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Enhancing School-Based Prevention and Youth Development Through Coordinated Social, Emotional, and Academic Learning

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ABSTRACT

A comprehensive mission for schools is to educate students to be knowledgeable, responsible, socially skilled, healthy, caring, and contributing citizens. This mission is supported by the growing number of school-based prevention and youth development programs. Yet, the current impact of these programs is limited because of insufficient coordination with other components of school operations and inattention to implementation and evaluation factors necessary for strong program impact and sustainability. Widespread implementation of beneficial prevention programming requires further development of research-based, comprehensive school reform models that improve social, health, and academic outcomes; educational policies that demand accountability for fostering children's full development; professional development that

prepares and supports educators to implement programs effectively; and systematic monitoring and evaluation to guide school improvement.

> To be effective, schools must concentrate on their fundamental mission of teaching and learning. And they must do it for all children. That must be the overarching goal of schools in the twenty-first century. (Ravitch, 2000, p. 467)

What is the fundamental mission of preschool through high school education in the 21st century? Under what school ecology and climate conditions will students benefit maximally and teachers instruct most effectively? What aspirations does one have for high school graduates who become the future workers, citizens, and leaders? Successful schools ensure that all students master reading, writing, math, and science. They also foster a good understanding of history, literature, arts, foreign languages, and diverse cultures. However, most educators, parents, students, and the public support a broader educational agenda that also involves enhancing students' social–emotional competence, character, health, and civic engagement (Metlife, 2002; Public Agenda, 1994, 1997, 2002; Rose & Gallup, 2000). In addition to producing students who are culturally literate, intellectually reflective, and committed to lifelong learning, high-quality education should teach young people to interact in socially skilled and respectful ways; to practice positive, safe, and healthy behaviors; to contribute ethically and responsibly to their peer group, family, school, and community; and to possess basic competencies, work habits, and values as a foundation for meaningful employment and engaged citizenship (Elias et al., 1997; Jackson & Davis, 2000; Learning First Alliance, 2001; Osher, Dwyer, & Jackson, 2002).

In this article we review a broad range of evidence indicating that school-based prevention and youth development interventions are most beneficial when they simultaneously enhance students' personal and social assets, as well as improve the quality of the environments in which students are educated (Eccles & Appleton, 2002; Weissberg & Greenberg, 1998). We consequently assert that school-based prevention programming—based on coordinated social, emotional, and academic learning—should be fundamental to preschool through high school education. As such, critical challenges for effective and sustained school-based prevention and youth development are intertwined with the broader challenges of educational reform and improvement.

Background

It is little wonder that there is national consensus on the need for 21st century schools to offer more than academic instruction if one is to foster success in school and life for all children. Society and the life experiences of children and youth changed considerably during the last century (U.S. Department of Health and Human Services, 2001;

Weissberg, Walberg, O'Brien, & Kuster, 2003). Among the changes are increased economic and social pressures on families; weakening of community institutions that nurture children's social, emotional, and moral development; and easier access by children to media that encourage health-damaging behavior.

Today's schools are expected to do more than they have ever done in the past, often with diminishing resources. In 1900, the average public school enrolled 40 students, and the size of the average school district was 120 students; today, an average elementary school enrolls more than 400 pupils, and a typical high school enrolls more than 2,000 pupils (Learning First Alliance, 2001). In 1900, schools were more economically, racially, and ethnically homogeneous; today's schools face unprecedented challenges to educate an increasingly multicultural and multilingual student body and to address the widening social and economic disparities in U.S. society.

In every community today's schools serve a diverse array of students with varied abilities and motivations for learning. Some are academically successful, committed, and participate enthusiastically in class and extracurricular activities. Others struggle academically and are disengaged. In addition, large numbers of students with mental health problems and deficits in social-emotional competence have difficulty learning or disrupt the educational experiences of their peers (Benson, Scales, Leffert, & Roehlkepartain, 1999). Approximately 20% of young people experience mental health problems during the course of a year, yet 75% to 80% of these do not receive appropriate interventions (U.S. Department of Health and Human Services, 1999). Furthermore, 30% of 14- to 17-year-olds engage in multiple high-risk behaviors that jeopardize their potential for life success (Dryfoos, 1997). According to the 2001 Youth Risk Behavior Survey, large percentages of American high school students are involved with substance use, risky sexual behavior, violence, and mental health difficulties.

