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Social and Emotional Learning

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Social and Emotional Learning: Introducing the Issue

Stephanie M. Jones and Emily J. Doolittle

Research increasingly suggests that social and emotional learning (SEL) matters a great deal for important life outcomes like success in school, college entry and completion, and later earnings. This research also tells us that SEL can be taught and nurtured in schools so that students increase their ability to integrate thinking, emotions, and behavior in ways that lead to positive school and life outcomes. Although the term *social and emotional learning* has been around for 20 years, we've recently seen a rapid surge in interest in SEL among parents, educators, and policymakers. For example, the Collaborative for Academic, Social, and Emotional Learning (CASEL) is supporting 10 large school districts and 45 smaller ones through its Collaborating Districts Initiative as they begin to incorporate a variety of SEL programs and practices into their schools. CASEL also recently launched a Collaborating States Initiative to support states as they develop policies, standards, and guidelines for SEL in schools. All 50 states have SEL standards in place at the preschool level, and four (Illinois, Kansas, West Virginia, and Pennsylvania) have SEL standards for kindergarten through 12th grade. And the Aspen Institute recently launched a National Commission on Social, Emotional, and Academic Development to explore how schools can fully integrate SEL into policies and instruction that have traditionally emphasized academics. We also know that teachers believe SEL skills can be taught, although they may not always know the best way to do so in their classrooms.[1]

What's in a Name?

SEL goes by many other names. Common terms for this set of skills include character education, personality, 21st-century skills, soft skills, and noncognitive skills, just to name a few. Each label draws from a slightly different theoretical perspective and draws upon a different set of research, and each has its own related fields and disciplines. In this issue of *Future of Children*, we call the domain *social and emotional learning* for two reasons. First, recent market research indicates that this is a familiar and preferred term among policymakers, practitioners, and parents.[2] Second, the term emphasizes learning and growth—providing a more positive framing than terms like noncognitive or soft skills. By emphasizing learning and growth, the term SEL is

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also consistent with schools' fundamental mission to support academic learning and engaged citizenship.

But what are we talking about when it comes to SEL? Researchers, educators, and policymakers alike have trouble pinning down exactly what's included in this broad domain—and what isn't. The popular press has highlighted a wide array of skills, such as grit, empathy, growth mindset, social skills, and more. At its core, SEL involves children's ability to learn about and manage their own emotions and interactions in ways that benefit themselves and others, and that help children and youth succeed in schooling, the workplace, relationships, and citizenship.[3] To effectively manage emotions and social interactions requires a complex interplay of cognitive skills, such as attention and the ability to solve problems; beliefs about the self, such as perceptions of competence and autonomy; and social awareness, including empathy for others and the ability to resolve conflicts. The SEL skills that have been identified are vast in number and varied in nature, and they stem from many different yet complementary theoretical perspectives. This diversity has both positive and negative consequences. On the one hand, it has pushed researchers and practitioners to search for the best ways to support healthy development and positive life outcomes. On the other hand, it has complicated our understanding of the domain.

Despite these challenges, or perhaps because of them, interest in SEL has exploded over the past few years. That's why we decided to produce an issue of *Future of Children* that focuses on developing SEL skills in our schools. The articles published here collectively address developmental changes and intervention approaches from preschool through secondary school, as well as the related out-of-school context of after-school programming and major policy issues in education like teacher preparation, school discipline, and school-based assessment for intervention and accountability purposes.

Why This Issue on Social and Emotional Learning?

We are at a crossroads for SEL theory, research, and practice. Much has already been written on SEL, and it's not our intention to duplicate that work.[4] Rather, we wanted to put together a set of articles that review the available evidence and lay bare some of the contradictions that researchers, practitioners, and policymakers are facing.

The recent expansion in popular interest in SEL coexists with what might best be called a healthy skepticism about teaching social and emotional skills in schools. Despite considerable research suggesting that SEL is a vital component of academic achievement and later success in life, various stakeholders hold divergent and often incompatible views as to how or even whether SEL skills should be explicitly taught in schools. To further complicate matters, the existing evidence is somewhat conflicting: some studies find that interventions designed to teach and support SEL skills have positive effects, and others don't; some students seem to benefit more than others. This issue of *Future of Children* examines the state of the science when it comes to SEL intervention and assessment, while also tackling important policy issues in education. The eight articles are intended to help shed light on how best to support SEL in schools and to explore how SEL in schools might impact important policy questions in education.

To say social and emotional *learning* implies that these competencies can be learned and nurtured. Some of the articles discuss what we know about interventions to support SEL skills, assessment of SEL skills, and policy to support SEL skill development at different levels of schooling, from preschool to high school. The articles consider how SEL skills are typically cultivated in schools and how school-based intervention may need to differ depending on the demands of the developmental period in question (early childhood, middle childhood, adolescence). Because teachers are at the center of the work of schools, we include an article on the role teachers play in supporting students' SEL skills and how teachers' own SEL skills affect this process. Finally, we also consider out-of-school time contexts—specifically, after-school programs that are linked to the school context—and their role in promoting SEL skills.

How Did We Get Here?

Decades' worth of research suggests that something other than academic skills and content knowledge strongly influences success in school and beyond.[5] Indeed, SEL skills may be just as important as academic or purely cognitive skills for understanding how people succeed in school, college, and careers. In addition, preliminary evidence suggests that SEL skills could be central to understanding and remediating stubbornly persistent gaps in achievement defined by income and racial/ethnic differences.[6] But research has also found a great deal of variation in what works, for whom, and under what conditions. Many factors likely contribute to that variation. For example, different disciplines have produced a great many frameworks and organizational systems that describe and define social and emotional skills.[7] Looking across these organizing systems, frameworks from different disciplines refer to the same skill or competency by different names, or use the same name to refer to two conceptually distinct skills.[8] Frameworks also vary in the type of construct they aim to describe—from skills, behaviors, and attitudes to traits, strengths, and abilities—making it difficult to distill and compare discrete concepts across them. Two examples of different ways to conceptualize SEL help to highlight these differences and the implications for assessment, intervention, and evaluation.

The first framework, from CASEL, organizes important SEL skills into five types of competencies: *self-awareness*—the ability to identify one's own emotions, thoughts, and values and understand how they guide behavior; *self-management*—the ability to successfully regulate one's own emotions, thoughts, and behaviors in different situations, and to set and work toward goals; *social awareness*—the ability to take the perspective of and empathize with others, and to understand social and ethical norms for behavior; *relationship skills*—the ability to communicate clearly, listen well, cooperate with others, resist inappropriate social pressure, negotiate conflict constructively, and seek and offer help when needed; and *responsible decision-making*—the ability to make constructive choices about personal behavior and social interactions based on ethical standards, safety concerns, and social norms.[9]

Compare that to the framework developed by Stephanie Jones (one of the editors of this issue), which organizes SEL competencies into three types rather than five: *cognitive regulation*—the ability to focus attention, plan, solve problems,

coordinate behavior, make choices among competing alternatives, and override a preferred response in favor of a more appropriate one; *emotional processes*—the ability to recognize, express, and regulate one's own emotions and understand the emotions of others; and *social and interpersonal skills*—the ability to accurately interpret other people's behavior, effectively navigate social situations, and interact positively with peers and adults. Different conceptual frameworks can lead to different research questions, different intervention approaches, and different choices for measurement in evaluation. Conceptual variation has produced some of the challenges in making sense of the evidence about SEL. In this issue, we don't adhere to a single conceptual framework. Instead, the articles here are guided by different theoretical frameworks that shed light on a number of important themes.

Research to Practice

The articles in this issue reveal the various theoretical frameworks that guide intervention and assessment of SEL skills from preschool through high school. What does that variation imply? First, it may be a source of sometimes contradictory and perhaps less than compelling findings. Lack of precision with respect to core SEL competencies and how to measure them makes it harder to translate research findings into beneficial practices to support SEL in schools. For example, as we said above, conceptual frameworks from different disciplines may refer to the same skill or competency with different names, use the same name to refer to two conceptually distinct skills, or describe different types of constructs.

In an ideal world, we could see a clear link between research findings and how to act on those findings. For example, to help children learn self-control—how to manage their behavior without the aid of a teacher or external incentives (like stickers or other reward systems)—we would want schools to use practices that are supported by research findings. In the CASEL framework, self-control falls squarely in the self-management domain—the ability to successfully regulate one's own emotions, thoughts, and behaviors in different situations, and to set and work toward goals. In Jones's framework, self-control is at play in two of the three domains—cognitive regulation, which involves the ability to focus attention, make choices among competing alternatives, and override a preferred response in favor of a more appropriate one, and emotional processes, which include the ability to regulate one's own emotions. The two frameworks have common features when it comes to self-control: both reference emotion regulation and cognitive regulation. To what extent do these different frameworks for measuring and intervening to promote something like self-control make a difference in practice? And to what extent does the use of different frameworks in research and evaluation underlie some of the contradictory evidence?

Making the Case

This issue focuses on the role that schools and similar organized settings (after-school programs) play in supporting SEL skills. We chose this focus for several reasons. First, although other factors like family and neighborhood are also important to SEL skill development, we wanted to understand how schools and other organized settings

can support SEL skills. That's important because research suggests that SEL skills are malleable, meaning they can be taught and learned. SEL programs in schools may be designed to change student SEL skills and competencies in any of three ways: by teaching students specific SEL skills through direct instruction using a specific curriculum; by altering the school environment (often referred to as school or classroom climate), through teachers' practices and their style of interaction with students, or by changing school rules and expectations; or by influencing students' mindsets—that is, their perceptions of themselves, others, and the environments they experience. Second, interest in SEL has advanced rapidly, and we saw a need to get a handle on the important issues now so that we can progress in an organized fashion and clarify what the different conceptualizations and contradictory research findings mean for both research and practice. Third, despite growing interest in SEL and ways to promote it in schools, SEL remains disconnected from important school policies like discipline practices, assessment for intervention and accountability purposes, and teacher professional development.

The first article lays out a framework for considering the role of schools and related settings in supporting SEL skill development. Mark Greenberg, Celene Domitrovich, Roger Weissberg, and Joseph Durlak argue that promoting SEL in schools is essential because of its potential to support more general public health goals. They make the case that SEL can support a public health approach to education (that is, both prevent problems and promote positive outcomes) for three reasons. First, schools are good places to intervene to ensure a healthy population because most children spend a large part of their lives there. Second, school-based SEL programs can both improve students' SEL skills and academic achievement, and reduce the likelihood that they'll experience behavioral or emotional problems in the future. Third, SEL programs in all schools for all students (universal interventions) can have a substantial impact on public health because of the "prevention paradox," which states that overall public health is best achieved in the long run by providing intervention to all rather than targeted intervention only to those who are most in need of additional support. That's because most cases of any undesirable outcome arise in the large segment of the population that's considered to be at low risk.

State of the Science

Greenberg, Domitrovich, Weissberg, and Durlak set the stage for the next set of articles, which explore whether SEL is teachable and what schools (and out-of-school programs) can do to support and nurture SEL in students. Collectively, these four articles describe the state of the science on SEL interventions across different levels of schooling—preschool (Megan McClelland, Shauna Tominey, Sara Schmitt, and Robert Duncan), elementary school (Stephanie Jones, Sophie Barnes, Rebecca Bailey, and Emily Doolittle), and middle and high school (David Yeager), and in after-school programs (Noelle Hurd and Nancy Deutsch). As the core of this issue of *Future of Children*, they ask the following questions: How are SEL skills defined and typically cultivated in schools and related settings? What have we learned from intervention and prevention about their role in learning? What SEL

strategies and practices are effective? Do the effects of SEL programs and practices vary depending on children's socio-demographic background, race/ethnicity, or gender? What are the primary challenges to integrating a focus on SEL into educational practice?

These articles describe different types of research studies but focus primarily on studies that offer the strongest evidence that a given SEL program—rather than other factors that weren't measured or controlled for—led to specific outcomes for students.

Each state-of-the-science article considers what the research tells us about the best ways to support SEL skill development in different developmental periods (early childhood, middle childhood, adolescence) and different settings (school or after school). At first glance, the evidence they review may appear equivocal. But three themes link them together: child development, alignment, and the role of adults.

