli, Carpura, & Pastorelli, 1996; Filozof et al., 1998; Hamachek, 1995; Hansford & Hattie, 1982; Hay, Ashman, & Van Kraayenord, 1998; Hoge, Smit, & Crist, 1995; McCarthy & Hoge, 1984; Purkey, 1970; Rigby & Cox, 1996; Scheff, Retzinger, & Ryan, 1989). Emerging research underscores a need for interventions reflecting a better understanding of the potential relationships of self-esteem to achievement and related outcomes (DuBois, 2003; DuBois, Holloway, Valentine, & Cooper, 2002; DuBois & Tevendale, 1999; Hughes, Cavell, & Grossman, 1997). The PA program is highly aligned with recent theory and research on self-concept (DuBois, Flay, & Fagen, 2009; Sebastian, Burnett, & Blakemore, 2008). Other mediating variables include the expected immediate or proximal effects of the units of PA, namely, attitudes toward physical health behaviors, learning and decision-making skills, self-regulation/management and responsibility, attachment to school and family, sociability and social skills, honesty, and goal setting.

Available findings from the prevention literature highlight the potential differential (moderated) effectiveness of programs for girls and boys as one important concern. In the areas of substance use and violence prevention, evaluations that have reported gender differences more often favor boys (Botvin, Baker, Filazzola, & Botvin, 1990; CEBP, 2002; DeJong, 1987; Farrell & Meyer, 1997; Flay et al., 2004; Flynn, Worden, Secker-Walker, Badger, & Geller, 1995; Graham, Johnson, Hansen, Flay, & Gee, 1990; Guthrie & Flinchbaugh, 2001; Kellam, Ling, Merisca, Brown, & Ialongo, 1998; O'Donnell, Hawkins, Catalano, Abbott, & Day, 1995; Perry et al., 2003). A second relatively robust pattern has been to find greater impact of prevention programs for youth exhibiting greater levels of risk (Muthen et al., 2002; Segawa, Ngwe, Li, & Flay, 2005; Stoolmiller, Eddy, & Reid, 2000; Wilson et al., 2001). To enhance the effectiveness of interventions for girls, programs may need to focus more on internal manifestations of risks (e.g., low self-esteem, confidence) and on fostering connectedness to school and family (CSAP, 2002; Guthrie & Flinchbaugh, 2001). In accordance with these recommendations, PA includes a focus on socio-emotional concerns relating to self-concept and efficacy beliefs as well as on promoting positive bonding to teachers/school staff, positive peers, and parents/family.

It is likely that the most salient and powerful sources of influence on the effectiveness of SLL programs are combinations of factors such as gender and risk factors rather than any one moderator in isolation. A conventional approach to exploring higher-order interactions is impractical. An alternative is to first identify subgroups of youth who exhibit different trajectories of change or stability over time on selected outcome measures using growth mixture modeling (Muthen et al., 2002; Segawa et al., 2005). Differences between subgroups suggest moderation of program impact. Understanding moderators might provide insights on how some adjustment to SLL can enhance the beneficial effects.

SLL programs in general, and the *Positive Action* program in particular, include a strong emphasis on the development of moral values and character. Moral competence may be defined as a youth's ability to assess and respond to the ethical, affective, or social justice dimensions of a situation (Catalano et al., 2008). Moral maturity is considered as the combination of respect for rules and a sense of social justice (Piaget, 1965). Moral development has been discussed as a multistage process through which children acquire society's standards of right and wrong, focusing on choices made in facing moral dilemmas (Kohlberg, 1969, 1981). Others have said that the roots of morality are in empathy, or empathic arousal, which has a neurological basis and can be either fostered or suppressed by environmental influences (Hoffman, 1981). Fairness and welfare have been considered as central concerns for moral judgments (Nucci, 1997). Components of the *Positive Action* program address all of the foregoing definitions of moral and character development.

Comprehensive SLL programs like the *Positive Action* program also provide instruction in and support of the multiple dimensions of Positive Youth Development (Catalano, Berglund, et al., 2004; Catalano, Hawkins, Berglund, Pollard, & Arthur, 2002; Flay, 2002; Lerner et al., 2005; Lerner et al., 2003). Catalano and colleagues (Catalano et al., 2008) also derived a list of 18 constructs addressed by Positive Youth Development programs. These included the fostering positive resilience, self-determination, self-efficacy, spirituality, positive identity, social competence; the development of social, emotional, cognitive, behavioral and moral competence; the promotion of social bonding, life satisfaction, and strength of character; and the provision of opportunities for pro-social involvement (and civic engagement) and recognition/reinforcement for positive behavior. *Positive Action* provides direct instruction in, opportunities for practice of, and support for all of these factors.

## Conclusion

Values are key to comprehensive social and character development and positive youth development. Students, indeed all people, will do what they value or what is consistent with their values. A central aim of the *Positive Action* program is to get students to the point where they value being a good, productive, successful, and contributing member of society. The *Positive Action* program helps people understand that they feel good about themselves when they do good or right – and that provides

the intrinsic motivation to continue doing good and right. Abraham Lincoln, when asked about his religion, remarked that it was very much like that of an old man named Glenn in Indiana whom he had heard speak at a church meeting and who said, “When I do good I feel good; when I do bad I feel bad; and that’s my religion” (Fehrenbacher & Fehrenbacher, 1996, p. 245). In some ways, this is a self-evident truth; however, in other ways, it is far from self-evident, especially in this modern world of political and economic scandals. Children and youth need to be taught what is good and right vs. bad and wrong. The *Positive Action* program does this in a way that is effective for both the students and their instructors and parents (and the rest of the community).

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Institute of Education Sciences, CDC, MPR, or every Consortium member, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.