Given this context, the demands on schools to implement effective educational approaches that promote academic success, enhance health, and prevent problem behaviors have grown (DeFriese, Crossland, Pearson, & Sullivan, 1990; Kolbe, Collins, & Cortese, 1997). Unfortunately, many child advocates and researchers, despite their good intentions, have proposed fragmented initiatives to address problems without an adequate understanding of the mission, priorities, and culture of schools (Sarason, 1996). Schools have been inundated with well-intentioned prevention and promotion programs that address such diverse issues as HIV/AIDS, alcohol, careers, character, civics, conflict resolution, delinquency, dropout, family life, health, morals, multiculturalism, pregnancy, service learning, truancy, and violence.

For a number of reasons, these uncoordinated efforts often are disruptive. First, they typically are introduced as a series of short-term, fragmented initiatives. Such programs and the needs they address are not sufficiently linked to the central mission of schools or to the issues for which teachers and other school personnel are held accountable, primarily academic performance. Second, without strong leadership and support from school administrators, there is rarely adequate staff development and support for program implementation. Programs that are insufficiently coordinated, monitored, evaluated, and

improved over time will have reduced impact on student behavior and are unlikely to be sustained.

Concern for the ineffective nature of so many prevention and health promotion efforts spurred a 1994 meeting hosted by the Fetzer Institute. Attendees included school-based prevention researchers, educators, and child advocates who were involved in diverse educational efforts to enhance children's positive development, including social competence promotion, emotional intelligence, drug education, violence prevention, sex education, health promotion, character education, service learning, civic education, school reform, and school-family-community partnerships. The Fetzer group first introduced the term *social and emotional learning* (SEL) as a conceptual framework to address both the needs of young people and the fragmentation that typically characterizes the response of schools to those needs (Elias et al., 1997). They believed that, unlike the many "categorical" prevention programs that targeted specific problems, SEL programming could address underlying causes of problem behavior while supporting academic achievement. A new organization, the Collaborative for Academic, Social, and Emotional Learning (CASEL), also emerged from this meeting with the goal of establishing high-quality, evidence-based SEL as an essential part of preschool through high school education (see www.CASEL.org).

Through developmentally and culturally appropriate classroom instruction and application of learning to everyday situations, SEL programming builds children's skills to recognize and manage their emotions, appreciate the perspectives of others, establish positive goals, make responsible decisions, and handle interpersonal situations effectively (Collaborative for Academic, Social, and Emotional Learning, 2003; Lemerise & Arsenio, 2000). It also enhances students' connection to school through caring, engaging classroom and school practices (McNeeley, Nonnemaker, & Blum, 2002; Osterman, 2000). Learning social and emotional skills is similar to learning other academic skills in that the effect of initial learning is enhanced over time to address the increasingly complex situations children face regarding academics, social relationships, citizenship, and health. Therefore, skills must be developed for negotiating diverse contexts and handling challenges at each developmental level (Weissberg & Greenberg, 1998). This outcome is best accomplished through effective classroom instruction; student engagement in positive activities in and out of the classroom; and broad student, parent, and community involvement in program planning, implementation, and evaluation (Collaborative for Academic, Social, and Emotional Learning, 2003; Henderson & Mapp, 2002; Pittman, Irby, Tolman, Yohalem, & Ferber, 2001). Ideally, planned, ongoing, systematic, and coordinated SEL instruction should begin in preschool and continue through high school.

Evidence Supporting Comprehensive, SEL-Based Prevention Programming

The SEL approach to school-based prevention incorporates health promotion, competence enhancement, and youth development frameworks that integrate strategies for reducing risk factors and enhancing protective mechanisms through coordinated

programming (Mrazek & Haggerty, 1994; Perry, 1999; Weissberg & Greenberg, 1998). Problem-prevention efforts for young people are most beneficial when they are coordinated with explicit attempts to enhance their competence, connections to others, and contributions to their community (Eccles & Appleton, 2002; Pittman et al., 2001). These positive outcomes serve both as protective factors that decrease problem behaviors and as foundations for healthy development.

