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Social-Emotional Competence: An Essential Factor for Promoting Positive Adjustment and Reducing Risk in School Children

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Social-emotional competence is a critical factor to target with universal preventive interventions that are conducted in schools because the construct (a) associates with social, behavioral, and academic outcomes that are important for healthy development; (b) predicts important life outcomes in adulthood; (c) can be improved with feasible and cost-effective interventions; and (d) plays a critical role in the behavior change process. This article reviews this research and what is known about effective intervention approaches. Based on that, an intervention model is proposed for how schools should enhance the social and emotional learning of students in order to promote resilience. Suggestions are also offered for how to support implementation of this intervention model at scale.

This special issue of *Child Development* focuses on research that informs the development of interventions that maximize the well-being of at-risk children. Authors identify and justify what they believe are the most important variables to concentrate on to reduce risk and increase protection for youth. We have chosen social-emotional competence, a multidimensional construct that is critical to success in school and life for all children, including those at risk due to economic disadvantage, minority status, and early emotional or behavioral problems.

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Social and emotional learning (SEL) is the process through which social-emotional competence develops. Through SEL, children and youth acquire and effectively apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions (Weissberg, Durlak, Domitrovich, & Gullotta, 2015). The knowledge, skills, and attitudes that are needed to demonstrate social-emotional competence require integration across affective, cognitive, and behavioral systems (Beauchamp & Anderson, 2010; Greenberg et al., 2003). It can be helpful to frame the broad construct of social-emotional competence into two domains, that of intrapersonal and interpersonal competencies; this serves to better organize the

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multitude of terms and definitions that align with SEL (Collaborative for Academic, Social, and Emotional Learning, 2013, 2015; Pellegrino & Hilton, 2012). As such, intrapersonal skills (e.g., realistic goal setting, positive mindsets, self-control, emotion regulation, and coping strategies) are those that are needed for globally effective functioning as an individual, whereas interpersonal skills (e.g., listening, communication, perspective taking, negotiation, and social problem solving) are those that are needed to interact successfully with others. In this article, we review the research and the outcomes illustrating effective SEL interventions using this organizing lens.

Individuals who thrive developmentally despite being exposed to high levels of risk are referred to as manifesting or demonstrating resilience (Luthar, Cicchetti, & Becker, 2000). We focus on social-emotional competence because of the empirical evidence that it is an individual characteristic that is critical for healthy development and for counteracting the negative effects of exposure to risk. The review of the research evidence justifying our selection is organized into three levels. The first is longitudinal research demonstrating that social-emotional competence is a promotive factor associated with success in key developmental tasks over time, and that deficits in this area of functioning are associated with poor outcomes over time. There is also evidence that social-emotional competence is a protective factor moderating the relationship between a number of individual risk factors and developmentally significant outcomes.

The second level of evidence comes from research on interventions designed to promote social-emotional competence. These studies document the malleability of the construct, that positive effects from interventions endure over time, and that these interventions are feasible and can be very cost-effective. The third level of evidence comes from studies of interventions designed to promote student adjustment that show how social-emotional competence mediates the relationship between identified risk factors and developmentally significant outcomes. After summarizing the evidence, our review will describe common intervention approaches used by programs that target the development of social-emotional competence and meta-analytic research regarding the relative effectiveness of different approaches. The article ends with a description of an intervention strategy and recommendations for implementing at scale.

We limit our review to universal interventions delivered in schools because, as prevention scientists, we are dedicated to intervening before the effects of risk exposure are evident in children's functioning. Prevention is grounded in a public health approach to addressing the needs of vulnerable populations and, by definition, involves the combination of universal, selected, and indicated intervention approaches (O'Connell, Boat, & Warner, 2009). As the first level of intervention in educational systems, universal interventions that promote social-emotional competence can raise the overall level of adjustment for all schoolchildren and provide guidance for more intensive services for those in need of further assistance (Greenberg, Domitrovich, Weissberg, & Durlak, in press).

Universal interventions are likely to be of much greater overall public health benefit than interventions that only target those with current problems (Greenberg et al., in press). This is because epidemiological research on several types of negative outcomes indicates that the general total population will eventually develop more instances of various problems than a subpopulation of that total which is currently having some difficulties. It is a matter of population size and the probabilities of later dysfunction. For example, consider the current population of 50.1 million schoolchildren in the United States (Population A) of which approximately 20% (10 million, Population B) currently manifest some adjustment problems of at least a fairly serious degree. Suppose that 30% of Population B continues to have problems over time, but only 10% of Population A develops problems later in life (which are reasonable projections). Based on these projections, Population A will eventually contain 2 million more individuals with later adjustment problems than Population B (5 vs. 3 million). Even if universal intervention was successful in preventing later problems for a modest percentage of youth, it would still have a major public health impact.