## References

- Adelman, H. S., & Taylor, L. (2000). Moving prevention from the fringes into the fabric of school improvement. *Journal of Educational and Psychological Consultation, 11*, 7–36.
- Akers, R. L. (1977). *Deviant behavior: A social learning approach* (2nd ed.). Belmont, CA: Wadsworth.
- Akers, R. L. (1998). *Social learning and social structure: A general theory of crime and deviance*. Boston, MA: Northeastern University Press.
- Alig-Mielcarek, J. M., & Hoy, W. K. (2008). *A theoretical and empirical analysis of the nature, meaning, and influence of instructional leadership*: The Ohio State University, Retrieved September 20, 2008, from <http://www.coe.ohio-state.edu/whoy/InstructLeadership.pdf>
- Allensworth, D., Lawson, E., Nicholson, L., & Wyche, J. (1997). *Schools and health: Our nation’s investment*. Washington, DC: Institute of Medicine, National Academy Press.

- Althof, W., & Berkowitz, M. W. (2006). Moral education and character education: Their relationship and roles in citizenship education. *Journal of Moral Education*, *35*, 495–518.
- Anderman, L. H., & Midgley, C. (1998). Motivation and middle school students. In *Eric Digest* (Vol. 98). Champaign, IL: Clearinghouse on Elementary and Early Childhood Education. (ERIC Document Reproduction Service No. 421281). Available at [http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content\\_storage\\_01/0000019b/80/15/9f/3b.pdf](http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/15/9f/3b.pdf)
- Aos, S., Lieb, R., Mayfield, J., Miller, M., & Pennucci, A. (2004). *Benefits and costs of prevention and early intervention programs for youth*. Olympia, Washington: Washington State Institute for Public Policy.
- Bandura, A. (1977). *Social learning theory*. Oxford, England: Prentice-Hall.
- Bandura, A. (1986). *Social foundations of thought and action: A cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bandura, A., Barbaranelli, C., Carpura, G. V., & Pastorelli, C. (1996). Multifaceted impact of self-efficacy beliefs on academic functioning. *Child Development*, *67*, 1206–1222.
- Basch, C. E. (1984). Research on disseminating and implementing health education programs in schools. *Health Educ*, *15*, 57–66.
- Battistich, V., & Hom, A. (1997). The relationship between students' sense of their school as a community and their involvement in problem behaviors. *American Journal of Public Health*, *87* 1997–2001.
- Battistich, V., Schaps, E., Watson, D., Solomon, D., & Lewis, C. (2000). Effects of the child development project on students' drug use and other problem behaviors. *Journal of Primary Prevention*, *21*, 75–99.
- Beane, J. A., & Lipka, R. P. (1980). Self-concept and self-esteem: A construct differentiation. *Child Study Journal*, *10*, 1–6.
- Beets, M. W., & Flay, B. R. (2007). Teacher- and school-specific factors related to implementation of the Positive Action program. *Research Quarterly for Exercise and Sport*, *78*, A24–A24.
- Beets, M. W., Flay, B. R., Vuchinich, S., Acock, A., Li, K. K., & Allred, C. G. (2008). School climate and teachers' beliefs and attitudes associated with implementation of the Positive Action Program: A Diffusion of Innovations Model. *Prevention Science*, *9*, 264–275.
- Beets, M. W., Flay, B. R., Vuchinich, S., Snyder, F. J., Acock, A., Li, K.-K., et al. (2009). Use of a social and character development program to prevent substance use, violent behaviors, and sexual activity among elementary students in Hawai'i. *American Journal of Public Health*, *99*, 1438–1445.
- Beets, M. W., Vuchinich, S., Acock, A. C., Allred, C. G., & Flay, B. R. (2007). Linking student responsiveness to prosocial outcomes: Findings from the multiyear effectiveness trial of the Positive Action program. Unpublished manuscript, Oregon State University.
- Benson, P. L., Scales, P. C., Leffert, N., & Roehlkepartain, E. C. (1999). *A fragile foundation: The state of developmental assets among American youth*. Minneapolis, MN: Search Institute.
- Berkowitz, M. W., & Battistich, V. A. (2008). What works in character education what is known and what needs to be known. In L. P. Nucci & D. Narvaez (Eds.), *Handbook of moral and character education* (pp. 414–430). New York: Routledge.
- Berkowitz, M. W., & Bier, M. C. (2004). Research-based character education. *The ANNALS of the American Academy of Political and Social Science*, *59*, 72–85.
- Biglan, A., Brennan, P. A., Foster, S. L., Holder, H. D., Miller, T. L., Cunningham, P. B., et al. (2004). *Multi-problem youth: Prevention, intervention, and treatment*. New York: Guilford.
- Blasi, A. (2004). Moral functioning: Moral understanding and personality. In D. K. Lapsley & D. Narvaez (Eds.), *Moral development, self, and identity* (pp. 335–349). Mahwah, NJ: LEA.
- Botvin, G. J., Baker, E., Filazzola, A. D., & Botvin, E. M. (1990). A cognitive-behavioral approach to substance abuse prevention: one-year follow-up. *Addictive Behaviors*, *15*, 47–63.
- Brand, S., Felner, R., Shim, M., Seitsinger, A., & Dumas, T. (2003). Middle school improvement and reform: Development and validation of a school-level assessment of climate, cultural pluralism, and school safety. *Journal of Educational Psychology*, *95*(3), 570–588.