Developmental Period

SEL interventions seem to be most effective when the program content and method of delivery are developmentally appropriate. That observation may seem simplistic (and incredibly obvious), but three important principles lie behind it. First, neurological and physical changes dictate which SEL skills are most important at a given developmental stage and when mastery should be achieved. Consider the example of emotional skills and competencies. From early childhood into middle childhood and adolescence, we see a gradual shift from the ability to recognize and name different emotional states (what does an angry face look like, and how is anger different from or similar to sadness?) to understanding that different people can have different emotional reactions to the same objective situation because of their own personal experiences and preferences (I feel angry when X happens but my best friend feels sad). In other words, the set of skills broadens over time, and some early skills serve as the foundation for later skills—you must understand what emotions are and what they look like when experienced before you can even begin to understand that events don't evoke the same emotions in all people. Second, children experience broader and more diverse environments as they grow older, and out-of-home environments become more influential. During the preschool years, children spend much of their time at home with parents and siblings or at school with their teachers and classmates. By middle childhood, the family slowly becomes less central as children encounter more teachers and classmates and spend more time in other contexts, such as sports teams, clubs, and friends' homes. By adolescence, the peer context broadens further. Teenagers go to larger schools with multiple teachers and have several different sets of peers; they may also have part-time jobs or participate in other, more far-reaching activities. Third, the method of intervention delivery must be appropriate to a child's developmental level. In preschool, play-based programs seem to be most effective (or at least seem the most promising). In middle childhood, didactic teaching with embedded classroom-based activities to promote practice of SEL skills seems to be the best approach. In adolescence, intervention must account for adolescents' point of view and need for autonomy and respect as they transition to adulthood.

Alignment between Targets and Outcomes

No matter the stage of development, the research evidence may be less inconsistent than a first look indicates. All four of these articles suggest that apparently contradictory findings may instead be artifacts of misalignment between the targets of SEL intervention and the student outcomes that were measured. For example, many SEL interventions are designed to teach very specific social or emotional skills, yet they measure outcomes that are much broader, such as attendance or academic achievement—or they assess a broad range of SEL skills, only some of which were directly targeted by the program.

Adults Are Important

No matter when in children's lives an SEL program is implemented, the adults delivering the program (or simply present in the environment) are important to its success. In early childhood, teachers need professional development to support their implementation of SEL programs. In middle childhood, all the adults involved in the program need professional development and other support, because SEL interventions at this level can be targeted not just at the classroom but also at the whole school. For adolescents, SEL programs may be more effective if they're delivered by adults who show that they understand and respect the adolescent's point of view and need for autonomy, rather than trying to control them. In after-school programs, supportive adults who act as mentors are vital. And last, but no less important, if adults lack SEL skills themselves or suffer from stress or poor physical and mental health, their ability to support their students' SEL may be severely compromised.

What Can Policy Do?

The remaining three articles tackle important policy questions. Together, they provide a broad overview of the policy landscape in relation to SEL, as well as more focused policy perspectives from three areas: teacher professional development and wellbeing, assessment and learning standards, and school discipline policies and practices. These articles ask the following questions: Based on the existing evidence, what are we ready to act on and what policies should we use? What support do teachers get to promote healthy SEL skills in their classrooms? What are the challenges, opportunities, and consequences of SEL assessment? How should SEL standards be used in schools? How is the development of SEL skills linked to school discipline and to disparities in exclusionary discipline practices that remove children from the classroom or school?

In the first policy article, Anne Gregory and Edward Fergus describe the landscape of discipline policy and practices in schools, the well-documented gender and racial disparities in how students are disciplined, and how SEL interventions might help to reduce these disparities. They highlight how local efforts to reduce discipline disparities have incorporated SEL practices, and in doing so have allowed for more developmentally appropriate techniques to support student behavior and thereby reduce the need to suspend or expel students. They also reveal how race- and gender-based equity in discipline requires an expansion of SEL frameworks to consider

the role that adults like teachers and school administrators play in promoting students' SEL. Perhaps most important, they highlight the need to consider the role of culture and societal beliefs about power and privilege.

Because SEL theory and practice seem to put a great deal of emphasis on the individual rather than the environment—and, consequently, put the burden of SEL on students—we next consider the role of teachers in school-based SEL interventions. Kimberly Schonert-Reichl reviews evidence that shows how teachers' own SEL skills and more general wellbeing affect their students' SEL. She also shows that teacher preparation programs largely ignore this aspect of teaching, leaving teachers relatively unprepared to support SEL in their teaching and more general classroom practices.

In the final policy article, Clark McKown looks at how SEL skills are measured, and at what it means to measure SEL skills for the purposes of school accountability and standards. He explores the mismatch between the need to assess SEL for high-stakes accountability and the inappropriateness of existing assessment systems for that purpose. McKown argues that for school-based SEL to achieve its promise, we need sophisticated test development that meets rigorous scientific and ethical standards. SEL assessments should be usable and feasible in schools, focus on strengths rather than deficits, not interfere with academic instruction, and be able to quickly and flexibly report results so that schools can act on them. And in line with the intervention articles, assessments must be developmentally appropriate, and the methods they use must align with the constructs being measured.

What's Next for SEL in Schools?

The articles in this issue bring to light some tough challenges as we seek to build on our momentum and use SEL interventions to support the best possible outcomes for individual students and for our population more generally. Until we reach consensus about how core SEL competencies are defined, used in research, and translated into education practice (as standards with associated practices and strategies), the issue of terminology and how well it links the evidence, intervention approaches and practices, and evaluation and accountability systems together will remain a problem. Still, the evidence presented here lays important groundwork to move SEL forward.

ENDNOTES

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Social and Emotional Learning as a Public Health Approach to Education

Mark T. Greenberg, Celene E. Domitrovich, Roger P. Weissberg, and Joseph A. Durlak

Summary

Evidence-based social and emotional learning (SEL) programs, when implemented effectively, lead to measurable and potentially long-lasting improvements in many areas of children's lives. In the short term, SEL programs can enhance children's confidence in themselves; increase their engagement in school, along with their test scores and grades; and reduce conduct problems while promoting desirable behaviors. In the long term, children with greater social-emotional competence are more likely to be ready for college, succeed in their careers, have positive relationships and better mental health, and become engaged citizens.

Those benefits make SEL programs an ideal foundation for a public health approach to education—that is, an approach that seeks to improve the general population's wellbeing. In this article, Mark Greenberg, Celene Domitrovich, Roger Weissberg, and Joseph Durlak argue that SEL can support a public health approach to education for three reasons. First, schools are ideal sites for interventions with children. Second, school-based SEL programs can improve students' competence, enhance their academic achievement, and make them less likely to experience future behavioral and emotional problems. Third, evidence-based SEL interventions in all schools—that is, *universal interventions*—could substantially affect public health.

The authors begin by defining social and emotional learning and summarizing research that shows why SEL is important for positive outcomes, both while students are in school and as they grow into adults. Then they describe what a public health approach to education would involve. In doing so, they present the *prevention paradox*— "a large number of people exposed to a small risk may generate many more cases [of an undesirable outcome] than a small number exposed to a high risk"—to explain why universal approaches that target an entire population are essential. Finally, they outline an effective, school-based public health approach to SEL that would maximize positive outcomes for our nation's children.

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Shirley Brandman of the Aspen Institute reviewed and critiqued a draft of this article.

The ultimate goal of public health is to improve the general population's wellbeing. That means not only preventing diseases, disorders, injuries, and problem behaviors, but also nurturing positive outcomes that improve quality of life. To achieve this goal, public health researchers and practitioners begin by documenting the epidemiology of the problems they target, tracking the rates at which a problem occurs and who is most affected. They also study the risk and protective factors associated with a problem—that is, factors that increase or decrease the likelihood that the problem will develop among certain groups. Once they identify the most important factors, they work to develop effective interventions targeting risk factors that can be changed and to disseminate those interventions widely. Interventions often work directly with individuals to alter their behaviors and the contexts they live in, and, at the same time, strive to change norms and policies more broadly.

Social and emotional learning (SEL) can support a public health approach to education, for three reasons. First, schools are ideal sites for interventions with children: most children attend school for many years and spend a substantial amount of time there each day. Second, school-based SEL programs can improve students' competence, enhance their academic achievement, and make them less likely to experience future behavioral and emotional problems. Third, evidence-based SEL interventions in all schools—that is, *universal* interventions—could substantially affect public health.

This article defines social and emotional learning and summarizes research to explain why promoting personal and social competencies is important for positive outcomes, both while students are in school and afterward, when they become adults. We describe what a public health approach to education involves, and we define the levels at which interventions are conducted within such an approach. In doing so, we present what's known as the "prevention paradox" and explain why universal approaches that target an entire population are essential for long-term public health impact. Finally, we discuss how to implement an effective, school-based public health approach to SEL in order to maximize positive outcomes for our nation's children.

A Definition of Social and Emotional Learning

We can foster SEL through a variety of educational approaches that promote students' capacity to integrate thinking, emotion, and behavior to deal effectively with everyday personal and social challenges.[1] SEL programs in schools aim to teach students specific SEL skills and also to create a classroom and school culture that enhances SEL skills. Both approaches typically involve training school staff to interact with students in new ways to promote students' competence.

As the circle in the center of figure 1 shows, the immediate outcomes of SEL proposed by the Collaborative for Academic, Social, and Emotional Learning (CASEL) are organized around five competence clusters that include a variety of thoughts, attitudes, and behaviors: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making.[2]

- Competence in *self-awareness* means understanding your own

emotions, values, and personal goals. It includes accurately assessing your strengths and limitations, possessing a well-grounded sense of self-efficacy and optimism, and having a growth mindset that you can learn through hard work. A high level of self-awareness requires the ability to recognize how your thoughts, feelings, and actions are connected to one another.

- Competence in *self-management* requires skills and attitudes that help regulate emotions and behaviors. They include the ability to delay gratification, manage stress, control impulses, and persevere through challenges to achieve personal and educational goals.

- Competence in *social awareness* involves the ability to take the perspective of people with different backgrounds or from different cultures and to empathize and act with compassion toward others. It also involves understanding social norms for behavior and recognizing family, school, and community resources.

- *Relationship skills* give children the tools they need to establish and maintain healthy and rewarding relationships and to act in accordance with social norms. Competence in these skills involves communicating clearly, listening actively, cooperating, resisting inappropriate social pressure, negotiating conflict constructively, and seeking help when needed.

- *Responsible decision-making* requires the knowledge, skills, and attitudes to make constructive choices about personal behavior and social interactions, whatever the setting. Competence in this area requires the ability to consider ethical standards, safety, and the norms for risky behavior; to realistically evaluate the consequences of various actions; and to take the health and wellbeing of yourself and others into consideration.

The far right side of figure 1 shows positive short- and long-term developmental outcomes that are fostered by competence across the five clusters. The thoughts, skills, and attitudes in each domain help students understand and manage emotions, set and achieve positive goals, feel and show caring and concern for others, develop a positive and realistic perception about their own competencies, establish and maintain positive relationships, and make responsible decisions.[3] In the short term, social-emotional competence can lead to enhanced self-efficacy and confidence; greater attachment, commitment, and engagement in school; more empathy and prosocial behaviors; fewer conduct problems; less risk-taking and emotional distress; and improved test scores and grades.[4] Follow-up studies of SEL interventions in elementary school have found that in the long term, greater social-emotional competence makes it more likely that people will be ready for college, succeed in their careers, have positive family and work relationships and better mental health, and become engaged citizens.[5]

The Need for Social and Emotional Learning in Education

What is the purpose of education? Put another way, what do children need from

their education that will prepare them to deal with the inevitable challenges of everyday life and attain later success? Academic achievement receives much attention, but the public school system in this country wasn't initially developed just to teach academic skills. The nation's founders believed that schools should create a competent citizenry made up of independent and critical thinkers who could work effectively with others and contribute to democratic society.

To become the kind of citizens the founders wanted public education to create, children need skills that will help them develop personal plans and goals, learn to cooperate with others, and deal with everyday challenges, setbacks, and disappointments.

To become the kind of citizens the founders wanted public education to create, children need more than the ability to read, write, and do arithmetic. They also need skills that will help them develop personal plans and goals, learn to cooperate with others, and deal with everyday challenges, setbacks, and disappointments. As we'll argue later in this article, SEL interventions give children opportunities to learn the life skills they need for successful development. But our point here is that education should be seen as an opportunity for students to develop a range of cognitive, personal, and social competencies. Schools should help young people improve their general wellbeing, not just their academic skills.