Of course, those who are already manifesting problems require attention, but our argument to focus on universal school-based programs is in the spirit of this special issue, that is, the improvement of the overall level of health in our society. This is possible through interventions that enhance social-emotional competence. We show that these interventions are helpful for groups of schoolchildren who are at risk due to their geographic or demographic characteristics (i.e., members of a minority group or those of lower socioeconomic status) or their behavior (i.e., temperament or level of disruptive behavior).

Level 1: Longitudinal Research

There is growing interest in the role that social-emotional competence has on students both while

they are in school and when they are adults (Farrington et al., 2012; Pellegrino & Hilton, 2012). There is considerable evidence indicating that both intrapersonal and interpersonal competencies enhance the ability of youth to behave appropriately, avoid risk behaviors, develop healthy relationships with adults and peers, and achieve academic success (Epstein, Griffin, & Botvin, 2000; Trentacosta & Fine, 2010). This is especially true for children who are vulnerable due to higher levels of behavioral dysregulation or exposure to the numerous risk factors associated with poverty (Elias & Haynes, 2008; Valiente et al., 2011). Longitudinal studies document that social-emotional deficits are predictive of problem behaviors including aggression, delinquency, and substance use (Arsenio, Adams, & Gold, 2009; Cook, Williams, Guerra, Kim, & Sadek, 2010; Moffitt et al., 2011; Trentacosta & Fine, 2010).

Educational, psychological, and econometric research suggests that social-emotional competence is fundamental to increasing students' postsecondary performance and completion, to enhancing workplace success, and for adult life outcomes including rates of incarceration, marital status, and levels of depression (Heckman, Stixrud, & Urzua, 2006; Moffitt et al., 2011). In a recent analysis of outcomes in a longitudinal study of racially diverse, low-income students living in both rural and urban communities in four states, teacher ratings of students' interpersonal competence made in kindergarten were examined in relation to adult outcomes in multiple domains assessed 13–19 years later (Jones, Greenberg, & Crowley, 2015). After accounting for a number of individual and school-level covariates, higher levels of competence were inversely related to receiving public assistance, being involved in criminal activity, and substance use (Jones et al., 2015). Students rated by teachers as more competent in kindergarten were more likely to have stable employment at age 25.

Level 2: School-Based Intervention Research

Space does not allow us to review results for all interventions. Table 1 summarizes the findings from five representative meta-analyses of school-based interventions targeting different combinations of social-emotional competencies. There is some overlap in the studies, but collectively, these reviews cover over 300 published and unpublished studies involving over 300,000 students. For the sake of comparison, the mean effect obtained on measures of aggression and disruptive behavior is presented as well as the findings for several potential moderators of that outcome were examined in these reviews.

The findings are fairly consistent with respect to the mean posttest effect size (ranging from .21 to .26). Of note, the Taylor, Oberle, Durlak, and Weissberg (in press) meta-analysis of 82 SEL studies found that significant positive effects on disruptive behaviors were obtained at a mean follow-up period of 2 years, indicating the durability of effects over time. Moreover, the strongest predictor of follow-up effects was the mean effect at posttest reflecting the level of students' social-emotional competence. In other words, students with higher levels of social-emotional competence at the end of intervention fared the best over the longer term.

In addition to the findings for aggressive and disruptive behaviors noted in Table 1, meta-analyses of school-based social competence interventions have also reported significant positive effects at posttest for other outcomes that are important for healthy development including academic performance, positive social behaviors, drug use, and

Table 1
Major Findings From Meta-Analyses of Universal School-Based Programs Using the Promotion of Social-Emotional Competence To Promote Positive Adjustment and Reduce Risk

	Moderating variables						Outcome
Review	Gender	Ethnicity	SES	Age	Risk	Location	Problem behavior
Barnes et al. (2014)		No					.23
Durlak et al. (2011)		No	No			No	.22
Garrard and Lipsey (2007)	No	No		Older>	No		.26
Taylor et al. (in press)	No	No					.14
Wilson and Lipsey (2007)	No	No	Lower>				.21

Note. Blank cell means that variable was not analyzed as a potential moderator; No indicates the variable did not emerge as a significant moderator. Older> means students aged 14–17 did better than those 5–9 or 10–13. Lower> means children at low SES level did better than their middle SES peers. Location in Durlak et al. (2011) referred to urban, suburban, or rural schools.

emotional distress (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; January, Casey, & Paulson, 2011; Korpershoek, Harms, de Boer, van Kuijk, & Doolaard, 2016; Sklad, Diekstra, Ritter, Ben, & Gravesteijn, 2012).