- Breinbauer, C., & Maddaleno, M. (2005). *Youth: Choices and change. Promoting Healthy behaviors in adolescents*. Washington, DC: Pan American Health Organization.
- Brown, J. L., Roderick, T., Lantieri, L., & Aber, J. L. (2004). The Resolving Conflict Creatively Program: A school-based social and emotional learning program. In J. E. Zins, R. P. Weissberg, M. C. Wang & H. J. Walberg (Eds.), *Building academic success on social and emotional learning: What does the research say?* (pp. 151–169). New York: Teachers College Press.
- Bulach, C., Malone, B., & Castleman, C. (1995). Investigation on variables related to student achievement. *Mid-Western Educational Researcher*, 8(2), 23–29.
- CASEL. (2003). *Safe and sound: An educational leader's guide to evidence-based social and emotional learning programs*. Chicago, IL: Collaborative for Academic, Social, and Emotional Learning. Available at <http://www.casel.org>.
- Catalano, R. F., Berglund, M. L., Ryan, J. A. M., Lonczak, H. S., & Hawkins, J. D. (2004). Positive youth development in the United States: Research findings on evaluations of positive youth development programs. *The ANNALS of the American Academy of Political and Social Science*, 591 98–124.
- Catalano, R. F., Hawkins, J. D., Berglund, M. L., Pollard, J. A., & Arthur, M. W. (2002). Prevention science and positive youth development: Competitive or cooperative frameworks? *Journal of Adolescent Health*, 31, 230–239.
- Catalano, R. F., Hawkins, J. D., & Toumbourou, J. W. (2008). Positive youth development in the United States: History, efficacy and links to moral and character education. In L. P. Nucci & D. Narvaez (Eds.), *Handbook of moral and character education* (pp. 459–483). New York: Routledge.
- Catalano, R. F., Oesterle, K. P., Fleming, C. B., & Hawkins, J. D. (2004). The importance of bonding to school for healthy development. Findings from the Social Development Research Group. *Journal of School Health*, 74, 252–262.
- Cauce, A. M., Comer, J. P., & Schwartz, D. (1987). Long term effects of a systems-oriented school prevention program. *Am J Orthopsychiatry*, 57, 127–131.
- CEBP. (2002). *Bringing evidence-driven progress to education: A recommended strategy for the U.S. Department of Education*. Washington, DC: Coalition for Evidence-Based Policy.
- Centers for Disease Control and Prevention. (2008). Youth risk behavior surveillance — United States, 2007. *Morbidity and Mortality Weekly Report*, 57(SS–4).
- CEP. (June 2007). *Answering the question that matters most: Has student achievement increased since No Child Left Behind?* Washington, DC: Center on Education Policy. Available at <http://www.cep-dc.org/index.cfm?fuseaction=document.showDocumentByID&nodeID=1&DocumentID=200>
- Coleman, J., Campbell, E., Hobson, C., McPartland, J., Mood, A., Weinfeld, F. D., et al. (1966). *Equality of educational opportunity*. Washington, DC: U.S. Government Printing Office.
- Combs, A. (1962). *Perceiving, behaving, becoming: A new focus for educators. ASCD 1962 Yearbook*. Washington, DC: Association for Supervision and Curriculum Development.
- Comer, J. P. (1988). Educating poor minority children. *Scientific American*, 259, 42–48.
- Costello, E. J., Mustillo, S., Erkanli, A., Keeler, G., & Angold, A. (2003). Prevalence and development of psychiatric disorders in childhood and adolescence. *Archives of General Psychiatry*, 60, 837–844.
- Crosnoe, R., & Muller, C. (2004). Body mass index, academic achievement, and school context: Examining the educational experiences of adolescents at risk of obesity. *Journal of Health and Social Behavior*, 45, 393–407.
- CSAP. (2002). *Making prevention effective for adolescent boys and girls: Gender differences in substance use and prevention*. Bethesda, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Prevention.
- Dane, A. V., & Schneider, B. H. (1998). Program integrity in primary and early secondary prevention: Are implementation effects out of control? *Clinical Psychology Review*, 18, 23–45.

- Davis, H. A. (2003). Conceptualizing the role and influence of student-teacher relationships on children's social and cognitive development. *Educational Psychologist*, 38, 207–234.
- Deci, E. L. (2009). Large-scale school reform as viewed from the self-determination theory perspective. *Theory and Research in Education*, 7, 244–253.
- Deci, E. L., Koestner, R., & Ryan, R. M. (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin*, 125, 627–668.
- Deci, E. L., Koestner, R., & Ryan, R. M. (2001). Extrinsic rewards and intrinsic motivation in education: Reconsidered once again. *Review of Educational Research*, 71, 1–27.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum Press.
- DeJong, W. (1987). A short-term evaluation of Project DARE (Drug Abuse Resistance Education): Preliminary indications of effectiveness. *Journal of Drug Education*, 17, 279–294.
- Derzon, J. H., & Wilson, S. J. (1999). *An empirical review of school-based programs to reduce violence*. Nashville, TN: Vanderbilt Institute for Public Policy Studies.
- Derzon, J. H., Wilson, S. J., & Cunningham, C. A. (1999). *The effectiveness of school-based interventions for preventing and reducing violence*: Center for Evaluation Research and Methodology, Vanderbilt University.
- Domitrovich, C. E., & Greenberg, M. T. (2000). The study of implementation: Current findings from effective programs that prevent mental disorders in school-aged children. *Journal of Educational and Psychological Consultation*, 11, 193–221.
- Dryfoos, J. G. (1997). The prevalence of problem behaviors: Implications for programs. In R. P. Weissberg, T. P. Gullotta, R. L. Hampton, B. A. Ryan & G. R. Adams (Eds.), *Enhancing children's wellness. Healthy Children 2010. Issues in children's and families' lives* (Vol. 8, pp. 17–46). Newbury Park, CA: Sage.
- DuBois, D. L. (1996). Early adolescent self-esteem: A developmental-ecological framework and assessment strategy. *Journal of Research on Adolescence*, 6, 543–579.
- DuBois, D. L. (2003). Promoting self-esteem in childhood. In T. P. Gullotta & M. Bloom (Eds.), *The encyclopedia of primary prevention and health promotion*. New York: Kluwer Academic/Plenum.
- DuBois, D. L., Holloway, B. E., Valentine, J. C., & Cooper, H. (2002). Effectiveness of mentoring programs for youth: A meta-analytic Review. *American Journal of Community Psychology*, 30, 157–197.
- DuBois, D. L., & Tevendale, H. D. (1999). Self-esteem in childhood and adolescence: Vaccine or epiphenomenon? *Applied & Preventive Psychology*, 8, 103–117.
- DuBois, D. L., Flay, B. R., & Fagen, M. C. (2009). Self-esteem enhancement theory: Promoting health across the lifespan. In R. J. DiClemente, M. C. Kegler & R. A. Crosby (Eds.), *Emerging theories in health promotion practice and research* (2nd ed.) (pp. 97–130). New York: Jossey-Bass.
- DuPaul, G. J., & Stoner, G. (2004). *ADHD in the schools: Assessment and intervention strategies*. New York: The Guilford Press.
- Durlak, J. A. (1998). Why program implementation is so important; Program implementation in preventive trials. *Journal of Prevention and Intervention in the Community*, 17, 5–18.
- Durlak, J. A., & Weissberg, R. P. (2007). *The impact of after-school programs that promote personal and social skills*. Chicago, IL: Collaborative for Academic, Social and Emotional Learning. Available at <http://www.casel.org>
- Dusenbury, L., Brannigan, R., Falco, M., & Hansen, W. B. (2003). A review of research on fidelity of implementation: Implications for drug abuse prevention in school settings. *Health Education Research*, 18, 237–256.
- Eaton, D. K., Brener, N., & Kann, L. K. (2008). Associations of health risk behaviors with school absenteeism. Does having permission for the absence make a difference? *Journal of School Health*, 78, 223–229.
- Eaton, D. K., Kann, L., Kinchen, S., Shanklin, S., Ross, J., Hawkins, J., et al. (2008). Youth risk behavior surveillance—United States, 2007. *Morbidity & Mortality Weekly Report*, 57, 1–131.