Numerous successful, multiyear, school-based interventions promote positive academic, social, emotional, and health behavior. Some address changes in the school environment, some are person focused, and some include multiple approaches and components. Examples of environment-focused efforts include programming that emphasizes the following: (a) coordinated, school-level organization development and planning (Cook et al., 1999; Cook, Murphy, & Hunt, 2000; D. C. Gottfredson, 1986); (b) creation of caring communities of learners and enhancement of school and classroom climate through a combination of class meetings, peer leadership, family involvement, and whole-school community building activities (Battistich, Schaps, Watson, & Solomon, 1996; Solomon, Battistich, Watson, Schaps, & Lewis, 2000); (c) strengthening teacher instructional practices and increasing family involvement (Hawkins, Catalano, Kosterman, Abbott, & Hill, 1999; Reynolds, Temple, Robertson, & Mann, 2001); and (d) establishing smaller units within schools and building trust among school staff, families, and students, thereby increasing student access, guidance, and support from school staff and other students (Bryk & Schneider, 2002; Felner et al., 1997).

There are effective classroom-based SEL instructional programs that enhance students' social–emotional competence (Elias, Gara, Schuyler, Branden-Muller, & Sayette, 1991; Greenberg & Kusché, 1998) and health (Connell, Turner, & Mason, 1985; Errecart et al., 1991). Others target the prevention of specific problem behaviors, including substance use (Botvin, Baker, Dusenbury, Botvin, & Diaz, 1995) and violence (Grossman et al., 1997). With older students, combined classroom instruction and volunteer service have reduced risk for teen pregnancy and adolescent failure (Allen, Philliber, Herrling, & Kuperminc, 1997). And, a growing number of multiyear, multicomponent school, family, or community programs produce multiple benefits for young people (Conduct Problems Prevention Research Group, 1999; Pentz et al., 1989; Perry, 1999).

Rather than present descriptions of individual, exemplary, evidence-based programs and their evaluations, the remainder of this section summarizes representative meta-analyses and research syntheses of school-based prevention programming that targets positive youth development, mental health, drug use, antisocial behavior, and academic performance. Although reviews from these varying domains use different language to characterize the common features of effective programming, it is noteworthy that they generally emphasize the core components of SEL interventions described throughout this article.

Positive Youth Development

Catalano, Berglund, Ryan, Lonczak, and Hawkins (2002) began with a database of 161 positive youth development programs and ultimately designated 25 programs as effective. The selected programs focused on school-age children and addressed one or more of 15 youth development (or SEL) constructs: bonding; resilience; social, emotional, cognitive, behavioral, and moral competence; self-determination; spirituality; self-efficacy; clear and positive identity; belief in the future; recognition for positive behavior; opportunities for prosocial involvement; and prosocial norms or health standards for behavior. The programs were implemented in school, family, and/or community settings, with school components used in 22 of the 25 efforts.

Catalano et al. (2002) concluded their review with an optimistic assessment: "Promotion and prevention programs that address positive youth development constructs are definitely making a difference in well-evaluated studies" (p. 62). The results included improvements in interpersonal skills, quality of peer and adult relationships, and academic achievement, as well as reductions in problem behaviors such as school misbehavior and truancy, alcohol and drug use, high-risk sexual behavior, violence, and aggression. Two general strategies evident in most effective programs were skill building and environmental-organizational change. All effective programs addressed a minimum of five SEL constructs. Programs lasting nine or more months produced better outcomes than shorter interventions. The findings highlighted the importance of using structured manuals and curricula to support consistency in program delivery, and they also indicated that the field will benefit from the development and use of standardized measures applied within a comprehensive outcomes framework that assesses youth development constructs, positive behavior outcomes, and the prevention or decrease of social, health, and school problems.

Mental Health

Durlak and Wells (1997) used meta-analysis to examine 177 primary prevention programs designed to prevent behavioral and social problems in young people under the age of 18, with schools being the setting in 73% of these studies. Their findings indicated that programming had the dual benefits of enhancing competencies (e.g., assertiveness, communication skills, self-confidence, academic performance) and reducing internalizing and externalizing problems. Most programs produced outcomes similar to or greater in magnitude than many other established treatment and prevention approaches in medicine and the social sciences.