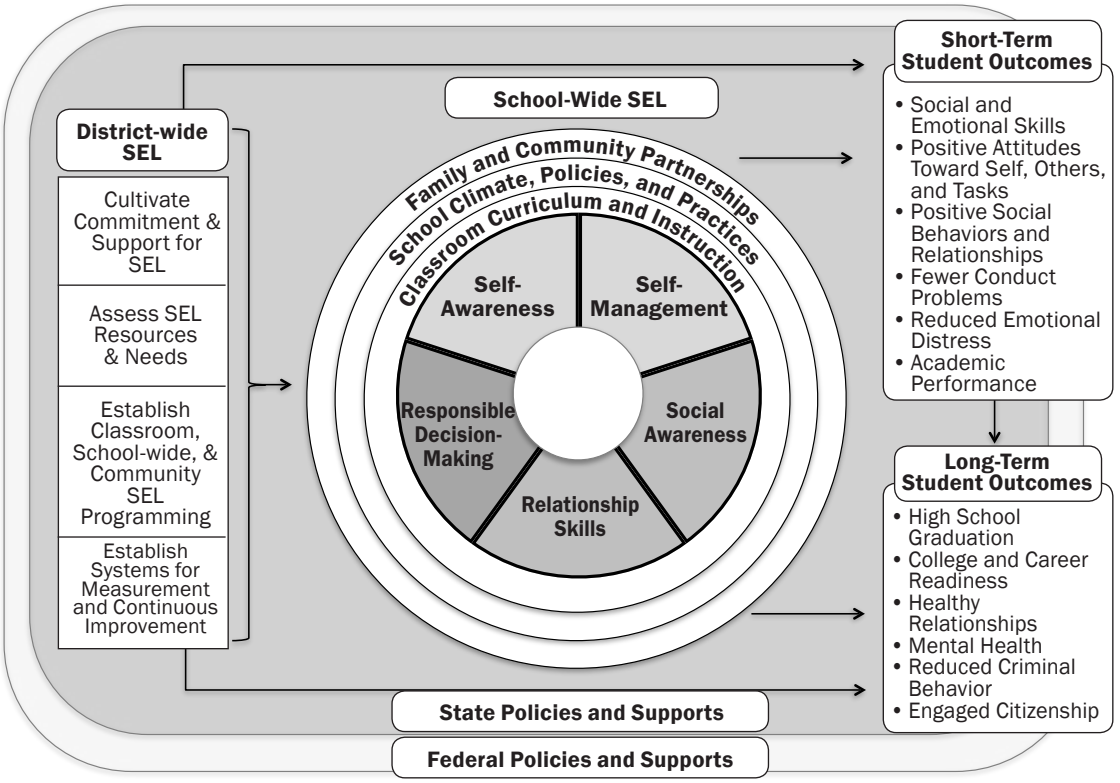
Americans broadly agree that today's schools must offer more than academic instruction to prepare students for college, career, and community success.[6] Children's life conditions have changed dramatically in the last century.[7] Many families face greater social and economic pressures. Schools and communities are increasingly multicultural and multilingual. Children are exposed to a more complex world through the media and have unmediated access to information and social contacts through various technologies. These societal changes—as well as the shift from a manufacturing to an information economy—call for a new emphasis on learning how to manage stress, get along with others, and work in groups. These abilities, often called 21st-century skills, are essential for adult success.[8]

Students come to school with different abilities and motivations for learning, behaving positively, and performing academically. Estimates suggest that 40 to 60 percent of US high school students are chronically disengaged.[9] According to the 2015 Youth Risk Behavior Survey, a large proportion of high school students behave in ways that jeopardize their future (for example, substance use, violence, and bullying).[10] Because of these individual and social complexities, we need a broader perspective for education in which success means more than just academic achievement.

Benefits of Social and Emotional Learning

The past 20 years have seen an explosion of interest in SEL. We now recognize that social-emotional competencies are important

Figure 1. A Conceptual Model for Advancing SEL in Schools



and should be nurtured. The thoughts, attitudes, and skills fostered by SEL are associated with key indicators of adjustment, both immediately and over the lifespan.[11] In addition to promoting positive outcomes, social-emotional competencies also buffer the effects of exposure to risk factors.[12]

SEL has become more widely accepted as a component of education. In a recent national survey of teachers, 95 percent of respondents said that SEL is teachable; 97 percent said that SEL can benefit students from all socioeconomic backgrounds.[13] Programs that promote SEL now operate in thousands of US schools and in many other countries.[14] States and school districts have established policies to foster young people's social-emotional growth alongside academic growth, and federal legislation increasingly supports educating the whole child.[15]

Research reviews consistently show that SEL programs have positive effects.[16] For example, one meta-analysis of the outcomes from 213 interventions in kindergarten through 12th grade reported significant effects on positive social behavior, conduct problems, and academic performance.[17] The magnitude of these effects is comparable to those achieved by other types of evidence-based programs, indicating that SEL programs are valuable preventive interventions.[18] An extension of the same meta-analysis also found that effects on targeted outcomes remained significant during follow-up periods that averaged 3.75 years, indicating the long-term benefits of SEL interventions. Recent reviews show that well-implemented SEL programs promote positive outcomes and reduce negative outcomes among preschool, elementary, middle, and high school students.[19]

Because promoting social-emotional competencies affects a range of academic and behavioral outcomes, interventions to enhance SEL can be found in numerous fields, including education, psychology, and public health. Both interventions that promote health and those that seek to reduce specific risk behaviors (such as using drugs, bullying, or anxiety) include strategies to develop personal and social competence. For example, several drug-prevention programs promote resistance skills, which represent one type of social competence. We might even say that SEL is a common denominator among interventions for children's wellbeing and success.

According to CASEL, an SEL intervention is comprehensive when schools, families, and communities collaborate to promote students' development across the five competence clusters (see figure 1). When such programming is evidence-based—that is, implemented with quality and fidelity, and evaluated in well-designed research studies—it produces stronger effects than do interventions that lack these characteristics.[20] Well-designed programming can be characterized by the acronym SAFE, which stands for *sequenced*—having a connected and coordinated set of activities to foster skill development; *active*—using active forms of learning to help students master new skills; *focused*—emphasizing the development of personal and social skills; and *explicit*—targeting specific social-emotional skills.[21]

A Public Health Approach to Education

Until recently, educational research and interventions related to students' emotional and behavioral status focused primarily on treatments for children already classified as having a mental health disorder or showing substantial problems. Schools devoted fewer resources, if any, to preventive approaches. In contrast, a comprehensive public health approach to education would not only treat those already affected by the targeted problems but also involve a range of prevention or competence-promotion strategies that could benefit many more students.[22]

Prevention programs are commonly divided into three levels, based on the degree of risk among the participants. The first level encompasses *universal* interventions, which are designed to be used among the general population without regard for individual risk level. At the second level, *selective* interventions target a subgroup with one or more risk factors that increase their likelihood of poor outcomes. At the third level, *indicated* interventions identify individuals who are already experiencing early signs of problem behaviors but don't yet meet diagnostic criteria for having a disorder.[23]

Unlike these prevention programs, *treatment* interventions generally target children with high levels of symptoms or diagnosable disorders. Unfortunately, most schools emphasize treatment over prevention. And many schools lack the resources to effectively treat all those who need such help, let alone the resources to offer prevention programs.

Universal Interventions

These interventions are essential to a public health approach. They target all children, they're usually relatively inexpensive compared to other levels of intervention, and they have many advantages. First, they can contribute to adaptive coping and resilience in an array of contexts across school, family,

and community. Second, because they're framed positively and provided to all children, they aren't stigmatizing. Third, they can reduce or prevent multiple behavior problems that are predicted by shared or common risk factors, including emotional and behavioral problems, early substance use, delinquency, and school failure.[24]

School-based universal interventions commonly focus on three things: improving school structure (for example, policies or organizational rules), supporting teachers' pedagogy and instructional quality, and offering SEL curricula that promote knowledge and teach specific skills to all children in a classroom. As figure 1 shows, in a comprehensive public health model of education, SEL programming takes place at both the classroom and school level, and through partnerships with families and community members.[25] As we'll discuss in more detail later in this article, such a school-wide approach to SEL is increasingly popular. One way to achieve it is through evidence-based programs that provide instructional materials and practices across multiple grade levels to improve children's SEL competencies and reduce problem outcomes.[26] Intervention training can be adapted to different types of school staff so they can apply the program's language and philosophy to their work with students. Universal interventions also commonly involve families, seeking to nurture parenting skills such as communication, responsiveness, management and monitoring of child behavior, and support for children's learning.[27]

Because they serve many children, universal interventions can cost relatively little per child. For this reason, even relatively small effects on expensive outcomes (such as dropping out of school) across an entire population can easily offset an intervention's cost.[28] For example, a recent review of universal SEL programs showed a projected saving of more than $11 for each dollar invested.[29]

A final benefit of universal interventions is that their effects can spread beyond the individual level to encompass the school culture, home, and peer group. For example, a universal SEL intervention may have strong and lasting effects not only by promoting healthy skills in particular children but also by changing the norms, skills, and attitudes of the entire population, thus creating a "sustaining environment."[30] For example, the PROSPER study (Promoting School-community-university Partnerships to Enhance Resilience), which included more than 11,000 young people, showed that universal drug-prevention programs can change the structure of adolescents' social networks so that prosocial teens—that is, those less inclined to hold pro-drug attitudes or engage in problem behavior—become more popular and influential.[31] PROSPER's effects illustrate the "protective shield" concept: certain universal interventions may operate by creating a context that reduces exposure to risks at a point in the lifespan when such a reduction can have long-term effects.[32]

Selective Interventions

At the next level of prevention, specialized programs or services are delivered to a class of children, families, or communities with demographic characteristics or life experiences that place them at risk for later

poor outcomes. For example, students may be living in poverty or a disadvantaged neighborhood, be experiencing trauma, or have parents who suffer from depression or a substance use disorder. In educational terminology (that is, in the Response to Intervention, or RTI, model), these are called tier 2 interventions. The major advantage of selective programs is that effort and resources are spent on children who are at greater risk. For these children, selective interventions may offer greater conceptual precision, intensity, and focus than universal interventions do.

Indicated Interventions

The third level of prevention targets children or families who show early signs of difficulty. Often, the distinction between indicated interventions and treatment interventions—meaning services for those who have already received mental-health diagnoses or special-educational classifications—isn't clear-cut; it depends on the nature of the problems, when they're detected, and how quickly intervention follows. In the RTI model, indicated prevention and treatment are both considered tier 3 interventions. Such services and programs are more intensive and expensive than those at tiers 1 and 2. But given the high cost and long-term effects of the problems they target, they may nonetheless be cost-effective.

Each level of intervention has its strengths and limitations. A comprehensive public health model that offers a carefully orchestrated sequence of strategies—universal, selective, and indicated preventive approaches, followed by treatment—is ultimately most likely to be effective and cost-efficient.[33]

Prevention Strategies and the Prevention Paradox

We can illustrate the fundamental importance of a universal approach to prevention through what's called the *prevention paradox.* Public health approaches that seek to prevent common and serious medical conditions, such as cardiac arrest and stroke, have primarily used a "high-risk" strategy—that is, screening patients to find those who are already showing early signs or substantial risk factors related to later illness. Thus it's been standard procedure for the past 30 years or so to screen adults for high blood pressure or high levels of serum cholesterol, which are correlated with stroke and heart attack. The screening identifies people who are more likely to experience a stroke or heart attack, and this high-risk group is then treated, usually with drugs intended to lower their risk, such as statins and beta-blockers. This approach is similar to the indicated level of prevention. Often, the people identified as being at risk are also asked to adopt lifestyle changes related to diet, exercise, and tobacco use.

The high-risk strategy benefits some recipients. But because the approach requires screening, it's limited to a relatively small segment of the population. For this reason, and somewhat unexpectedly, its impact on the total public health burden of heart attack and stroke is relatively small. That's the great insight of Geoffrey Rose, the British epidemiologist who coined the term *prevention paradox* more than 30 years ago.[34] Using the example of heart disease, Rose demonstrated that "a large number of people exposed to a small risk may generate many more cases than a small number exposed to a high risk."[35]

Findings from the North Karelia Project in Finland illustrate this phenomenon. That study showed that while approximately 10 percent of people aged 30–59 with very high serum cholesterol account for about 30 percent of deaths from coronary heart disease, almost 70 percent of cases of coronary heart disease come from the other 90 percent of the population, who are considered to be at low risk.[36] To substantially lower the rate of heart disease, Rose asserted, it would be necessary to adopt a *population strategy* or universal intervention model.

The benefit to each individual may be extremely small even though the cumulative benefit is significant.