- Eccles, J. S. (2004). Schools, academic motivation, and state-environment fit. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (2nd ed.). Hoboken, NJ: Wiley.
- Eccles, J. S., & Gootman, J. A. (2002). *Community programs to promote youth development*. Washington, DC: National Research Council.
- ED. (2000). *Digest of education statistics 2000*. Washington, DC: U.S. Department of Education, National Center for Education Statistics.
- Edwards, T. (1959). *The new dictionary of thoughts*. New York: Standard Book Company.
- Eisenberg, N., & Fabes, R. A. (1998). Prosocial development. In W. Damon & N. Eisenberg (Eds.), *Handbook of child psychology* (Vol. 3, pp. 701–778). New York: J. Wiley.
- Eisenbraun, K. D. (2007). Violence in schools: Prevalence, prediction, and prevention. *Aggression and Violent Behavior, 12*, 459–469.
- Eisner, M. (2009). No effects in independent prevention trials: Can we reject the cynical view? *Journal of Experimental Criminology, 5*, 163–183.
- Elias, M. J., Gara, M., Schuyler, T., Branden-Muller, L., & Sayette, M. (1991). The promotion of social competence: Longitudinal study of preventive school-based program. *American Journal of Orthopsychiatry, 61*, 409–417.
- Elias, M. J., Parker, S. J., Kash, V. M., Weissberg, R. P., & O'Brien, M. U. (2008). Social and emotional learning, moral education, and character education: A comparative analysis and a view toward convergence. In L. P. Nucci & D. Narvaez (Eds.), *Handbook of moral and character education* (pp. 248–266). New York: Routledge.
- Emshoff, J. G., Blakely, C., Gottschalk, R., Mayer, J., Davidson, W. S., & Erickson, S. (1987). Innovation in education and criminal justice: Measuring fidelity of implementation and program effectiveness. *Educational Evaluation and Policy Analysis, 9*, 300–311.
- Fagan, A. A., Hanson, K., Hawkins, J. D., & Arthur, M. W. (2008). Bridging science to practice: Achieving prevention program implementation fidelity in the community youth development study. *American Journal of Community Psychology, 41*, 235–249.
- Farrell, A. D., & Meyer, A. L. (1997). The effectiveness of a school-based curriculum for reducing violence among urban sixth-grade students. *American Journal of Public Health, 87*, 979–984.
- Fehrenbacher, D. E., & Fehrenbacher, V. (1996). *Recollected words of Abraham Lincoln*. Stanford, CA: Stanford University Press.
- Felner, R. D., Brand, S., Adan, A. M., Mulhall, P. F., Flowers, N., Sartain, B., et al. (1993). Restructuring the ecology of the school as an approach to prevention during school transitions: Longitudinal follow-ups and extensions of the school transitional environment project (STEP). *Prevention in Human Services, 10*, 103–103.
- Filozof, E., Albertin, H., Jones, C., Sterne, S., Myers, L., & McDermott, R. (1998). Relationship of adolescent self-esteem to selected academic variables. *Journal of School Health, 68*, 68–72.
- Flannery, D. J., Vazsonyi, A. T., Liao, A. K., Guo, S., Powell, K. E., Atha, H., et al. (2003). Initial behavior outcomes for the peacebuilders universal school-based violence prevention program. *Developmental Psychology, 39*, 292–308.
- Flay, B. R. (1985). Psychosocial approaches to smoking prevention: A review of findings. *Health Psychology, 4*, 449–488.
- Flay, B. R. (2000). Approaches to substance use prevention utilizing school curriculum plus social environment change. *Addictive Behaviors, 25*, 861–885.
- Flay, B. R. (2002). Positive youth development requires comprehensive health promotion programs. *American Journal of Health Behavior, 26*, 407–424.
- Flay, B. R. (2007). The long-term promise of effective school-based smoking prevention programs. In R. J. Bonnie, K. Stratton & R. B. Wallace (Eds.), *Ending the tobacco problem: A blueprint for the nation*. Washington, DC: Institute of Medicine, National Academy of Sciences.
- Flay, B. R., Acock, A., Vuchinich, S., & Beets, M. (2006). *Progress report of the randomized trial of Positive Action in Hawai'i: End of third year of intervention (Spring 2005)*. Corvallis: Oregon State University.
- Flay, B. R., & Allred, C. G. (2003). Long-term effects of the Positive Action program. *American Journal of Health Behavior, 27*, S6–S27.