Person-centered affective education and interpersonal problem-solving training, as well as school–environment change strategies, produced mean effect sizes ranging from.24 to.93, with the strongest benefits occurring for children ages 2 to 7 (Durlak & Wells, 1997). Interventions using behavioral approaches produced larger effects than those using nonbehavioral approaches. In spite of this positive appraisal, Durlak and Wells pointed out that future research must improve efforts to specify program goals and intervention procedures, assess program implementation, identify how intervention and participant characteristics related to program outcomes, and determine the long-term impact of programming.

Greenberg, Domitrovich, and Bumbarger (2001) reviewed more than 130 universal, selected, or indicated prevention programs for school-age children ranging in age from 5 to 18. Their objective was to identify rigorously evaluated interventions that reduced psychological symptoms (e.g., aggression, depression, anxiety) or positively influenced factors associated with risk for child mental disorders. They selected 34 programs that met the following criteria: a randomized-trial design or a quasi-experimental design with an adequate comparison group; pre-, post-, and preferably follow-up assessment; a written manual specifying the program's conceptual model and intervention procedures; and specification of the target sample's social and behavioral characteristics. The 14 school-based universal programs that met Greenberg et al.'s inclusion criteria were classified into four categories: general social–emotional cognitive skill building; violence prevention; school-ecology change; and multidomain and multicomponent.

Greenberg et al. (2001) asserted that meaningful progress has been made with school and family preventive intervention research. They highlighted the following conclusions about validated programs: (a) Multiyear programs are more likely to foster enduring benefits than short-term interventions; (b) prevention programs that focus on multiple domains (e.g., individual, school, and family) are more effective than those that focus only on the child; (c) for school-age children, the school ecology and climate should be a central focus of intervention; and (d) program success is enhanced by combining emphases on changing children's behaviors, teacher and family behavior, home–school relationships, and school and neighborhood support for healthy, competent behavior.

Substance Use

Tobler et al. (2000) examined results from 207 universal prevention programs published between 1978 and 1998. They created a classification scheme composed of two clusters of eight total program types. Five were *noninteractive* approaches that include knowledge-only, affective-only, decisions/values/attitudes, knowledge-plus-affective, and DARE-type programs. The other three represented *interactive* approaches that included social influences, comprehensive life skills, and systemwide change models.

Tobler et al. (2000) indicated that noninteractive lecture-oriented programs have minimal impact, whereas interactive programs that enhance the development of interpersonal skills have greater impact. Greater benefits were also achieved by comprehensive life skills programs that included training in refusal skills, goal setting, assertiveness, communication, and coping. The strongest impact was achieved by systemwide change efforts that involved a school-based program plus community, media, and family programming or schoolwide restructuring efforts emphasizing bonding between students and the school, cooperative learning in small interactive groups, and school–family communication. Higher intensity interactive programs with 16 or more hours of lessons had greater impact than lower intensity efforts (average delivery of 6 hours). One curious finding is that programs implemented by mental health clinicians and peers had more positive effects than those provided by teachers, although all produced significant benefits. Tobler (2000) pointed out that it will require considerable training and support for teachers to implement high-quality interactive programming.

Antisocial Behavior, School Nonattendance, and Drug Use

Wilson, Gottfredson, and Najaka's (2001) meta-analysis of 165 studies of school-based prevention included seven types of individually focused interventions (e.g., counseling, mentoring, self-control, and social competency instruction) and four types of environmentally focused interventions (e.g., establishing norms or expectations for behavior and schoolwide discipline management interventions). Self-control or social competency programming that used cognitive-behavioral and behavioral instructional methods consistently was effective in reducing dropout and nonattendance, substance use, and conduct problems. These training methods involved modeling behaviors with rehearsal and feedback, behavioral goal setting, and cues to prompt competent behavior in a variety of settings over a sustained period of time. Environmentally focused interventions were especially effective in reducing delinquent behavior and drug use. Overall, program effects on school problems were approximately three times greater than for delinquency and substance use. In addition, the evaluated programs had stronger effects with at-risk populations.

Wilson et al. (2001) suggested that a single school-based strategy implemented in isolation will not have a large effect. They contended that future research should go beyond examining "Which program works?" to more sophisticated, ecologically based questions such as, "Which combinations or sequences of strategies work best?" and "How can schools effectively design comprehensive packages of prevention strategies and implement them in a high-quality fashion?" (p. 269).