Rose articulated the prevention paradox as follows. A preventive measure, action or policy that brings large benefits to the whole community may offer little benefit to each participating individual. In contrast, an intervention that brings much benefit to an individual (such as statin therapy for heart disease) may have a relatively small impact on the population as a whole. For example, a population strategy for heart disease might involve a discount on insurance premiums to people who attend exercise classes or don't smoke. And the use of car seat belts is a universal intervention to reduce auto fatalities.

The paradox is that the benefit to each individual is extremely small (the chance is low that you'll be in an accident in which a seat belt saves your life) even though the cumulative benefit will be significant (the use of seat belts has dramatically reduced auto accident deaths in the United States). Thus under a population-strategy approach, many individuals must change their behavior or receive some degree of intervention so that a much smaller number of people will benefit. This led Rose to argue that we should strive to minimize the effort and potential harm that could arise from a universal approach.

Preventing heart disease or auto fatalities may seem far afield from preventing mental health or educational problems in young people. But when it comes to children and teenagers, Rose's insights into the limitations of using a high-risk strategy alone have been borne out in many areas. These include the effects of lead exposure on IQ, substance use, college drinking and injuries, risk for delinquency arrest, and risk of dropping out of school.[37] In all these areas, research shows that for the population as a whole, the majority of problems occur among people considered at low risk.

Dropping out of school is an excellent example. You might expect that if you knew the achievement test scores of ninth-graders as well as their disciplinary and behavior records, you could accurately predict which students would fail to complete high school. Yet models that include both achievement and behavior accurately predict only about 50 percent of dropouts.[38] Thus a large percentage of students who are identified by dropout screening don't drop out; conversely, a large percentage of students who eventually drop out of high school can't be identified by screening.

As an example, imagine that we screened 100 ninth-graders and identified the 20 percent at the highest risk for dropping out. Let's say that our screening was highly accurate, and 75 percent of those students dropped

out (that is, 15 out of 20 high-risk students). Let's also imagine that only 25 percent of students in the low-risk group will drop out (or 20 out of 80). In this scenario, 20 of the 35 dropouts—or 57 percent of all dropouts—will come from the low-risk group. Given the high lifetime cost of not finishing high school (estimated at more than $350,000 per person) and the relatively low cost of universal interventions, a universal intervention that reduced the dropout rate among this low-risk group by 25 percent, or 5 students, could produce dramatic cost savings. In other words, although we can screen, identify, and treat some children who are at risk for later problems with mental health or school failure, we can substantially reduce the problem's prevalence in the long run by first using an effective universal intervention.

The prevention paradox implies that policies to prevent poor outcomes in childhood and adolescence need to apply the right mix of strategies. That means multiple levels of intervention: universal interventions that focus on all the children and families in a school, selective interventions that focus on at-risk groups, indicated interventions that focus on children already showing early signs of trouble, and treatment for children with formal diagnoses. This is in fact the layered strategy recommended by the Institute of Medicine, by the RTI model, and by models for promoting mental health in schools.[39]

A Framework for Systemic Social and Emotional Learning

We've shown that the most effective school-based interventions begin with a strong universal base for all students and then add more targeted services for students with greater needs—a concept known as *vertical integration*. Next we describe *horizontal integration*—a comprehensive framework for organizing universal SEL interventions so they are fully integrated into the educational system and create a structure that supports high quality and sustainability.[40] Such a framework can take advantage of natural opportunities for promoting student social-emotional competence to integrate various school-based interventions.

The concentric circles around the competency clusters in figure 1 represent classrooms, schools, home and family, and communities. We have evidence-based approaches to promote student SEL in each of these settings; we also have models of family- and community-based partnerships with schools that create environments to foster SEL among children and teenagers. In contrast to vertical integration across service tiers targeting students at different risk levels, horizontal integration ties together universal approaches to SEL. That means including programs that deliberately target SEL as well as practices and policies—such as *restorative discipline*—that can also create opportunities for SEL.[41] Discipline policies, and the practices that support them, are important structures for managing student behavior. These structures can undermine SEL if they are punitive in nature, but they can create opportunities for SEL and positive student-teacher relationships if they allow students to gain self and social awareness, apply problem-solving skills to real-life conflicts, and negotiate interpersonal conflicts—all of which are common elements of a restorative approach to discipline.[42] (To learn more about restorative discipline, see the article in this issue by Anne Gregory and Edward Fergus.)

Classroom-Level Strategies

One frequently used approach to SEL involves training teachers to explicitly teach social-emotional skills in order to promote students' competencies. SEL instruction can also be embedded in academic content areas such as English language arts, social studies, and math.[43] To promote social-emotional development for all students in their classrooms, educators can teach and model social-emotional skills, give students opportunities to practice and hone those skills, and let them apply those skills in various situations.

Teachers can also foster skills through their own interpersonal and instructional interactions with students throughout the school day. Student-centered learning approaches emphasize changing adult practices and the ways students interact with one another and their environment, in an effort to promote students' analytical, collaborative, and communication skills.[44] For example, teacher practices that support students emotionally and let them experience their own voice, autonomy, and mastery can give students a stake in the educational process, lead to positive student-teacher relationships, and promote students' engagement in learning.[45] Instructional methods that involve collaboration and cooperative learning can promote interpersonal and communication skills.

School-Level Strategies

A school climate that's safe, academically challenging, participatory, and emotionally supportive tends to promote social and emotional competence. It also positively affects students' academic achievement, behavior, and mental health.[46] Typical school-level SEL strategies involve policies, practices, or structures that foster these characteristics of the school climate.[47] For example, a restorative approach to discipline can not only promote students' skills but also positively influence relationships both between teachers and students and among students.[48] Activities such as peer mentoring and service learning build positive relationships and a sense of community among students.

One way to promote a positive school environment is to establish a climate or SEL team to develop clear behavioral norms and expectations for students and staff, and to enforce discipline fairly when rules are broken. School leaders can also use organizational structures to build SEL competencies. For example, regular morning meetings or *advisories*—smaller social groups that help staff members develop personal relationships with students and with one another—can build a sense of community.

Educators' own social-emotional competence and pedagogical skills influence classroom and school climate as well as student behavior. High-quality teacher preparation and in-service professional learning related to SEL should include such elements as the theoretical knowledge and pedagogical strategies essential to teaching SEL, the development of teachers' and administrators' own personal and social competencies, and supportive feedback from colleagues and administrators.[49] Some research suggests that SEL interventions targeting students may also have secondary benefits for teachers' own sense of efficacy and competence.[50] This additional benefit only reinforces the rationale for establishing a comprehensive foundation of universal programming in schools.

Family and Community Strategies

Programs that extend learning to the home and neighborhood can strengthen the impact of school approaches. Community partners and organizations can support classroom and school efforts, especially by giving students more opportunities to refine and apply SEL skills.[51] School-family-community partnerships characterized by equality, shared goals, and meaningful roles for families and community partners have been shown to enhance students' SEL and academic performance.[52]

Young people can also connect with supportive adults and peers in after-school programs—an important venue for helping students develop and apply new skills and talents. Research has shown that if after-school programs devote time to social-emotional development, they can significantly improve students' self-perceptions, bonding to school, positive social behaviors, school grades, and achievement-test scores, and reduce problem behaviors.[53]

Implementing and Sustaining a Public Health Approach

If we want universal SEL programs to become part of a broad educational public health approach, we must understand how to increase the likelihood that evidence-based SEL programs will be implemented well. Research shows that training and continuing support for school personnel are crucial.[54] And before adopting any new program, schools need long-term plans for sustaining it and integrating it with other SEL interventions.

While many teachers jump at the chance to offer their students SEL programming, they need help from administrators and policy makers to do so effectively.[55] Successful SEL requires supportive infrastructures and processes. Administrators can enhance the work of individual teachers and staff by championing a vision, policies, professional learning communities, and supports for coordinated classroom, school-wide, family, and community programming.

While many teachers jump at the chance to offer their students SEL programming, they need help from administrators and policy makers to do so effectively.

Systematic efforts to promote SEL should include the following core features:

- developing a shared vision that prioritizes fully integrating SEL with academic learning for all students;
- identifying and building on existing strengths and supports for SEL at all levels;
- establishing infrastructure and resources for professional development—both in the central office and at the school level—that can build SEL awareness, enhance adults' own social-emotional competence, and cultivate effective SEL instructional practices;
- establishing student learning standards for SEL that guide the scope and sequence of SEL programming;

- adopting and aligning evidence-based programs to develop social-emotional skills in classrooms and throughout the school;
- integrating SEL and the development of a supportive climate into all school goals, priorities, initiatives, programs, and strategies;
- creating effective strategies to communicate frequently with parents to establish partnerships to enhance children's social-emotional competence and positive behavior;
- coordinating with specialized mental-health services to align approaches for building children's skills and managing their behavior in different contexts; and
- establishing a learning community among school staff members to encourage reflection and use of data to improve SEL practice and student outcomes.

Finally, to improve SEL programs and make decisions about their future, leaders should continuously assess stakeholders' perspectives, program implementation, students' outcomes, school and district resources, new state and federal policies, and scientific advances.

At the school level, CASEL has created a model and set of tools to support school-wide SEL.[57] Schools that adopt this model form an SEL leadership team that tackles six key activities: creating a vision and developing goals; assessing needs and resources; providing professional development to promote student SEL; implementing evidence-based SEL interventions; integrating SEL programming at all levels and across support tiers; and using data to monitor and improve the process.[58]

CASEL has also developed a complementary model for implementing and sustaining SEL initiatives at the school-district level.[59] Research suggests that classroom and school-wide SEL programs are most likely to be implemented with quality and sustained when they're aligned with district priorities and supported by principals, district administrators, school boards, and teacher unions.[60] The left side of figure 1 shows the critical elements that districts must provide: cultivating commitment and support for SEL; assessing resources and needs; establishing programs at multiple levels; and establishing systems for measurement and continuous improvement.

To demonstrate that its school- and district-wide models are feasible and produce measurable impacts on student outcomes, CASEL is working with eight large urban districts: Anchorage, AK; Austin, TX; Chicago, IL; Cleveland, OH; Nashville, TN; Oakland, CA; Sacramento, CA; and Washoe County, NV.[61] So far, a third-party evaluation has found that in the first three to four years, districts and schools successfully implemented evidence-based SEL programming, aligned SEL with other programs and with diverse district priorities, enhanced students' academic performance, and reduced discipline referrals.[62]

As much as we need infrastructure at the school and district levels to support implementation by classroom teachers, we also need infrastructure to support vertical integration of SEL programming across tiers based on level of need. Observers have noted a lack of coordination and

fragmentation among school-based mental health services.[63] It's rare to see school providers (classroom teachers, counselors, special-needs teachers, and psychologists) coordinate their services, and it's even rarer to see coordination with mental-health service providers contracted from local agencies.

Moreover, the work of professionals such as school counselors, social workers, and psychologists should be coordinated with universal efforts in the classroom and the school so that children may interact with adults who use the same language and promote the same skills. For students who need more support, such professionals supplement classroom-based instruction, often through small group work. But few classroom teachers are taught the skills required to reinforce and support the competencies children learn during these groups. We also need training for local providers of evidenced-based mental health services (such as community mental health programs) to connect them to what's being done in schools.[64] Once these professionals are made aware of the social-emotional content and instructional practices that teachers are using in classrooms, they can integrate these approaches into their own work with students.[65]

A key challenge will be to synthesize research from different disciplines so that we recognize the essential elements of diverse programs and policies that support coordination between universal modes and tiered services. The next step is to put these essential elements in place to sustain comprehensive school- and district-wide SEL programming. Typically, SEL programs are introduced in schools as a fragmented succession of fads or quick fixes, isolated from everyday educational practices. As a result, schools often take on a hodgepodge of prevention, treatment, and youth-development initiatives with little direction, coordination, sustainability, or impact.[66] Children will benefit the most when we find commonalities and coordinate across contexts and levels of service.[67]

We know that universal SEL interventions can reduce problems such as aggression, noncompliance, and emotional distress.[68] But not every universal SEL program can be expected to produce the same degree of change, and we need more research to find the best ways to integrate concepts and programs across tiers of service need. Surely, if children encounter common language and skills across universal and targeted services, that consistent environment will help them develop their own SEL skills and improve their competence.[69]

To achieve the coordinated framework we propose will require stronger program development and evaluation. This in turn will require teachers, administrators, counselors, and therapists to see the value of collaboration on behalf of children's outcomes. Moreover, schools will need to spearhead such collaboration and use common assessments to evaluate progress among children and among the programs themselves. To encourage wider use of evidence-based comprehensive and systematic SEL programming, schools must also collaborate with other interested parties, including policy makers, funders, administrators, parents, researchers, and program developers. Each group has an important role to play in melding theory, research, practice, and policy so that they work together to achieve the public health impact we all desire.