Of interest is whether interventions are more effective for some participants than others. Overall, the data in Table 1 reflect that intervention effects were comparable for students of different ethnicities (examined in all five reviews) and for both genders (assessed in three of the five). In other cases, students' socioeconomic status either did not make a difference (Durlak et al., 2011) or favored those from a lower as compared to a middle economic class (Wilson & Lipsey, 2007). Initially, age emerged as a moderator in four of the five reviews but only remained significant in one after the relative influence of other variables was assessed (Garrard & Lipsey, 2007). School location, in urban, suburban, or rural settings, was examined in one study but was not a significant factor (Durlak et al., 2011). Only one review examined behavioral risk levels coded as the combination of initial problems and attendance at an inner city school but did not find it to be a moderating factor (Garrard & Lipsey, 2007). In general, the results from Table 1 suggest that school-based social-emotional competence interventions are suitable and effective for all students, and in some cases, these interventions were more favorable for students from low-income families (Durlak et al., 2011).

Level 3: Research Examining Intervention Mechanisms

One way to confirm the importance of social-emotional competence is to demonstrate that it plays an important role in the behavior change process. This can be achieved empirically with mediation analyses conducted in the context of intervention studies or with meta-analysis by coding program approaches or characteristics and testing for differential effects. Intervention studies that examine mediation are limited, but one review identified nine studies conducted in school-based elementary settings in which variables responsible for the positive effects on overt aggression were identified (Dymnicki, Weissberg, & Henry, 2011). In seven of these nine studies, social-emotional competencies were a key change mechanism. These included the acquisition of attitudes favoring prosocial over aggressive solutions to problems, and skills related to social problem solving, conflict resolution, and interpersonal relationships.

A 4-year longitudinal study that took place in the context of an intervention trial tested the effect of a combined (i.e., instructional and environmental) approach to promoting social and emotional competence and demonstrated with mediation analyses that reductions in violent behavior were a function of students' improvements in competence (Ngwe, Liu, Flay, Segawa, & the Aban Aya Co-Investigators, 2004). The study took place in 12 Chicago schools with a sample of 571 African American male students who were randomly assigned either to the intervention or to receive a curriculum that focused on health-enhancing behaviors from fifth through eighth grades. The competence dimensions that mediated the intervention effects were behavioral intentions, attitudes toward aggression, and perceptions of peer norms for aggression (Ngwe et al., 2004).

School-Based Intervention Approaches

Interventions vary in their approaches to promoting students' social and emotional competence, and while some use an eclectic mix of strategies, most interventions either foster student social and behavioral adjustment directly by teaching student competencies (i.e., social skills training) or indirectly by creating a positive learning environment that fosters the development of social-emotional competence (Collaborative for Academic, Social, and Emotional Learning, 2013, 2015). Programs that include explicit instruction typically include a sequence of lessons offered to the entire class, and focus on the development of one or more competencies. Lesson plans usually consist of explanation of the target skills, a live or videotaped demonstration of their execution, opportunities for students to practice the skills through role playing or other exercises, and then feedback and support to encourage skill mastery. These lessons either stand alone or are integrated with academic instruction (Collaborative for Academic, Social, and Emotional Learning, 2013, 2015).

Programs that are designed to create a positive learning environment typically use classroom or schoolwide strategies to enhance one of several indicators of school climate such as (a) the quality of relationships and support among teachers, students, and staff; (b) school safety; and (c) norms related to respect, diversity, or positive civic values (Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013). One of the most common environmental strategies at the classroom level is to train teachers

in developmentally appropriate instructional techniques (e.g., cooperative learning), classroom management, and emotionally supportive teaching practices (Dusenbury, Calin, Domitrovich, & Weissberg, 2015). School-level strategies take several forms and may include changing school structures to foster a sense of community (e.g., smaller class sizes, creation of special advisories, and organizing special assemblies), establishing policies (e.g., restorative discipline) that increase the use of effective teaching practices by adults, or creating natural opportunities for students to learn and practice specific social-emotional skills (Dusenbury, Newman, et al., 2015).