Academic Performance and Learning

Wang, Haertel, and Walberg (1997) analyzed the content of 179 handbook chapters and reviews and 91 research syntheses and surveyed 61 educational researchers in an effort to achieve some consensus regarding the most significant influences on learning. They examined 28 categories of influence. Among the top 11 categories that affected learning, 8 involved social-emotional influences: classroom management, parental support, student-teacher social interactions, social-behavioral attributes, motivational-affective attributes, the peer group, school culture, and classroom climate. Other influences, such as state, district, or school policies, organizational features such as site-based management, curriculum and instruction, and student and district demographics, had the least influence on learning. Wang et al. (1997) concluded that "direct intervention in the psychological determinants of learning promise the most effective avenues of reform" (p. 210).

Zins, Weissberg, Wang, and Walberg (in press) made a compelling conceptual and empirical case for linking SEL programming to improved school attitudes, behavior, and performance. They noted that students' social-emotional competence fosters better academic performance in a variety of ways. For example, they reported that students who become more self-aware and confident about their learning abilities try harder, and that students who motivate themselves, set goals, manage their stress, and organize their approach to work perform better. Additionally, students who make responsible decisions

about studying and completing their homework and use problem-solving and relationship skills to overcome obstacles achieve more. Interpersonal, instructional, climate, and environmental supports that produce improved outcomes include the following: (a) partnering between teachers and families to encourage and reinforce learning commitment, engagement, and positive behavior; (b) safe and orderly school and classroom environments; (c) caring relationships between students and teachers that foster commitment and connection to school; (d) engaging teaching approaches such as cooperative learning and proactive classroom management; and (e) adult and peer norms that convey high expectations and support for high-quality academic performance.

On the basis of these findings, Zins et al. (in press) asserted that the research linking social, emotional, and academic factors are sufficiently strong to advance the new term *social, emotional, and academic learning* (SEAL). A central challenge for researchers, educators, and policymakers is to strengthen this connection through coordinated multiyear programming. The SEAL perspective offers an explicit framework for school-based prevention that broadly encourages efforts to promote students' health, character, and citizenship with intentional programming to improve academic performance and other school functioning.

Summary of Research Syntheses

There is a solid and growing empirical base indicating that well-designed, well-implemented school-based prevention and youth development programming can positively influence a diverse array of social, health, and academic outcomes. Although our confidence is tempered by the limited number of replication studies examining program impacts, we nevertheless believe that the consistency of findings from multiple programs with similar mechanisms of action permits lessons to be drawn from the spectrum of prevention research. Key strategies that characterize effective school-based prevention programming involve the following student-focused, relationship-oriented, and classroom-and school-level organizational changes: (a) teaching children to apply SEL skills and ethical values in daily life through interactive classroom instruction and providing frequent opportunities for student self-direction, participation, and school or community service; (b) fostering respectful, supportive relationships among students, school staff, and parents; and (c) supporting and rewarding positive social, health, and academic behavior through systematic school–family-community approaches.

In most cases short-term preventive interventions produce short-lived results. Conversely, multiyear, multicomponent programs are more likely to foster enduring benefits. When classroom instruction is combined with efforts to create environmental support and reinforcement from peers, family members, school personnel, health professionals, other concerned community members, and the media, there is an increased likelihood that students will adopt positive social and health practices (Osher et al., 2002; Weissberg & Greenberg, 1998). Finally, competence-and health-promotion programming is best begun before students are pressured to experiment with risky behaviors and should continue through adolescence. Programming that spans preschool through high school

provides continuous instruction, encouragement, and reinforcement to support students' ongoing, developmentally appropriate positive behavior.

Evidence-Based Model Programs in the Context of Schoolwide and Districtwide Practice: Challenges and Opportunities

The research summaries reviewed here illustrate the potential of prevention and youth development programming to contribute to the broad mission of schools. However, their full promise will not be realized until prevention researchers and practitioners more fully understand and capitalize on recent trends in research and in education practice and reform. Our closing observations summarize these trends and their implications for effective school-based prevention.