- Flay, B. R., Alled, C. G., & Ordway, N. (2001). Effects of the Positive Action program on achievement and discipline: Two matched-control comparisons. *Prevention Science, 2*, 71–89.
- Flay, B. R., Biglan, A., Boruch, R. F., Castro, F. G., Gottfredson, D., Kellam, S., et al. (2005). Standards of evidence: Criteria for efficacy, effectiveness and dissemination. *Prevention Science, 6*, 151–175.
- Flay, B. R., DuBois, D. L., & Ji, P. (2007). *Progress report of the randomized trial of Positive Action in Chicago: End of third year of intervention (Grade 5, Spring 2006)*. Chicago: University of Illinois at Chicago.
- Flay, B. R., Graumlich, S., Segawa, E., Burns, J. L., & Holliday, M. Y. (2004). Effects of 2 prevention programs on high-risk behaviors among African American youth: A randomized trial. *Archives of Pediatrics & Adolescent Medicine, 158*, 377–384.
- Flay, B. R., & Petraitis, J. (1994). The theory of triadic influence: A new theory of health behavior with implications for preventive interventions. *Advances in Medical Sociology, 4*, 19–44.
- Flay, B. R., Snyder, F., & Petraitis, J. (2009). The theory of triadic influence. In R. J. DiClemente, M. C. Kegler & R. A. Crosby (Eds.), *Emerging theories in health promotion practice and research* (2nd ed., pp. 451–510). New York: Jossey-Bass.
- Fleming, C. B., Haggerty, K. P., Catalano, R. F., Harachi, T. W., Mazza, J. J., & Gruman, D. H. (2005). Do social and behavioral characteristics targeted by preventive interventions predict standardized test scores and grades? *Journal of School Health, 75*, 342–349.
- Flynn, B. S., Worden, J. K., Secker-Walker, R. H., Badger, G. J., & Geller, B. M. (1995). Cigarette smoking prevention: Effects of mass media and school interventions targeted to gender and age groups. *Journal of Health Education, 26*, S45–S51.
- Foster, E. M. (2003). Propensity score matching: An illustrative analysis of dose response. *Medical Care, 41*, 1183.
- Fredrickson, B. L. (2000). Cultivating positive emotions to optimize health and well-being. *Prevention and Treatment, 3*, 1–25.
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology. *American Psychologist, 56*, 218–226.
- Freire, P. (1976). *Education as the practices of freedom*. London: Writers and Readers Cooperative.
- Gorman, D., & Huber Jr, J. (2009). The social construction of “evidence-based” drug prevention programs: A reanalysis of data from the Drug Abuse Resistance Education (DARE) Program. *Evaluation Review, 33*, 396–414.
- Gottfried, A., Marcoulides, G., Gottfried, A., & Oliver, P. (2009). A latent curve model of parental motivational practices and developmental decline in math and science academic intrinsic motivation. *Journal of Educational Psychology, 101*, 729–739.
- Graham, J. W., Johnson, C. A., Hansen, W. B., Flay, B. R., & Gee, M. (1990). Drug use prevention programs, gender, and ethnicity: Evaluation of three seventh-grade project SMART cohorts. *Preventive Medicine, 19*, 305–313.
- Greenberg, M. T., Domitrovich, C., & Bumbarger, B. (2001). The prevention of mental disorders in school-aged children: Current state of the field. *Prevention and Treatment, 4*, 1–62. Available at <http://psycnet.apa.org/index.cfm?fa=search.displayRecord&uid=2001-03135-001>
- Griffith, J. (1998). Relation of parental environment, empowerment, and school traits to student academic performance. *Journal of Educational Research, 90*, 33–41.
- Griffith, J. (2000). School climate as group evaluation and group consensus: Student and parent perceptions of the elementary school environment. *The Elementary School Journal, 101*, 35–61.
- Grolnick, W. S., Ryan, R. M., & Deci, E. L. (1991). Inner resources for school achievement: Motivational mediators of children’s perceptions of their parents. *Journal of Educational Psychology, 83*, 508–517.
- Guthrie, B. J., & Flinchbaugh, L. J. (2001). Gender-specific substance prevention programming: Going beyond just focusing on girls. *The Journal of Early Adolescence, 21*, 354–372.
- Hamachek, D. (1995). Self-concept and school achievement: Interaction dynamics and a tool for assessing the self-concept component. *Journal of Counseling and Development, 73*, 419–425.