Several meta-analyses have attempted to evaluate the advantages of different program approaches by including these features in their coding systems. Using this method, there appears to be little evidence that one approach is superior to another. In a meta-analysis by Garrard and Lipsey (2007), conflict education programs were coded according to the method by which they helped students learn to manage interpersonal conflicts. These included direct instruction, peer mediation, and embedding concepts and strategies into the academic curriculum. There were no significant differences in effect sizes by program focus. Similarly, in their meta-analysis of school-based psychosocial interventions, Wilson and Lipsey (2007) classified programs according to whether they used an anger management, social problem solving, or social skills training reflecting a behavioral, cognitive, or interpersonal approach. Effects were similar across these different treatment modalities.

Korpershoek et al. (2016) used meta-analysis to assess the relative influence of major components present in school-based interventions on different categories of student outcomes. These authors examined four components consisting of (a) attempts to improve teachers' classroom management strategies, (b) efforts at improving the quality of teacher–student relationships, (c) efforts to change student behaviors through positive or negative contingencies, and finally, (d) approaches that explicitly focused on enhancing students' social and emotional development. Analyses suggested that the presence of these components was associated with small but significant and comparable improvement (mean effect using Hedge's *g*) in students' behavior (from .21 to .25) and academic performance (from .17 to .24). However, a focus on students' social and emotional development was the only component associated with a significant improvement (.14) in students' academic motivation, and their commitment to and engagement with school.

One meta-analysis categorized interventions in terms of whether or not they followed four general practices represented by the acronym, SAFE. These practices included whether or not the intervention was: (a) *Sequenced*—a connected and coordinated set of activities to foster skill development, (b) *Active*—active forms of learning to help students master new skills, (c) *Focused*—specific sections of the intervention devoted to developing personal and social skills, and (d) *Explicit*—skills targeted in the program were clearly identified so students knew what was expected of them (Durlak et al., 2011). Programs containing all four of these practices were associated with significant improvement in students' prosocial behavior (e.g., cooperation, helping others), whereas programs lacking all four features were not effective in this regard (Hedges *g* values of .24 vs. .02, respectively).

In a meta-analysis of 28 studies of school-based interventions with elementary-aged students designed to promote social-emotional competence, studies were coded as to whether programs used active (e.g., role play) or passive (e.g., lecture) intervention methods and demonstrated that this was an important distinction that moderated effects (January et al., 2011). Programs that used passive approaches had an overall effect of .12, whereas those that used active approaches had an overall effect of .37. This finding is consistent with the "active" component of the SAFE framework.

A Proposed Strategy to Promote Student Social-Emotional Competence

Authors in this special issue were asked to propose an intervention strategy based on the factors and mechanisms they identify as critical to promoting wellness for at-risk students. Based on the research reviewed here and what meta-analyses suggest are the benefits of interventions that include an explicit and active (i.e., SAFE) approach to instruction in social and emotional skills for younger children, we advocate for the use of these programs in all grades from preschool through elementary school (Durlak et al., 2011; January et al., 2011). There are a number of programs listed on national registries that are considered "proven" effective with unique programming that can be delivered across multiple years at these developmental levels.

Additional research is needed on the specific knowledge, skills, and behaviors that should be absolute priorities for programs to cover in order to produce a full range of positive outcomes. Component analyses of interventions are almost nonexistent

so for now the most rigorous empirical information regarding program content is what was coded in meta-analyses. Until more detailed coding of subdomains of competence (e.g., self-management vs. social awareness) is conducted, we suggest that schools use programs that provide coordinated coverage of both the intrapersonal and interpersonal domains (Collaborative for Academic, Social, and Emotional Learning, 2013, 2015; Greenberg et al., 2003).

There is support from meta-analytic studies to show that universal interventions focused on promoting social-emotional competence are equally effective at middle and high school (Durlak et al., 2011); however, there are also examples of interventions producing unintended negative outcomes (Multisite Violence Prevention Project, 2009). During adolescence when students are more susceptible to the influence of peers, the intervention delivery structure is extremely important, and small group formats may make low-risk students vulnerable to deviance training (Dodge, Lansford, & Dishion, 2006).

Many universal interventions at this developmental level are designed to be "risk reduction" programs that target specific outcomes like violence or substance use. In these programs, interpersonal competence often includes "resistance skills" which help students avoid peer pressure to engage in risky behavior and its inclusion is important for program effectiveness (Tobler et al., 2000). One study used structural equation modeling to examine how general aspects of social-emotional competence (decision making and self-efficacy) and resistance skills related to substance use for inner-city adolescents (Epstein et al., 2000). They found that general competence predicted effective use of refusal skills suggesting that it may be important to target a broader array of skills in preventive interventions that target substance use.