Emphasis on Research-Based Practices

The No Child Left Behind Act of 2001 places a new emphasis on scientifically based practice. This landmark legislation represents an important opportunity to bring evidence-driven progress to education in the United States (Report of the Coalition for Evidence-Based Policy, 2002). The U.S. Department of Education now specifies that instruction, not only in core academic content areas but also in prevention interventions, should be "guided by theory; rigorously evaluated so as to determine that it actually does what it set out to do; replicable; and validated or supported by researchers in the field" (National Coordinating Technical Assistance Center for Drug Prevention and School Safety Program Coordinators, 2003). Many of the programs assessed in the reviews reported here appear on "model program" lists compiled by various federal agencies (e.g., Centers for Disease Control and Prevention, Office of Juvenile Justice and Delinquency Prevention, U.S. Department of Education). These lists are intended to help schools differentiate between nationally available programs that are effective and those with no evaluation base.

Despite the availability of evidence-based programs, many schools still do not use them (Ennett et al., 2003; G. D. Gottfredson & Gottfredson, 2001; Hallfors & Godette, 2002). For example, Ennett et al. surveyed educators from a national sample of public and private schools and found that only 14% used interactive teaching strategies and effective content in delivering substance use prevention programming. Hallfors and Godette's survey results from 81 Safe and Drug-Free School district coordinators across 11 states indicated that 59% had selected a research-based curriculum for implementation, but only 19% reported their schools were implementing these programs with fidelity. This issue is of equal if not greater importance than generating new and more accurate compendia; the level of practice would be enhanced greatly if even current knowledge was implemented to a greater degree.

Accountability, Assessment Issues, and Measurement Tools

Another recent education trend involves a growing emphasis on accountability. The federal push for a strong science base for school programming is one aspect, and so too is

educators' greater use of data to guide practice and keep stakeholders informed. In our own work with schools, we frequently receive requests for measurement tools to identify prevention needs, provide implementation feedback, and document program impacts. School personnel require data to address key issues such as the following: Are implementation efforts working? Is additional training, modification of materials, or more time for program delivery needed? What changes have occurred in terms of targeted outcomes? At the same time, federal, state, and district priorities often focus on limited measures of academic achievement to gauge success. However, given the stated desire of many educators and the general public that schools have a broader vision, it is essential that brief, reliable, and valid measures of the social and emotional health of students and of school environments be developed that can create both public accountability and guidance to improve the social and emotional health of children and youth. In addition, the systematic collection of these data will enable school personnel and policymakers to determine the extent to which these factors support improved academic achievement. Such work is beyond the scope of individual researchers and labs alone and requires the convening of consortia dedicated to collaborative and integrative research with the goal of informing school-based practice in a focused manner.

Comprehensive Approaches

Another major education trend, one that provides a point of great synergy with prevention trends, is a move away from piecemeal and fragmented approaches and toward comprehensiveness and greater coordination in planning and implementation. Research and practice increasingly have shown that schools will be most successful at introducing research-based instruction when systematic decisions are made about how best to identify and implement innovative practices in the context of the entire school community. Further, the dynamic nature of schools—and programs—requires active support for high-quality program implementation and ongoing assessment of the effects of innovations on students, staff, and systems. We have found schools to almost uniformly be interested in this topic.

This experience is consistent with the national trend toward viewing the whole school and its surrounding community as a unit of change, as evidenced by both the community schools movement and the comprehensive school reform (CSR) program of the federal government. For example, the goal of community schools is to make the school a place in which many sectors of a community combine forces to work in partnership to educate children (Blank, Melaville, & Shah, 2003). CSR recognizes the need for a systemic approach to implementing innovation and is designed to foster coherent schoolwide improvements that cover virtually all aspects of a school's operations rather than uncoordinated, isolated approaches to reform. CSR seeks to raise student achievement by helping schools implement effective, comprehensive reforms based on scientifically based research and effective practices (U.S. Department of Education, 2003).

One of the larger, more complicated sets of questions in prevention programming involves how all of the elements of evidence-based programs fit together in the context of an overall schoolwide or school-district effort, and how to ensure that coordinated,

multiyear programs will be implemented effectively. To date, few schools have acted strategically to integrate effective approaches to children's social, emotional, and academic learning (Adelman & Taylor, 2000; Osher et al., 2002). A variety of factors have led to this state of affairs, including the absence of long-term curricular planning, inadequate district and school infrastructure to support prevention activities, limited measures of achievement, low levels of funding, and lack of teacher preparation.