Conclusions

The past two decades have seen an explosion of research and practice in the development, implementation, and evaluation of SEL programs and policies. Research has shown that when evidence-based SEL programs are effectively implemented, they lead to measurable and potentially long-lasting improvements in various domains of children's lives. We advocate for placing SEL within a larger public health framework for education, with two essential components. The first is to go beyond the classroom to develop comprehensive universal models of SEL that involve entire schools and school districts, partner with families, and are coordinated with community programs. The second component is to fully integrate universal SEL models with services at other tiers, giving schools a common framework to promote wellbeing and school success and to prevent mental-health disorders. To advance the science and practice of school-based prevention, researchers, educators, and policy makers must work together to design evidence-based, comprehensive SEL programs that can substantially improve our communities' public health.

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SEL Interventions in Early Childhood

Megan M. McClelland, Shauna L. Tominey, Sara A. Schmitt, and Robert Duncan

Summary

Young children who enter school without sufficient social and emotional learning (SEL) skills may have a hard time learning. Yet early childhood educators say they don't get enough training to effectively help children develop such skills.

In this article, Megan McClelland, Shauna Tominey, Sara Schmitt, and Robert Duncan examine the theory and science behind early childhood SEL interventions. Reviewing evaluation results, they find that several interventions are promising, though we need to know more about how and why their results vary for different groups of children.

Three strategies appear to make interventions more successful, the authors write. First, many effective SEL interventions include training or professional development for early childhood teachers; some also emphasize building teachers' own SEL skills. Second, effective interventions embed direct instruction and practice of targeted skills into daily activities, giving children repeated opportunities to practice SEL skills in different contexts; it's best if these activities grow more complex over time. Third, effective interventions engage children's families, so that kids have a chance to work on their SEL skills both at school and at home. Family components may include teaching adults how to help children build SEL skills or teaching adults themselves how to practice and model such skills.

Are early childhood SEL interventions cost-effective? The short answer is that it's too soon to be sure. We won't know how the costs and benefits stack up without further research that follows participants into later childhood and adulthood. In this context, we particularly need to understand how the long-term benefits of shorter, less intensive, and less costly programs compare to the benefits of more intensive and costlier ones.

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To be ready to enter school, young children need social and emotional learning (SEL) skills such as getting along with others, paying attention, following directions, and managing emotions. Yet teachers report that many children enter school without these skills, which can make it challenging for them to learn.[1] And early childhood educators often feel that they don't receive enough training to effectively help children develop SEL skills.[2] In response, policymakers and practitioners have focused on SEL, and interventions that promote SEL skills for young children have proliferated. SEL interventions take many approaches, and their very diversity makes it challenging to determine which components and approaches are most effective. To ensure that all children have the skills to thrive, we need to pinpoint what works under what conditions and with what populations.

In this article, we examine the science behind SEL interventions. We start by clarifying key terms related to SEL skills and reviewing the approaches used in current early childhood SEL interventions. We discuss the theories that guide these interventions, as well as results from intervention studies, including a look at how results vary for different groups of children. Next we examine intervention characteristics that relate to SEL growth and review the potential financial and societal benefit of SEL interventions. We conclude by discussing the limitations of current SEL interventions and making recommendations for research and policy.

Social and Emotional Learning: Key Terms

Social and emotional learning (SEL) refers to a broad range of social, emotional, and behavioral skills for children. We highlight three main components of SEL skills: emotional processes, social/interpersonal skills, and cognitive regulation.[3]

The first component, emotional processes, encompasses the skills children need to manage their emotions effectively and recognize the emotions of others. Emotional processes include skills such as emotion knowledge (the ability to recognize and label emotions accurately), emotion regulation (managing emotions and controlling how and when we express them), perspective taking, and empathy.[4] The second component, social/interpersonal skills, includes behaviors that help children and adults interact positively and effectively with others.[5] For example, social/interpersonal skills include recognizing and understanding social cues, effectively interpreting others' behaviors, and having positive interactions with others.[6] The third SEL skills component, cognitive regulation, focuses on cognitive flexibility, working memory, and inhibitory control (also referred to as executive function). Cognitive regulation skills are mental processes that help children focus and switch from one task to another, listen to and remember instructions, and inhibit impulses.

These SEL components are interrelated.[7] For example, during a music and movement activity in the classroom, a child may use cognitive regulation to pay attention to and follow the teacher's instructions, and social/interpersonal skills to cooperate with a friend in a partner dance. In addition, she may need to use emotional processes to manage her frustration if another classmate bumps into her.

Children's SEL skills grow significantly during early childhood. Research shows that when children participate in SEL

interventions, not only can their behavior improve, but we may also see changes in their brain structure and function.[8] In addition, multiple studies have found that participating in preschool SEL interventions is significantly related to growth in academic achievement and SEL skills, in both the short and long term.[9] But some studies find stronger effects than others; some studies find effects for some children but not for others; and some studies find no effects at all. Many things could explain these different results: the specific SEL skills targeted by an intervention, the approach used to teach SEL skills, the characteristics of the teachers delivering the intervention, or the characteristics of the children who participate. Untangling what works in SEL interventions can help us understand how best to support the development of these skills for young children. Children are complex (just ask any parent!), and many things influence their development. These influences can be either biological (for example, children's temperament and personality), or environmental (for example, family, school, and social and cultural contexts).[10] The connections between biological and environmental influences set the stage for understanding SEL skills development and early childhood interventions that promote these skills.

Promoting SEL Skills in Early Childhood

To best capture the context in which most children receive care before formal schooling, in this section we examine SEL interventions designed for center-based early education settings such as preschool classrooms.[11] We focus on studies that use a randomized controlled design, meaning that children or groups of children are randomly assigned to either participate in an intervention (treatment group) or not (control group). After the intervention, children in the treatment and control groups are compared on key outcomes. Randomized controlled studies are considered the gold standard for evaluating interventions because they let us estimate whether an intervention actually causes the effects we see.[12] We organize the interventions we review by their theoretical frameworks.

When children participate in SEL interventions, not only can their behavior improve, but we may also see changes in their brain structure and function.

SEL Models

SEL interventions, like many preschool and school-based interventions, are based on evidence from research and follow a particular theoretical perspective. Different approaches emphasize different practices and skills. For example, some interventions help educators directly teach children SEL skills through classroom curricula, based on principles such as social learning theory and pretend play models of learning. Other interventions, such as those based on coercion theory, focus on professional development to support classroom management strategies that strengthen children's SEL throughout the day. In the following section, we organize our discussion of SEL interventions by their theoretical frameworks and summarize results from each intervention. Because each intervention uses different measures to assess change, we

talk about their impacts in terms of small, medium, and large effect sizes. In general, small effect sizes are those that we can observe and measure statistically through a research study, but that we might not see with the naked eye (for example, small but consistent improvements in children's scores on SEL assessments). Large effect sizes are those that are not only measurable through research, but are also large enough that parents and teachers can likely see them. When possible, we explain what these changes mean in relation to children's skills or outcomes.

Social learning theory models. Some SEL interventions are grounded in social learning theories; that is, they focus on how children interpret social cues and respond to social challenges. One example of this approach is called Promoting Alternative Thinking Strategies (PATHS), a classroom-based curriculum consisting of approximately 30 lessons delivered over the course of an academic year. The PATHS curriculum aims to improve preschool children's social-emotional competence and cognitive regulation, and to reduce problem behaviors. Evaluation studies, primarily with low-income preschool children, indicate that PATHS has been effective at improving preschoolers' social-emotional competence.[13] When used as part of the Head Start Research-Based, Developmentally Informed (REDI) program, an enhanced Head Start curriculum that focuses on language and literacy and on social-emotional competence, PATHS has shown positive effects ranging from small to large on children's social-emotional competence, cognitive regulation, and literacy. These effects have persisted into elementary school.[14]

The Kids in Transition (KITS) SEL intervention focuses on how children process social information. It targets specific populations: children in the foster care system and those with developmental disabilities and/or behavioral problems. Designed as a short-term booster program to support school readiness as children transition out of preschool, KITS is delivered over the two summer months before kindergarten. It consists of classroom-based play sessions twice per week in which children are explicitly taught SEL skills. In three studies, KITS has produced small improvements in social competence and cognitive regulation, as well as small reductions in aggressive and oppositional behaviors.[15]

Another SEL program, I Can Problem Solve (ICPS), gives educators classroom lessons designed to help children recognize emotions in themselves and others, and practice perspective taking and the ability to think actively of prosocial solutions to problems. Educators receive support not only to implement the curriculum, but also to embed key principles from the curriculum into teacher-child interactions and children's interactions with one another in the classroom.[16] By directly measuring children's ability to brainstorm solutions, two randomized controlled trials and one quasi-experimental trial of ICPS found medium-size increases in preschool children's abilities to solve interpersonal problems.[17] And teachers report that children who participate in ICPS exhibit fewer problem behaviors in the classroom than children who don't. In sum, interventions rooted in social learning theories that emphasize the development of social skills have had positive impacts on social problem solving and cognitive regulation, and have reduced problem behaviors and aggression.

Pretend-play models. Some SEL interventions, such as the Tools of the Mind curriculum, emphasize practicing social roles during play. Some studies have found that Tools of the Mind can significantly improve children's cognitive regulation and reduce teacher ratings of children's problem behaviors.[18] A recent evaluation of the program with kindergarten children found medium-to-large positive effects on SEL and academic skills; moreover, the effects for literacy and vocabulary grew stronger over time.[19] But in a separate study with prekindergarten children, Tools of the Mind didn't improve SEL skills and may even have had some negative effects.[20] Although we have some evidence that Tools of the Mind is associated with improved SEL skills, these mixed results show that it's unclear for whom and under what conditions it works best.

Coercion theory models. Some interventions emphasize developing teachers' own abilities, including their classroom management skills. These interventions stem from coercion theory, which describes a cycle of escalating negative interactions between children with behavior problems and their parents, teachers and peers, leading to more negative behavior. Interventions using this framework focus on how teachers can help children de-escalate intense emotions and learn from watching teachers and peers model appropriate behavior. One such intervention is the Chicago School Readiness Project (CSRP), and its larger-scale successor, Foundations of Learning. CSRP and Foundations of Learning equip preschool teachers (primarily teachers of children from low-income households) with the skills to effectively manage their classrooms and build positive relationships with their students, thereby promoting SEL skills. In both programs, teachers attend a series of workshops on classroom management strategies, such as developing classroom rules and routines, and effective methods for promoting children's social-emotional skills, such as problem solving and anger management. Teachers also meet weekly with clinical consultants to discuss individual children and the classroom as a whole. Beyond weekly meetings, consultants offer one stress management workshop and individualized stress management techniques to teachers over the course of the academic year.

CSRP has been rigorously evaluated with long-term follow-ups. Results from two studies of CSRP and Foundations of Learning generally show small-to-medium positive impacts on SEL skills. But findings have been mixed with respect to which SEL skills show improvements. For example, both studies show small-to-medium effects on reducing children's behavior problems, but only one evaluation of CSRP showed positive effects on children's cognitive regulation and academic outcomes.[21] Despite these mixed findings, using professional development to help teachers model SEL skills and manage children's behavior could be an important way to improve children's SEL skills.

The Incredible Years series also targets teachers' abilities to help children de-escalate and learn from watching teachers model appropriate behavior.[22] Incredible Years was designed to prevent and reduce conduct problems in young children by boosting emotion regulation and social competence. It includes teacher and parent training programs coupled with child-training resources and materials. Multiple randomized controlled trials, including long-term follow-ups, have assessed its impacts on preschool classrooms and individual

children. One study—with a sample of children from low-income backgrounds—found that children in a Head Start program that used Incredible Years demonstrated fewer conduct problems than children in a Head Start program that didn't.[23] The study also found that children in an Incredible Years program who were rated at high risk for conduct problems when the study began were more likely to fall within the normal range for these behaviors one year later than children in a control group also rated at high risk for conduct problems at the study's onset. A second study found that children in Incredible Years demonstrated greater gains in emotion regulation and social competence, and greater decreases in conduct problems compared to children at control schools.[24] Overall, interventions based on coercion theory that emphasize modeling and classroom management strategies have improved multiple SEL domains (with small-to-medium effects), including social-emotional competence and cognitive regulation, and decreased problem behaviors.