When proposing a school-based intervention strategy to promote wellness for students in middle and high school, it is important to consider the literature on school climate because ratings of this construct are associated with academic functioning, mental health, and substance use at these developmental levels (Thapa et al., 2013). Perceptions of school climate evolve out of repeated social interactions and experiences that take place within relationships, physical spaces, and organizational structures. When these perceptions are positive, they can serve as a protective factor moderating how students' deficits in social-emotional competence are associated with poor outcomes. In one longitudinal study of an ethnically and socioeconomically diverse group of middle school students with deficits in intrapersonal competence (i.e., low self-efficacy and high levels of self-criticism), students' perceptions of a positive school climate reduced the negative effects these characteristics had on their levels of internalizing and externalizing symptoms (Kuperminc, Leadbeater, & Blatt, 2001). These findings suggest interventions that combine skills instruction and strategies to improve school climate may be more effective. While there are successful examples of this at the elementary level, more research is needed to determine how best to create effective models at the secondary level (Flay, 2000). Research suggests that definitions of competence, mechanisms of behavior change, and the outcomes that are relevant to target may vary by contexts (e.g., affluent vs. disadvantaged communities; Luthar & Barkin, 2012).

Taking Interventions to Scale

There are two important factors that favor the wider use and implementation of universal social-emotional competence interventions. First, is that meta-analyses have indicated that these programs achieve similar (Barnes, Smith, & Miller, 2014) or better (Durlak et al., 2011) outcomes when they are conducted by school faculty and staff compared to those from outside the school system. This indicates that such programs can be integrated into routine educational practice. Second, an economic review of seven SEL programs that have been replicated in multiple settings found they produced an average return of $11 for every dollar expended (Belfield et al., 2015). This indicates that some school-based interventions are very cost-effective. Nevertheless, there are major challenges to overcome in attempts to take successful programs to scale. We cannot discuss all the issues, but the single most important factor in scaling up is clear: High-quality program implementation is essential for maximizing the effects of evidence-based interventions (Barnes et al., 2014; Durlak et al., 2011; Wilson & Lipsey, 2007).

High-quality implementation requires that schools secure professional development services from program developers who have expertise in the chosen program. Indeed, one feature of a high-quality program is that it offers these services, which typically involve both preprogram training and ongoing technical assistance via consultation or coaching strategies. Therefore, schools must commit the necessary financial resources and time to increase the likelihood of effective implementation that, in turn, will enhance the probability of program success. Unfortunately, some schools do not

have the necessary resources available to conduct, adopt, and sustain evidence-based programs.

There is a growing field of scientific study devoted to better understanding the implementation process in order to support dissemination. Several sources discuss the multiple factors that can serve to either impede or enhance the chances of achieving high-quality implementation when programs are conducted in new settings (Domitrovich et al., 2008; Durlak, 2016; Fixsen, Naoom, Blasé, Friedman, & Wallace, 2005). This research is being incorporated into technical assistance systems that are used in community settings (Mihalic, Irwin, Fagan, Ballard, & Elliott, 2004; Wandersman et al., 2008). There are also organizations working to support districts that are interested in introducing and integrating a focus on SEL throughout the educational system (Collaborative for Academic, Social, and Emotional Learning, 2016). An independent evaluation of a large-scale demonstration project with eight large urban school districts suggests that this work is feasible, and preliminary results suggest that higher levels of implementation are associated with improvements in student outcomes (Kendziora & Osher, 2016).

Conclusions

Given the amount of time that children spend in schools, this setting is an important location for prevention efforts designed to promote the wellness of at-risk students. In this article, we argue that universal interventions that promote students' social and emotional competence should be implemented in preK-12 as part of a public health strategy. There are a number of evidence-based SEL programs that could be used immediately and are identified in registries, but additional research is needed to discern the active ingredients of these interventions so that they can be streamlined and tailored to the needs of different schools and communities. Additional research is also needed to determine how individual and contextual factors interact in school settings to facilitate or impede the behavior change process for different groups of students. Finally, it is imperative that policymakers support state and federal policies that promote universal SEL programs as part of standard educational practice so that schools have the resources they need to be able to adopt and sustain these interventions (Dusenbury, Newman, et al., 2015; Zaslow, Mackintosh, Mancoll, & Mandell, 2015). Doing so will be a good economic investment (Belfield et al., 2015) as well as a sound investment in the future by producing young people who are knowledgeable, responsible, caring, and contributing citizens.

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