The reality is that schools today are hard-pressed to meet the many demands they face, and reforming school programming and practices is exceedingly difficult (Adelman & Taylor, 2000; Berends, Bodilly, & Kirby, 2002; Hall & Hord, 2001; Sarason, 2002). Despite the progress that has been made, substantial research and practice challenges remain. Educational leaders are faced with difficult choices about priorities. Recent years have witnessed greater interest and growing pressure from policymakers and the public regarding student achievement. Currently, educational leaders are consumed by the student academic performance requirements of the No Child Left Behind Act. Following the dictum that what gets inspected gets expected, many schools have increased the time they devote to instruction in these areas while reducing time for "nonassessed programming." Thus, rather than integrating these segments and seeing the contributions of prevention programming to academic as well as social and emotional development, educators often make the false choice to emphasize academics only. One strategy to counteract the limitations of an exclusive focus on academic performance will involve designing and evaluating new programs that simultaneously improve students' health, social-emotional behavior, and achievement. A related strategy will involve modifying graduate and postdegree training for educators and psychologists to prepare more people to take on roles requiring this set of skills.

Future Directions

There are a growing number of evidence-based prevention and youth development programs, and research on these programs provides a solid foundation for beneficial school-based programming. As we approach the next few decades of research, prevention scientists need to address a variety of higher order intervention questions that educators will find informative so that practice can be advanced. For example, educational leaders who want to implement competence-enhancement programs need to have access to more contextual research to understand how prevention programs are being delivered effectively and under what conditions such practices are occurring. Because there are few preschool through high school prevention programs, clarification is needed on how several programs can be coordinated so that a continuum of instruction can be provided. They need to know what aspects of the implementation process are most important, and what adaptations can be made without harming the integrity of the intervention. Of additional interest is information about how schools are handling the move toward comprehensive prevention programming. Moreover, better ways to measure and clarify the phenomena being examined are needed, which ultimately could be used as yardsticks for growth and as means of documenting a broader range of success (Greenberg, in press).

It is critical to establish research-based training and technical assistance approaches for superintendents, principals, teachers, and parents to foster high-quality implementation of new school innovations. The concordance between SEL programs and many teacher preparation standards is clear (Fleming & Bay, in press), but training in preventive techniques has not found its way into most schools of education or district in-service programs. Further, it is crucial to identify state-level, district-level, and school-level policies and practices that support the successful introduction and institutionalization of school-based prevention programs.

Our review indicates that whole-school approaches to prevention based on evidence-driven interventions show much promise. The next generation of prevention research will involve multiyear evaluations of coordinated schoolwide and districtwide programming that combine comprehensive person-centered and environmental packages of effective strategies (Weissberg & Elias, 1993; Wilson et al., 2001). Building on the current scientific base, the field is ready to expand beyond circumscribed model programs and packages that target a limited number of grade levels and outcomes. We also need a better understanding of how educators make decisions to combine, adapt, and assimilate evidence-based programs and how assessment information is used to improve programs.

Additional key research questions that will inform efforts to disseminate effective school-based prevention programs also must be answered. For instance, what research-based variables are most important to assure the successful replication of effective school-based interventions? Success requires clear fidelity in implementing core program features but may also include "positive" adaptations to local conditions (Greenberg, Domitrovich, Graczyk, & Zins, in press). A related issue involves the development of research-based strategies that educators can use to coordinate the introduction of a new prevention program with those already in place. How do educators make and implement responsible, informed decisions about which programs to keep in place and which ones to drop so that sensible synergy rather than inefficient fragmentation results?

These questions about replication, program coordination, professional development, and sustainability are currently underresearched. Yet in the long run, they will be most informative as schools nationwide implement coordinated prevention programs to improve the social, emotional, physical, and intellectual development of all children.

Our experience in schools across the United States, as well as in many parts of the world, has given us the opportunity to see the many benefits of prevention and youth development programming. We have also observed the consequences of not having such programs in place. The choice is clear. We have the science to foster children's social, emotional, and academic learning even as we improve our research base (Zins et al., in press). The next generation of the science and practice of school-based prevention will require researchers, educators, and policymakers to work together to design evidence-based, coordinated youth development programming and accountability and support systems to ensure their effective implementation. Through these collaborations, we can ensure that truly no child is left behind and that all young people have a chance to realize their full potential.

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