Cognitive regulation models. Some interventions are designed to improve a single SEL skill or specific subset of skills, such as cognitive regulation, which refers to a specific subset of executive function skills, including cognitive flexibility, working memory, and inhibitory control. An example is the Red Light, Purple Light circle-time intervention, which includes cognitively complex music and movement games for use in preschool classrooms. Two studies found that children in the intervention group showed medium-size improvements in cognitive regulation (at least one standard deviation), larger improvements in early math (about a one year age equivalent gain in math over six months), and smaller improvements in literacy (about half a standard deviation).[25]

Other interventions have focused on processes that help children reflect on how they're thinking, that is, metacognition, and mindfulness meditation or yoga practices. For example, reflection training is designed to help children reflect on their thoughts while they complete a task to improve their performance. In one study, children who failed the initial training for a common cognitive-regulation task were given corrective feedback and were taught to reflect on the different rules. In three experiments, children who received such reflection training performed the task significantly better. Moreover, one of the experiments assessed brain reactivity, and improved performance was also accompanied by neural changes. These results indicate that cognitive regulation is malleable at both the behavioral and neural level.[26]

Other cognitive regulation interventions embed mindfulness training (for example, calming activities) or yoga in preschool curricula.[27] In one randomized controlled study, the mindfulness-based Kindness Curriculum showed small-to-medium impacts on children's cognitive regulation.[28] In another study, children in intervention classrooms were exposed to about 40 hours of mindful yoga over the school year. Children who participated showed significant improvements on cognitive regulation compared to children in a control group. As is often the case (see the section on differential intervention effects, below), results were strongest for children who initially performed more poorly than their peers on executive function tasks.

Despite their different theoretical approaches, we can identify three common themes among the interventions we've discussed. The first is the presence of

targeted support for both teachers and children; that is, most of the programs include professional development for educators as well as a classroom curriculum. Second, interventions are especially effective when they focus on skills that are strongly associated with the targeted outcomes. Third, age-appropriate play-based learning methods help children succeed in these programs. But despite these common themes, SEL interventions have had mixed results. In the next section, we discuss what may make interventions effective, for whom, and in what context.

Understanding for whom and under what conditions interventions work best can guide research, practice, and policy.

Differential Intervention Effects

Some interventions are more effective than others, some work best with certain groups or in certain conditions, and some interventions may not be effective at all. It's also possible that some interventions only appear to be ineffective because we're not measuring the right things or not measuring them in the right way. Given the many factors that influence children's development and that their experiences in early childhood settings vary, a one-size-fits-all approach to intervention may not help all children. Understanding for whom and under what conditions interventions work best can guide research, practice, and policy. Moreover, understanding differential intervention effects may help us reconcile the conflicting results we see.[29] What child, teacher, and classroom characteristics might make interventions more or less effective? And how do characteristics of the interventions themselves, such as the quality of implementation and the level of exposure, interact with those factors?

Researchers have proposed two conflicting hypotheses for differential intervention effects. The first is the compensatory hypothesis, which suggests that children from low-income families and those who start preschool with lower skills will benefit more from interventions because they're at greater risk and have more room for improvement. In contrast, the accumulated advantages hypothesis, also called the Matthew effect, predicts that children from higher-income families who start preschool with stronger skills will benefit more from intervention because they're better able to take advantage of learning opportunities and more capable of building on these initial skills. Research on SEL interventions generally supports the compensatory hypothesis. For example, many studies have shown that SEL programs have the strongest effects for children who start with lower baseline levels of SEL skills and/or achievement.[30] Additionally, poor and minority children usually benefit the most from SEL interventions (they are also more likely to start with lower levels of these skills). In a study of Tools of the Mind that found overall positive results on cognitive regulation, for example, children from high-poverty schools showed the largest gains. Effects for stress physiology as measured by cortisol followed a similar pattern. In the Red Light, Purple Light intervention, low-income English language learners showed the largest improvements in

cognitive regulation, and they were the only group that showed intervention-related gains in early math skills. Specifically, children in the intervention gained as much in math in six months as those without the intervention gained in one year. These results suggest that focusing SEL interventions on children most at risk for lower baseline skills could be an effective way to boost these skills for children who are struggling with them the most and thus, could narrow school readiness gaps. However, we need more work on diverse groups of children. In addition, children benefit more when their SEL skills are reinforced at home, which is less likely to happen in families with fewer resources.

Dosage

The level of exposure to an intervention—also known as *dosage*—can produce differential effects.[31] For example, a study of the Un Buen Comienzo (UBC) preschool intervention in Santiago, Chile, found that overall, classroom quality improved but children's language and literacy skills did not.[32] However, children's rate of absenteeism, which directly influenced their exposure to the intervention, was related to whether their language and literacy skills improved.[33] That is, the intervention had positive impacts on children's language and literacy skills only for those with the lowest rates of absenteeism. Although UBC focused on professional development for teachers, it showed that the degree of exposure to an intervention is related to its effectiveness.

But how much exposure is needed for an intervention to be effective? The answer probably depends on the intervention and the needs of the children receiving it. For example, in the first evaluation of Red Light, Purple Light, children who attended at least 11 of 15 sessions showed the strongest gains (particularly those who had the lowest initial cognitive regulation scores).[34] But for many interventions, we still don't know how much exposure is enough. Thus, tracking and testing intervention exposure may be critical to adequately assessing effectiveness.

Fidelity of Implementation

The quality of an intervention's implementation also influences its effectiveness. One large review found that when studies reported no problems with implementing an SEL intervention, they showed improvements on all six assessed SEL and academic achievement outcomes.[35] In contrast, studies where implementation faced problems showed significant effects on just two of the six SEL and academic achievement outcomes. Similarly, in a study of PATHS, greater implementation fidelity was related to improvements in several SEL outcomes, including problem solving and social competence, and reductions in overt aggression.[36]

Studies of Tools of the Mind have also investigated implementation fidelity; the findings in these studies have been mixed. In fact, one study reported that greater fidelity was associated with smaller gains in prekindergarten achievement scores and smaller gains in cognitive regulation at the end of first grade.[37] However, these findings were consistent with the study's overall conclusion that Tools of the Mind was ineffective at boosting achievement scores and cognitive regulation. Other studies have shown that Tools of the Mind has beneficial effects, but the inconsistencies across studies highlight the need to measure how well teachers follow through with program activities in the classroom. We should also

consider whether the various components of fidelity (adherence, quality, exposure, and responsiveness) affect children's outcomes in different ways. To do this effectively, we need to develop measures that accurately assess these components.

To effectively implement an SEL intervention, teachers must be able to model strong SEL skills.

Strategies Related to SEL Intervention Success

Evaluations of SEL interventions have highlighted several strategies that affect their success. First, many effective SEL interventions include training or professional development for early childhood teachers; some also emphasize building teachers' own SEL skills, in addition to children's. For example, PATHS and Tools of the Mind give teachers multiday training sessions to prepare them to deliver the curricula; they also offer regular mentoring to ensure successful implementation.[38] Some interventions include stress management services for teachers.[39] Others (for example, RULER) seek to develop teachers' own SEL skills, specifically their emotional intelligence. Indeed, to effectively implement an SEL intervention, teachers must be able to model strong SEL skills.[40]

A second strategy that makes SEL interventions effective is embedding direct instruction and practice of targeted skills into daily activities. Children benefit the most from SEL instruction when they have repeated opportunities to practice SEL skills in different contexts.[41] Moreover, it's best if SEL activities grow more complex over time and engage children, like the music and movement games do in Red Light, Purple Light.[42] For example, in the first week of the intervention children learned the freeze game, in which they dance when music is playing and stop dancing when the music stops. More complex rules were added later—for example, dancing slowly to slow music and quickly to fast music, and then doing the opposite—to ensure that children's cognitive regulation skills were being challenged. Because it's also important that adults carry out the activities with fidelity, SEL interventions should be feasible to implement in different contexts.

A third strategy related to intervention success is family engagement, which helps ensure that children develop SEL skills both at school and at home. Some successful programs (for example, Incredible Years and RULER) incorporate a parenting component. Family engagement activities in such interventions may include integrating SEL curriculum content into family newsletters, home visits, or through sharing curriculum activities with parents during family workshops or activities with children at school. Family components can include instruction on how to support children's SEL skills development and how to practice and model these skills for adults at home.

Costs and Benefits

We know little about the cost-effectiveness of recently developed SEL programs, although research shows that some are costly to administer.[43] But cost-benefit analyses of well-known early childhood interventions provide evidence that may apply to SEL interventions. High-quality early childhood

programs are often considered cost-effective investments for society, in part because of the financial benefits associated with SEL-related outcomes.[44] We highlight two evaluations of early childhood programs that followed participants into adulthood—the Chicago Child-Parent Center (CCPC) and High/Scope Perry Preschool. Cost-benefit analyses of each program found favorable results for cost effectiveness, though the mechanisms driving their effects on participants' life outcomes are somewhat unclear. [45] Psychologists and economists argue that the lasting benefits may come partly from enhanced SEL skills, which continue to produce positive impacts on various outcomes throughout participants' lives.[46]

The CCPC early childhood program targeted low-income, predominantly African-American children and their parents (we focus here only on the program effects associated with child participants). A cost-benefit analysis indicates that CCPC returned an estimated $7.14 to society for every dollar invested.[47] Along with parenting support, CCPC broadly targeted academic skills like literacy in early childhood, but its many beneficial societal returns seem to come from differences in SEL-related outcomes. For example, children in the program needed fewer school remedial services, and they had fewer arrests and higher rates of school completion through adolescence and young adulthood.[48]

Like CCPC, High/Scope Perry Preschool targeted low-income, African-American children from disadvantaged backgrounds. It included center-based care, home visits, and group meetings with parents.[49] According to cost-benefit analyses, Perry Preschool returned an estimated $12.90 to society for every dollar invested.[50] Children in the Perry program incurred considerably fewer societal costs as adults, including lower rates of criminal activity and arrests, in addition to higher wages. It isn't clear to what degree these positive long-term impacts can be attributed to enhanced SEL skills. What we do know is that the program's positive effects on IQ faded by the time children were eight years old, but the beneficial effects on SEL-related outcomes (for example, lower rates of criminal activity) persisted into adulthood.[51]

CCPC and Perry Preschool started early in children's lives, and although the programs didn't explicitly target SEL skill development, they targeted many skills that would fall under today's SEL definitions and produced long-term beneficial effects on SEL-related outcomes. Furthermore, both programs provided childcare- and parenting-support services, which fits with emerging evidence that two-generation approaches (that is, approaches that simultaneously focus on parents and children) can help break the cycle of poverty through improved parent and child outcomes (for example, higher employment and income for parents and cognitive and social skills for children).[52] The programs were also conducted among relatively high-risk populations, which may have made them more effective than they would have been in the general population.

Now we need similar long-term studies and cost-benefit analyses of recently developed SEL programs. Following participants in SEL programs from early childhood through adulthood could help us understand how more intensive programs compare to less intensive ones. For instance, do we see changes in adolescent criminal activity or high school graduation based on participation in the Tools of the Mind or CSRP programs? Can shorter and less expensive interventions

(for example, KITS and Red Light, Purple Light) have long-term benefits similar to those of more expensive ones? One Tools of the Mind evaluation found that some of the intervention's positive effects grew stronger in the second year, suggesting that more intensive training for children may pay off in the long run. However, findings like this need to be balanced against the higher cost of Tools of the Mind compared to shorter, less expensive, and more targeted programs.

Conclusions

Our review has focused on the current understanding of SEL interventions in early childhood and the questions that remain. We examined findings from a number of interventions that target SEL skills using different theoretical foundations. Although each of these approaches helps shed light on how we can improve the various components of SEL skills, they make SEL programs difficult to compare. Not only do programs use different approaches, they also target different skills and often use different measures to assess skills. Thus, even when we find common factors across programs, we may not be able to pinpoint which of them matter most. Although finding intervention effects is encouraging, the small-to-moderate effects—and sometimes the lack of effects—that we see in some SEL interventions suggest that we still have a lot of work to do before we can effectively promote SEL skills for all children, especially in diverse early childhood education settings.

We also need to understand whether intervention gains in SEL skills transfer to other skills, such as academic achievement. Many studies have shown that children with higher SEL skills tend to have higher academic skills. We know less about how boosts in children's SEL skills from interventions affect academic achievement, although work in this area is expanding.[53] Finally, we need to explore the long-term effects and cost-effectiveness of more recently developed early childhood SEL interventions on a variety of child, adolescent, and adult outcomes like criminal activity, grade retention, and high school completion.