- Hamilton, L. S., Stecher, B. M., Marsh, J. A., Sloan McCombs, J., Robyn, A., Russell, J., et al. (2007). *Standards-based accountability under no child left behind: Experiences of teachers and administrators in three states*. Santa Monica: RAND Corporation.
- Han, S. S., & Weiss, B. (2005). Sustainability of teacher implementation of school-based mental health programs. *Journal of Abnormal Child Psychology*, *33*, 665–679.
- Hansford, B. C., & Hattie, J. A. (1982). The relationship between self and achievement/performance measures. *Review of Educational Research*, *52*, 123–142.
- Harachi, T. W., Abbott, R. D., Catalano, R. F., Haggerty, K. P., & Fleming, C. B. (1999). Opening the black box: Using process evaluation measures to assess implementation and theory building. *American Journal of Community Psychology*, *27*, 711–731.
- Hawkins, J. D., Catalano, R. F., Kosterman, R., Abbott, R., & Hill, K. G. (1999). Preventing adolescent health-risk behaviors by strengthening protection during childhood. *Archives of Pediatrics and Adolescent Research*, *153*, 226–234.
- Hawkins, J. D., Catalano, R. F., & Miller, J. Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychological Bulletin*, *112*, 64–105.
- Hawkins, J. D., & Weis, J. G. (1985). The social development model: An integrated approach to delinquency prevention. *Journal of Primary Prevention*, *6*, 73–97.
- Hay, I., Ashman, A. F., & Van Kraayenord, C. E. (1998). Educational characteristics of students with high or low self-concept. *Psychology in the Schools*, *35*, 391–400.
- Heavise, S., Rowland, C., Williams, C., & Farris, R. (1999). *Violence and discipline problems in U.S. public schools: 1996–1997*, NCES 98–030. Washington, DC: U.S. Department of Education, National Center for Education Statistics.
- Henderson, A. T., Karen, L., & Averett, A. (2002). *A new wave of evidence: The impact of school, family, and community connections on student achievement*. Austin, TX: National Center for Family & Community Connections with Schools.
- Higgins-D'Alessandro, A., & Power, F. C. (2005). Character, responsibility, and the moral self. In D. K. Lapsley & F. C. Power (Eds.), *Character psychology and character education*. (pp. 101–120). Notre Dame, IN: University of Notre Dame.
- Hoffman, M. L. (1981). Is altruism part of human nature? *Journal of Personality and Social Psychology*, *40*, 121–137.
- Hoge, D., Smit, E., & Crist, J. (1995). Reciprocal effects of self-concept and academic achievement in sixth and seventh grade. *Journal of Youth and Adolescence*, *24*, 295–314.
- Horowitz, J. L., & Garber, J. (2006). The prevention of depressive symptoms in children and adolescents: A meta-analytic review. *Journal of Consulting and Clinical Psychology*, *74*, 401–405.
- Hughes, J., Cavell, T. A., & Grossman, P. B. (1997). A positive view of self: Risk or protection for aggressive children? *Development and Psychopathology*, *9*, 75–94.
- Hulleman, C., & Cordray, D. (2009). Moving from the lab to the field: The role of fidelity and achieved relative intervention strength. *Journal of Research on Educational Effectiveness*, *2*, 88–110.
- Izard, C. (1977). *Human emotions*. New York: Plenum Press.
- Izard, C., Fine, S., Schultz, D., Mostow, A., Ackerman, B., & Youngstrom, E. (2000). Emotion knowledge as a predictor of social behavior and academic competence in children at risk. *Psychological Science*, *12*, 18–23.
- Ji, P., DuBois, D. L., Flay, B. R., & Brechling, V. (2008). “Congratulations, you have been randomized into the control group! (?)”: Issues to consider when recruiting schools for matched-pair randomized control trials of prevention programs. *Journal of School Health*, *78*, 131–139.
- Ji, P., Flay, B. R., DuBois, D. L., Brechling, V., Day, J., & Cantillon, D. (2006). Consent form return rates for third-grade urban elementary students. *American Journal of Health Behavior*, *30*, 467–474.
- Juvonen, J. (2007). Reforming middle schools: Focus on continuity, social connectedness, and engagement. *Educational Psychologist*, *42*, 197–208.

- Kam, C. M., Greenberg, M. T., & Kusche, C. A. (2004). Sustained effects of the PATHS curriculum on the social and psychological adjustment of children in special education. *Journal of Emotional and Behavioral Disorders, 12*, 66–78.
- Kam, C. M., Greenberg, M. T., & Walls, C. T. (2003). Examining the role of implementation quality in school-based prevention using the PATHS curriculum. *Prevention Science, 4*, 55–63.
- Kazdin, A. E. (2001). *Behavior modification in applied settings* (6th ed.). Stamford, CT: Wadworth/Thomson Learning.
- Kealey, K. A., Peterson, A. V., Gaul, M. A., & Dinh, K. T. (2000). Teacher training as a behavior change process: Principles and results from a longitudinal study. *Health Education & Behavior, 27*, 64–81.
- Kellam, S. G., & Anthony, J. C. (1998). Targeting early antecedents to prevent tobacco smoking: Findings from an epidemiologically based randomized field trial. *American Journal of Public Health, 88*, 1490–1494.
- Kellam, S. G., Ling, X., Merisca, R., Brown, C. H., & Ialongo, N. (1998). The effect of the level of aggression in the first grade classroom on the course and malleability of aggressive behavior into middle school. *Development and Psychopathology, 10*, 165–185.
- Kellam, S. G., Rebok, G. W., Ialongo, N. S., & Mayer, L. S. (1994). The course and malleability of aggressive behavior from early first grade into middle school: Results of a developmental epidemiologically-based preventive trial. *Journal of Child Psychology & Psychiatry & Allied Disciplines, 35*, 259–281.
- Kohlberg, L. (1969). Stage and sequence: The cognitive-developmental approach. In D. A. Goslin (Ed.), *Handbook of socialization theory and research* (pp. 347–480). Chicago: Rand McNally.
- Kohlberg, L. (1981). *Essays on moral development* (Vol. 1). New York: Harper and Row.
- Kuperminc, G. P., Leadbeater, B. J., Emmons, C., & Blatt, S. J. (1997). Perceived school climate and difficulties in the social adjustment of middle school students. *Applied Developmental Science, 1*, 76–88.
- Lazarus, R. S. (1991). *Emotion and adaptation*. New York: Oxford University Press.
- Leff, S. S., Power, T. J., Manz, P. H., Costigan, T. E., & Nabors, L. A. (2001). School-based aggression prevention programs for young children: Current Status and implications for violence prevention. *School Psychology Review, 30*, 344–362.
- Lemerise, E. A., & Arsenio, W. F. (2000). An integrated model of emotion processes and cognition in social information processing. *Child Development, 71*, 107–118.
- Lerner, R. M. (2002). *Concepts and theories of human development*. (3rd ed.). Mahwah, NJ: Erlbaum.
- Lerner, R. M., Almerigi, J. B., Theokas, C., & Lerner, J. V. (2005). Positive youth development: A view of the issues. *Journal of Early Adolescence, 25*, 10–16.
- Lerner, R. M., Dowling, E. M., & Anderson, P. M. (2003). Positive Youth development: Thriving as the basis of personhood and civil society. *Applied Developmental Science, 7*, 172–180.
- Li, K. K., Flay, B. R., Vuchinich, S., Acocck, A. C., Beets, M. W., Burns, K., et al. (under review). *Preventing disruptive behaviors, substance use, and violent behaviors among elementary students: Effects of the Positive Action program in Chicago*.
- Lickona, T. (1993). The return of character education. *Educational Leadership, 51*, 6–11.
- Lumsden, L. S. (1994). Student motivation to learn. In *Eric Digest, Number 92*. Eugene, OR: Eric Clearinghouse on Educational Management, University of Oregon. (ERIC Document Reproduction Service No. ED 370200) Available at [http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content\\_storage\\_01/0000019b/80/15/94/8b.pdf](http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/15/94/8b.pdf).
- Malecki, C. K., & Elliott, S. N. (2002). Children's social behaviors as predictors of academic achievement: A longitudinal analysis. *School Psychology Quarterly, 17*, 1–23.
- McCarthy, J. D., & Hoge, D. R. (1984). The dynamic of self-esteem and delinquency. *American Journal of Sociology, 90*, 396–410.
- McNeely, C. A., Nonnemaker, J. M., & Blum, R. W. (2002). Promoting school connectedness: Evidence from the National Longitudinal Study of Adolescent Health. *Journal of School Health, 72*, 138–146.