Policy Implications

The research we've reviewed here shows that SEL interventions can have meaningful effects on children's development. Understanding for whom and in what contexts interventions work best can help guide how we adapt existing interventions or develop new programs and curricula that meet the needs of children from diverse backgrounds. In turn, such knowledge could help guide policymakers' funding decisions and target programs to those who need them most. Although looking at overall intervention effects should continue to be a priority, examining differential effects will help move the conversation away from overly simplistic arguments about whether an intervention works and help us meet the needs of different groups of children.

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Promoting Social and Emotional Competencies in Elementary School

Stephanie M. Jones, Sophie P. Barnes, Rebecca Bailey, and Emily J. Doolittle

Summary

There's a strong case for making social and emotional learning (SEL) skills and competencies a central feature of elementary school. Children who master SEL skills get along better with others, do better in school, and have more successful careers and better mental and physical health as adults.

But evidence from the most rigorous studies of elementary-school SEL programs is ambiguous. Some studies find few or no effects, while others find important and meaningful effects. Or studies find effects for some groups of students but not for others. What causes such variation isn't clear, making it hard to interpret and act on the evidence.

What are the sources of variation in the impacts of SEL programs designed for the elementary years? To find out, Stephanie Jones, Sophie Barnes, Rebecca Bailey, and Emily Doolittle examine how the theories of change behind 11 widely used school-based SEL interventions align with the way those interventions measure outcomes. Their central conclusion is that what appears to be variation in impacts may instead stem from imprecise program targets misaligned with too-general measures of outcomes. That is to say, program evaluations often fail to measure whether students have mastered the precise skills the programs seek to impart.

The authors make three recommendations for policy makers, practitioners, and researchers. The first is that we should focus more on outcomes at the teacher and classroom level, because teachers' own social-emotional competency and the quality of the classroom environment can have a huge effect on students' SEL. Second, because the elementary years span a great many developmental and environmental transitions, SEL programs should take care to focus on the skills appropriate to each grade and age, rather than taking a one-size-fits-all approach. Third, they write, measurement of SEL skills among children in this age range should grow narrower in focus but broader in context and depth.

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Research has shown that during the elementary school years, social and emotional skills are related to positive academic, social, and mental health outcomes. For example, correlational studies show that classrooms function more effectively and student learning increases when children can focus their attention, manage negative emotions, navigate relationships with peers and adults, and persist in the face of difficulty.[1] Children who effectively manage their thinking, attention, and behavior are also more likely to have better grades and higher standardized test scores.[2] Children with strong social skills are more likely to make and sustain friendships, initiate positive relationships with teachers, participate in classroom activities, and be positively engaged in learning.[3] Indeed, social and emotional skills in childhood have been tied to important life outcomes 20 to 30 years later, including job and financial security, as well as physical and mental health.[4]

This compelling evidence suggests that there's a strong case for making such non-academic skills and competencies a central feature of schooling, both because of their intrinsic value to society and, from a pragmatic standpoint, because they may help to reduce achievement and behavior gaps and mitigate exposure to stress.[5] But what do we know about efforts designed to improve and support social and emotional skills in the elementary years? The evidence from gold-standard studies—in which one group is randomly assigned to receive an intervention while another is not—is ambiguous. What works, for whom it works, and under what conditions often varies. For example, we've seen large-scale national studies that find small or no effects from interventions designed for the elementary school years, and many individual studies that find important and meaningful effects.[6] What causes such variation isn't clear, making it hard to interpret and act on the evidence.[7] This confusion allows those debating the merits of incorporating social and emotional learning (SEL) in schools to cherry-pick findings and adopt the ones that suit their own arguments. Does the mixed evidence result from different ways of measuring social and emotional skills? From differences in intervention approaches and variation in implementation? From different ways of studying interventions during the elementary years? To answer those questions, we examine how the theories of change behind 11 widely used school-based SEL interventions align with the way those interventions measure outcomes. In doing so, we hope to shed light on the mixed or null findings from past evaluations of such programs.

Social and Emotional Skills in Middle Childhood

Middle childhood, spanning roughly 5 to 11 years of age, is often treated as if it were a single developmental period. But the span from kindergarten through fifth grade and into middle school encompasses substantial biological, social, cognitive, and emotional changes. Children are exposed to an increasing number of contexts and are expected to develop an ever-growing set of diverse skills, all of which have implications for SEL interventions.[8]

Many frameworks and organizational systems, from a variety of disciplines, describe and define social and emotional skills during this period.[9] These frameworks may refer to the same skill or competency

with different names, or use the same name to refer to two conceptually distinct skills.[10] They also vary in the type of construct they address—from skills, behaviors, and attitudes to traits, strengths, and abilities.

Different SEL frameworks may refer to the same skill or competency with different names, or use the same name to refer to two conceptually distinct skills.

To organize our discussion, we use a framework developed by Stephanie Jones (a coauthor of this article).[11] This framework focuses largely on intervention approaches designed for the elementary school years, based on a review of research in developmental and prevention science and a scan of the major defining frameworks and curricular approaches for SEL. It categorizes social and emotional skills and behaviors into three primary groups: cognitive regulation, emotional processes, and social/interpersonal skills. This system has been reflected in other review papers, but it doesn't include attitudinal constructs such as character and mindsets, which are increasingly incorporated in other organizing frameworks and are gaining attention in intervention development and testing, largely with students in middle and high school.[12]

In the most general sense, *cognitive regulation* comprises the basic cognitive skills required to direct behavior toward attaining a goal. It's closely related to the concept of executive function, which comprises attention, inhibition, and working memory, and it encompasses skills that help children prioritize and sequence behavior, inhibit dominant or familiar responses in favor of a more appropriate one (for example, raising their hands rather than blurting out an answer), keep task-relevant information in mind (for example, remembering a teacher's request to turn to a partner and talk over a question before the group discussion begins), resist distractions, switch between task goals or even between different perspectives, use information to make decisions, and create abstract rules and handle novel situations.[13] Children use cognitive regulation skills whenever they face tasks that require concentration, planning, problem-solving, coordination, conscious choices among alternatives, or inhibiting impulses.[14]

Emotional processes are skills that help children recognize, express, and regulate their own emotions, as well as understand the emotional perspectives of others.[15] They allow children to recognize how different situations make them feel and to handle those feelings in prosocial ways. Consequently, such emotional skills are often fundamental to positive social interactions and to building relationships with peers and adults. Without the ability to recognize and regulate your own emotions or empathize with others' perspectives, it's very difficult to maintain and focus attention (cognitive regulation) and to interact positively with others.[16]

Finally, *social and interpersonal skills* help children and adolescents accurately interpret other people's behavior, effectively navigate social situations, and interact positively with peers and adults.[17] Social and interpersonal skills build on emotional knowledge and processes; children must learn to recognize, express, and regulate their emotions before

they can be expected to interact with others. Children who use these social and interpersonal processes effectively can collaborate, solve social problems, and coexist peacefully with others.

What do we know about developmental changes in cognitive regulation, emotional processes, and social/interpersonal skills during middle childhood? Basic developmental theory indicates that some skills act as building blocks for other, more complex skills that emerge later on.[18] This means that children must develop certain basic competencies in each of the SEL domains (cognitive, emotional, social/interpersonal) before they can master others, and that previously acquired skills support the development of new or more complex ones.[19] Developmental theory also suggests that some skills are stage-salient—that is, they help children to meet the demands of a particular developmental stage and/or setting.[20] In other words, some SEL skills are more important in middle childhood than in other periods. For example, when children first begin formal schooling, a key task is learning how to understand their own emotions and those of others; they're exposed to a wide variety of emotion words and an array of emotions expressed by their new peers. By the time children transition out of middle childhood, they must use previously learned emotion-related skills to support more sophisticated social problem-solving in more complex social interactions. Thus, there's reason to believe that certain SEL skills should be taught before others, and within specific grades or age ranges. However, SEL programs and interventions frequently target the same skills in the same ways across multiple years.[21] Elementary interventions that align their content and goals with children's sequence of skill development may be more successful than interventions that target the same skills, regardless of age.

Evidence from SEL Programs

Recent interest and investment in social-emotional skill development is due in large part to the growing evidence that SEL programs affect academic, behavioral, emotional, social, and cognitive outcomes. Our understanding of what works is guided largely by two comprehensive meta-analytic reviews (a meta-analysis is a strategy for analyzing findings across different studies to reach a synthesis), which compiled and analyzed findings from a large number of studies of school-based SEL and/or behavioral learning programs (213 studies in one case and 75 in the other).[22]

Both reviews found that universal, school-based SEL programs produced statistically significant positive effects on a host of social-emotional and related outcomes. That is, students who participated in SEL programs had significantly better outcomes than students who did not. The average effect sizes, or the magnitude of the difference in impacts between groups, ranged from small in some areas to moderate-to-large in others.[23] These results empirically support the widely held belief that SEL programs can produce meaningful changes in students' lives—particularly for the set of outcomes the programs target—and have motivated continued research in this area. Both reviews included studies that didn't use random assignment, meaning that something other than the SEL program being evaluated could have influenced the outcomes that were measured. Because of this, the SEL program effects documented

in these reviews could be inflated, though that's not necessarily so. For this reason, in this article we focus on programs and interventions that have undergone randomized trials.

These meta-analyses suggest that SEL interventions are effective. But as we noted at the outset, results from research on the impact of specific SEL programs often vary. For example, the Social and Character Development Research Consortium (SACD) examined seven SEL programs over three years and found no differences between the groups receiving the interventions and those who did not.[24] Ignoring such null findings could produce an inaccurate picture of the evidence behind SEL interventions. Perhaps more important, we need to carefully consider the range of evidence behind SEL interventions in elementary school, including null, negative, and positive effects—essentially by mapping program theory and targets to outcomes and measures to specific and concrete effects. Otherwise, we limit our understanding of why one study shows effects and another does not, or why similar programs show effects on different outcomes.

A chapter in the recently published *Handbook of Social and Emotional Learning* identifies the core mechanisms or "active ingredients" of evidence-based SEL programs in elementary school.[25] The chapter's broad theoretical framework, which is consistent with others, suggests that effectively using the core components of SEL interventions can affect a set of immediate outcomes (classroom social and instructional environment and student social and emotional skills) and eventually influence long-term social, behavioral, and academic outcomes.[26] The authors make the logical point that although this general framework applies overall, different programs and approaches prioritize different outcomes and underlying mechanisms. For example, some programs focus on executive function and self-regulation (the cognitive domain), while others prioritize basic social skills and behaviors (the interpersonal domain). Our point isn't that one approach is better or more effective than another; rather, it's that to accurately understand the efficacy of these interventions, we need to clearly understand what they target and how. Therefore, in interpreting intervention programs' effects, we focus particularly on the alignment between program inputs and measured outcomes, the role of context (including features of settings, place of delivery, and participant characteristics), and the importance of considering developmental stages.

Our Approach

Rather than a comprehensive summary of SEL program evaluations, we aim to provide a snapshot of the evidence behind 11 widely used school-based SEL interventions. These interventions have undergone randomized controlled trials that were published in peer-reviewed journals between 2004 and 2015, with a majority published after 2009. We reviewed the following programs: Fast Track PATHS, PATHS, Positive Action, Responsive Classroom, Second Step, RULER, 4Rs, MindUP, Making Choices, Good Behavior Game, and Positive Behavioral Interventions and Supports (PBIS).[27]

To understand each program and represent variation in their approaches, we reviewed

the most recent randomized controlled trial or trials and documented four key elements:

1. Setting. Where does the intervention take place? Categories included the whole school, classroom, miscellaneous (for example, during recess), and among adults.

2. SEL program targets. Which domain or domains does the program focus on? In alignment with the framework we described above, SEL program targets were cognitive, social, and emotional.

3. Program components. What are the program's parts, in addition to the classroom and school-based elements? Categories included training, coaching, parent involvement (such as parent guides, training and home links for families), and other supports (for example, toolkits and other resources).

4. Outcomes. What do the program evaluations measure? Outcomes were organized into two main categories: (1) student-level outcomes, and (2) classroom- and school-level outcomes.