- Meece, J. L., Anderman, E. M., & Anderman, L. H. (2005). Classroom goal structure, student motivation, and academic achievement. *Annual Review of Psychology*, *57*, 487–503.
- Muthen, B., Brown, C., Masyn, K., Jo, B., Khoo, S., Yang, C., et al. (2002). General growth mixture modeling for randomized preventive interventions. *Biostatistics*, *3*, 459–475.
- Noguera, P. (1995). Reducing and preventing youth violence: An critical analysis of responses to school violence. *Harvard Educational Review*, *65*, 189–212.
- Nucci, L. P. (1997). Moral development and character formation. In H. J. Walberg & G. D. Haertel (Eds.), *Psychology and educational practice* (pp. 127–157). Berkeley, CA: MacCarchan.
- Nucci, L. P. (2001). *Education in the moral domain*. New York: Cambridge University Press.
- O'Donnell, J., Hawkins, J. D., Catalano, R. F., Abbott, R. D., & Day, L. E. (1995). Preventing school failure, drug use, and delinquency among low-income children: Long-term intervention in elementary schools. *American Journal of Orthopsychiatry*, *65*, 87–161.
- Osterman, K. F. (2000). Students' need for belonging in the school community. *Review of Educational Research*, *70*, 232–267.
- Paulson, M., Coombs, R., & Richardson, M. (1990). School performance, academic aspirations, and drug use among children and adolescents. *Journal of Drug Education*, *20*, 289–303.
- Payton, J. W., Wardlaw, D. M., Graczyk, P. A., Bloodworth, M. R., Tompsett, C. J., & Weissberg, R. P. (2000). Social and emotional learning: A framework for promoting mental health and reducing risk behaviors in children and youth. *Journal of School Health*, *70*, 179–185.
- Perie, M., Grigg, W., & Dion, G. (2005). *The nation's report card: Mathematics 2005 (NCES 2006-453)*. Washington, DC: US Department of Education National Center for Education Statistics. Available at <http://nces.ed.gov/nationsreportcard/pdf/main2005/2006453.pdf>
- Perie, M., Grigg, W., & Donahue, P. (2005). *The nation's report card: Reading 2005*. Washington, DC: U.S. Department of Education, National Center for Education Statistics. Available at <http://nces.ed.gov/nationsreportcard/pdf/main2005/2006453.pdf>
- Perry, C. L., Komro, K. A., Veblen-Mortenson, S., Bosma, L. M., Farbaksh, K., Munson, K. A., et al. (2003). A randomized controlled trial of the middle and junior high school DARE and DARE Plus programs. *Archives of Pediatrics and Adolescent Medicine*, *157*, 178–184.
- Peters, R. D., & McMahon, R. J. (1996). *Preventing childhood disorders, substance abuse, and delinquency*. Thousand Oaks, CA: Sage.
- Petraitis, J., Flay, B., & Miller, T. (1995). Reviewing theories of adolescent substance use – organizing pieces in the puzzle. *Psychological Bulletin*, *117*, 67–86.
- Piaget, J. (1965). *The moral judgment of the child*. New York: Free Press.
- Pianta, R. C., Hamre, B., & Stuhlman, M. (2003). Relationships between teachers and children. *Handbook of psychology*, *7*, 199–234.
- Pittman, K. J., Irby, M., Tolman, J., Yohalem, N., & Ferber, T. (2001). *Preventing problems, promoting development, encouraging encouragement: Competing priorities or inseparable goals?* Takoma Park, MD: Forum for Youth Investment. Available at <http://www.forumforyouthinvestment.org/preventproblems.pdf>
- Power, T. J. (2003). *Promoting children's health: Integrating school, family, and community*. New York: The Guilford Press.
- Purkey, W. W. (1970). *Self-concept and school achievement*. Englewood Cliffs, NJ: Prentice-Hall.
- Purkey, W. W., & Novak, J. (1970). *Inviting school success: A self-concept approach to teaching and learning*. Belmont, CA: Wadsworth.
- Rigby, K., & Cox, I. (1996). The contribution of bullying at school and low self-esteem to acts of delinquency among Australian teenagers. *Personality and Individual Differences*, *21*, 609–612.
- Roeser, R. W., Eccles, J. S., & Sameroff, A. J. (2000). School as a context of early adolescents' academic and social-emotional development. *Elementary School Journal*, *100*, 443–479.
- Rohrbach, L. A., Graham, J. W., & Hansen, W. B. (1993). Diffusion of a school-based substance abuse prevention program: Predictors of program implementation. *Preventative Medicine*, *22*, 237–260.
- Rosenbaum, P. R., & Rubin, D. B. (1983). The central role of the propensity score in observational studies for causal effects. *Biometrika*, *70*, 41–55.

- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*, 68–78.
- Ryan, R. M., & Deci, E. L. (2006). Self-regulation and the problem of human autonomy: Does psychology need choice, self-determination, and will? *Journal of Personality*, *74*, 1557–1586.
- Scheff, T. J., Retzinger, S. M., & Ryan, M. T. (1989). Crime, violence, and self-esteem: Review and proposals. In A. M. Mecca, N. J. Smelser & J. Vasconcellos (Eds.), *The social importance of self-esteem* (pp. 165–199). Berkley, CA: University of California Press.
- Sebastian, C., Burnett, S., & Blakemore, S.-J. (2008). Development of the self-concept during adolescence. *Trends in Cognitive Sciences*, *12*, 441–446.
- Segawa, E., Ngwe, J. E., Li, Y., & Flay, B. R. (2005). Evaluation of the effects of the Aban Aya Youth Project in reducing violence among African American adolescent males using latent class growth mixture modeling techniques. *Evaluation Review*, *29*, 128–148.
- Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology. *American Psychologist*, *55*, 5–14.
- Shaver, A., & Walls, R. T. (1998). Effect of Title 1 parent involvement on student reading and mathematics achievement. *Journal of Research and Development in Education*, *31*, 90–97.
- Skinner, E. A., Kindermann, T. A., & Furrer, C. (2009). A motivational perspective on engagement and disaffection: Conceptualization and assessment of children's behavioral and emotional participation in academic activities in the classroom. *Educational and Psychological Measurement*, *69*, 493–525.
- Slavin, R. E., & Fashola, O. S. (1998). *Show me the evidence! Proven and promising programs for America's schools*. Thousand Oaks, CA: Sage.
- Smith, D. W., McCormick, L. K., Steckler, A. B., & McLeroy, K. R. (1993). Teachers' use of health curricula: Implementation of growing healthy, project SMART, and the teenage health teaching modules. *Journal of School Health*, *63*, 349–354.
- Smith, S. W., Daunic, A. P., Miller, M. D., & Robinson, T. R. (2002). Conflict resolution and peer mediation in middle schools: Extending the process and outcome knowledge base. *The Journal of Social Psychology*, *142*, 567–586.
- Snyder, F., Flay, B. R., Vuchinich, S., Acock, A. C., Beets, M. W., Kin-Kit, L. (2010, January). Impact of a social-emotional and character education program on school-level indicators of academic achievement, absenteeism, and disciplinary outcomes: A matched-pair, cluster randomized, controlled trial. *Journal of Research on Educational Effectiveness*, *3*(1), 26–55.
- Sprague, J., & Golly, A. (2005). *Best behavior: Building positive behavior support in schools*: Longmont, CO: Sopris West Educational Services.
- Sprague, J., Golly, A., Bernstein, L., Munkres, A. M., & March, R. M. (1999). *Effective school and classroom discipline: A training manual*. Eugene, OR: University of Oregon, Institute on Violence and Destructive Behavior.
- Stoolmiller, M., Eddy, J. M., & Reid, J. B. (2000). Detecting and describing preventive intervention effects in a universal school-based randomized trial targeting delinquent and violent behavior. *Journal of Consulting and Clinical Psychology*, *68*, 296–306.
- Sugai, G., Sprague, J. R., Horner, R. H., & Walker, H. M. (2000). Preventing school violence: The use of office discipline referrals to assess and monitor school-wide discipline interventions. *Journal of Emotional and Behavioral Disorders*, *8*, 94–101.
- Sussman, S., Dent, C. W., Burton, D., Stacy, A. W., & Flay, B. R. (1995). *Developing school-based tobacco use prevention and cessation programs*. Thousand Oaks, CA: Sage Publications.
- Symons, C. W., Cinelli, B., James, T. C., & Groff, P. (1997). Bridging student health risks and academic achievement through comprehensive school health programs. *Journal of School Health*, *67*, 220–227.
- Tobler, N. S., Roona, M. R., Ochshorn, P., Marshall, D. G., Streke, A. V., & Stackpole, K. M. (2000). School-based adolescent drug prevention programs: 1998 meta-analysis. *Journal of Primary Prevention*, *20*, 275–336.

- Tobler, N. S., & Stratton, H. H. (1997). Effectiveness of school-based drug prevention programs: A meta-analysis of the research. *Journal of Primary Prevention, 18*, 71–128.
- Tolan, P. H., & Guerra, N. G. (1994). Prevention of delinquency - current status and issues. *Applied & Preventive Psychology, 3*, 251–273.
- Valentine, J. C., Biglan, A., Boruch, R. F., Castro, F. G., Collins, L. M., Flay, B. R., et al. (in press). *Replication in prevention science*.
- Walberg, H. J., & Lai, J. S. (1999). Meta-analytic effects for policy. In G. Cizek (Ed.), *Handbook of educational policy* (pp. 419–453). New York: Academic Press.
- Walberg, H. J., Yeh, E. G., & Mooney-Paton, S. (1974). Family background, ethnicity, and urban delinquency. *Journal of Research in Crime and Delinquency, 56*, 80–87.
- Weissberg, R. P. (1990). Fidelity and adaptation: Combining the best of both perspectives. In P. H. Tolan et al. (Eds.), *Researching community psychology: Issues of theory and methods* (pp. 186–189). Washington, DC: American Psychological Association.
- Weissberg, R. P., Greenberg, M. T., Sigel, I. E., & Renninger, K. A. (1997). School and community competence-enhancement and prevention programs. In W. Damon (Ed.), *Handbook of child psychology*. (Vol. 5. Child psychology in practice, pp. 1–125). New York: John Wiley & Sons.
- Wentzel, K. R. (1993). Does being good make the grade? Social behavior and academic competence in middle school. *Journal of Educational Psychology, 85*, 357–364.
- Wentzel, K. R. (1998). Social relationships and motivation in middle school: The role of parents, teachers, and peers. *Journal of Educational Psychology, 90*, 202–209.
- Wentzel, K. R., Barry, C. M., & Caldwell, K. A. (2004). Friendships in middle school: Influences on motivation and school adjustment. *Journal of Educational Psychology, 96*, 195–203.
- Wilson, D. B., Gottfredson, D. C., & Najaka, S. S. (2001). School-based prevention of problem behaviors: a meta-analysis. *Journal of Quantitative Criminology, 17*, 247–272.
- Zellman, G. L. (1998). Understanding the impact of parent school involvement on children's educational outcomes. *Journal of Educational Research, 91*, 370–380.