Though all the interventions fall under the SEL umbrella, they can be loosely organized based on their theoretical orientations and theories of change. A theory of change (sometimes referred to as a theory of action) is a road map that describes a program's assumptions and inputs, outputs, and expected outcomes.[28] It typically describes the program's core components, the expected short- and long-term outcomes, and the mechanisms by which the program will achieve those outcomes. For instance, some programs' theories of change emphasize the regulation of thought and action (MindUP); others highlight emotional literacy and emotional intelligence (RULER) or social problem-solving and conflict resolution (Making Choices, Good Behavior Game, 4Rs); and still others emphasize adult practices and strategies and/or the environment (PBIS, Responsive Classroom). Ideally, the theory of change serves as a blueprint or guide to identifying an intervention's expected outcomes and selecting appropriate measures to capture those outcomes. A key question we examined was whether the program targets and expected outcomes aligned with the measures used and the impacts documented (see table 1). To underscore the differences between SEL programs, we reviewed programs individually and documented the SEL program target of each one.

Summary of the Evidence

In the following section, we summarize our findings for our four key elements (setting, program target, program components, and outcomes).

Setting

Setting refers to the context or contexts of program implementation. School-based programs dominate SEL programming in middle childhood. Within the school, settings include the classroom, the whole school, and other contexts like recess or adult-focused activities. Setting can also indicate the primary recipient of the intervention. Students are the primary focus of programs that conduct their work in classrooms, the whole school, or other within-school settings. By contrast, adult-focused programs deliver material directly to

Table 1. An Overview of Primary SEL Program Targets and Measured Outcomes

Program		Targets and Measured Outcomes				
		Cognitive	Social	Emotional	Academic	Behavioral
Fast Track PATHS	Targets	✓	✓	✓		
	Outcomes	✓	✓			✓
PATHS	Targets	✓	✓	✓		
	Outcomes		✓		✓	✓
MindUP	Targets	✓	✓			
	Outcomes	✓	✓	✓	✓	✓
RULER	Targets			✓		
	Outcomes			✓		
4Rs	Targets	✓	✓			
	Outcomes	✓	✓		✓	✓
Positive Action	Targets	✓	✓			
	Outcomes			✓	✓	✓
Second Step	Targets	✓	✓	✓		
	Outcomes	✓	✓	✓		✓
Responsive Classroom	Targets		✓			
	Outcomes				✓	
Making Choices	Targets		✓			
	Outcomes	✓	✓			✓
Good Behavior Game	Targets		✓			
	Outcomes		✓			✓

Note: Though we reviewed 11 programs, we didn't include Positive Behavioral Interventions and Supports (PBIS) in this table because it's a different type of program—a noncurricular prevention strategy that changes the school environment by enhancing school systems and procedures rather than a classroom-based curricular approach or a professional development program focused on teaching strategies.

teachers and school staff, investing in adults to drive student-level change.

Nine of the 11 programs we reviewed were designed for and delivered in the classroom. Three of them (PATHS, Fast Track PATHS, and Positive Action) also included a whole-school component. The fact that whole-school approaches in these three programs didn't exist on their own suggests that they're intended to reinforce classroom-level efforts. Two of the programs (Responsive Classroom, PBIS) were adult-focused; PBIS also included whole-school and miscellaneous components.

Most programs were delivered in the classroom, but few studies measured classroom-level outcomes. Similarly, although many programs invested significant resources in implementing aspects of the program in multiple settings, as with those that include whole-school approaches, they didn't measure whole-school outcomes, such as organizational health, teacher turnover, school climate, and structural resources.

Although most SEL programs focus solely or primarily on what goes on in the classroom, children also need SEL skills on playgrounds, in lunchrooms, in hallways and bathrooms, and in out-of-school settings. Student

surveys and hot-spot mapping, in which students draw maps of the areas where they feel unsafe, show that children feel least secure in these unmonitored and sometimes unstructured zones.[29] Students need support to navigate such spaces and to make the entire school environment safe, positive, and conducive to learning. Even when students don't consider them to be dangerous, these contexts offer vital opportunities for students to practice their SEL skills. Future research should investigate the effects of SEL programs on contexts outside the classroom.

Target

SEL program target refers to the domains or areas of focus that the program describes. Based on our organizing framework for SEL skills in middle childhood, we summarize SEL program targets as cognitive, social, and emotional. Typically, a program's lessons, curricula, and other approaches are organized around the SEL targets. For example, the RULER program's SEL target is, broadly, emotions, and RULER's Feelings Word Curriculum focuses on building emotion skills.

Not surprisingly, most programs target skills in more than one domain (table 1).[30] Three programs, PATHS, Fast Track PATHS, and Second Step, targeted all three domains (cognitive, social, and emotional). Three programs targeted skills in two domains, most often cognitive and social (Positive Action, MindUP, and 4Rs). Almost all the programs targeted skills in the social domain (PATHS, Fast Track PATHS, Good Behavior Game, Positive Action, Responsive Classroom, Second Step, 4Rs, MindUP, and Making Choices), which is logical given children's increasing interaction with peers in middle childhood.[31]

Components

Considering program components is important for thinking about whether real-world program implementation is feasible and for understanding the magnitude of impacts in light of the amount of support offered to schoolteachers and staff.

Overall, the 11 programs involved significant time commitment. This reflected not only training and ongoing support, but also the time needed to implement the curriculum in the classroom and school. All the programs required training and many also required follow-up booster sessions. Coaching was also present in many of the programs. Several programs specified a set number of coaching meetings (for example, 4Rs had a minimum of 12 contacts per year). Seven of the programs also encompassed parent components, including training, parent guides, or home links for families. Interestingly, no program's theory of change considered the role of parents and the home environment, and data were collected from parents infrequently. Like the ones we reviewed, SEL programs typically include multiple components (curriculum, training, ongoing support, and family/parent and community activities), but we know little about the role and relative importance of each, making it hard to say whether schools can expect similar findings with different levels of support, a different array of components, or fewer components.

Outcomes

We divided outcomes into two groups: (1) student-level outcomes, which includes cognitive, emotional, social, behavioral, and academic categories, and (2) classroom- and school-level outcomes. At the student level, we include the set of short-term outcome

areas defined above (cognitive, emotional, and social), as well as the behavioral and academic outcomes that theoretical frameworks often describe as being affected in the longer term, but that are typically measured in the evaluations along with short-term outcomes. Some programs, such as 4Rs, specify in very concrete terms their expectations for short- and longer-term changes (for example, changes in social and emotional outcomes after one year of exposure, and in behavior and academics after two years).[32]

Student-level outcomes: cognitive. Few studies measured skills in the cognitive domain. One possible explanation is that in middle childhood, students are acquiring complex cognitive skills—such as organization, planning, and goal-setting—that are often categorized as academic skills and that aren't typically targeted in SEL programs. As a result, few studies in middle childhood measure foundational cognitive skills like executive function, which has been linked to a host of important outcomes, including academic achievement.[33]

Cognitive outcomes in the studies we reviewed included executive function tasks, mindfulness (generally defined as the ability to focus awareness on thoughts, feelings, or perceptions of the present moment without judgment), cognitive concentration (concentration, attention, work completion), and problem-solving. Only one program, MindUP, included measures of executive function skills, finding small but statistically significant effects. MindUP also generated statistically significant, moderately sized effects on mindfulness. Making Choices generated small effects on cognitive concentration for the overall sample, but moderate effects for girls who received the intervention compared to girls who did not (this difference wasn't seen among boys) and for children who scored poorly based on pretest measures. Problem-solving was measured in the Second Step evaluation, but findings were not statistically significant.

SEL programs have the potential to impact both foundational and more complex cognitive skills. But studies haven't always found statistically significant effects even for programs that targeted this domain, and in general, effect sizes have ranged from small to moderate. Furthermore, most studies included only one measure relevant to the cognitive domain and many studies didn't measure the same skill, which limited our ability to gauge the breadth and depth of the programs' impacts. Given the crucial cognitive development that occurs in the elementary years and the fact that several programs target this domain specifically, it's surprising that programs measured so few cognitive outcomes. Executive function skills, for example, develop rapidly in the early school years, and they form the foundation for other skills in the cognitive domain, such as planning and goal setting, as well as skills in the emotion and social domains.[34]

Student-level outcomes: emotion. Building emotion skills is a focal point of many elementary social-emotional learning programs. Yet the number and type of emotion skills that programs target are poorly aligned with the measured outcomes. Programs tend to target basic or fundamental emotion skills, such as emotion knowledge, emotion vocabulary, and emotion expression. But they measure more complex outcomes that build on or use these basic emotion skills. For example, 40 percent of PATHS lessons focus on skills related to understanding and communicating emotions,

and RULER targets five key emotion skills through the Feeling Words curriculum, but neither study included measures of these basic emotional skills.

Student-level outcomes in the emotion domain were measured infrequently; those that were measured included emotional problems, life satisfaction, emotional control, emotional management, and positive affect. Second Step and Positive Action showed small effects on emotional problems and life satisfaction, while MindUP generated moderate effects on emotional control. Second Step's effects on emotion management and Positive Action's on positive affect weren't statistically significant.

Overall, the 11 programs involved significant time commitment.

In sum, SEL programs' effects on emotion outcomes are mixed, ranging from non-significant to moderate, and outcome measures focus narrowly on a set of more complex emotion outcomes rather than skills that the programs specifically target. This misalignment poses a challenge; if we don't understand how SEL programs affect basic emotional skills, we may underestimate or misinterpret their potential in this domain. It also illustrates a larger problem—when programs measure outcomes that are in a certain domain but aren't closely aligned with the program targets in that domain, we may miss important effects.

Student-level outcomes: social. During middle childhood, children's social environments become increasingly important as they navigate more complex friendships and social situations. They need a variety of interpersonal skills, such as the capacity to develop sophisticated friendships, engage in prosocial and ethical behavior, and solve social conflicts.[35] Most of the studies we reviewed measured social outcomes, and many studies measured several of them. The measured outcomes included social competence, peer nominations of prosocial behavior and peer acceptance, empathy, perspective taking, and social problem-solving.

Social competence was measured frequently; effects ranged from nonsignificant in Making Choices to small in Fast Track PATHS. Effects on peer nominations—in which students are asked to rate their peers based on characteristics like prosocial behavior, aggression, and peer acceptance and rejection—ranged from nonsignificant to large. In Making Choices, notably, children categorized as at-risk by their teachers at the beginning of the study showed moderate to large gains. Effects on empathy ranged from nonsignificant in Second Step to moderate in MindUP; effects on perspective taking were also moderate in MindUP.

When social problem-solving outcomes were measured, 4Rs and PATHS showed generally small effects for hostile attribution bias (a form of cognitive distortion that makes it more likely children will respond to social problems with aggression); in the same programs, effects on reducing the likelihood of using aggression to resolve social conflicts were statistically significant only during the second year of implementation, with small to moderate effect sizes. Effects on normative beliefs about aggression were not significant.

Overall, the studies included a wide range of social outcomes and found a wide range

of effects, providing solid evidence that a variety of SEL programs can build important social skills in middle childhood. The scope of outcomes reflects the large number of social skills that emerge and develop during this period, the wide array of approaches and program targets, and the broad set of measurements the studies employed.

Student-level outcomes: behavioral. Improvements in children's cognitive, social, and emotional skills are expected to produce positive behavioral outcomes, such as reductions in aggression, depression, and anxiety. For example, 4Rs focuses on changing underlying social-cognitive processes, such as aggressive interpersonal negotiation strategies and hostile attribution bias, as a way to reduce children's aggression and violence. This approach is noteworthy for three reasons. First, it targets and measures both the underlying processes and the desired behavioral change. Second, it shows that we need to be clear about the mechanisms for change that underlie a program. Third, it reinforces the link between the brain and behavior—programs can affect the mental processes that underlie behaviors instead of focusing solely on changing the behaviors themselves.[36]

Behavioral outcomes measured by the studies included aggression, conduct problems, acceptance of authority, hyperactivity and on-task behavior, absenteeism, and depression and anxiety. Overall, effects in this area tended to be small. Making Choices significantly reduced aggressive behavior, with stronger effects for racial and ethnic minority children, and 4Rs found statistically significant effects on aggression after the second year of implementation. Other programs either found statistically significantly reduction in aggression (PATHS) or reduced aggression only in subgroup populations. For example, boys in the control group were more likely than those in Fast Track PATHS to be nominated by peers as aggressive.

Depression and depressive symptoms were measured frequently. Positive Action, 4Rs, and MindUP showed small to moderate statistically significant impacts on depression and anxiety. Finally, Positive Action had large effects on reducing absenteeism.

Overall, SEL programs' effects on behavioral outcomes were mixed, but promising. Many of the programs that improved behavioral outcomes first targeted developmentally relevant processes and cognitions, showing the value of connecting theory, program approaches, and outcomes.

Student-level outcomes: academic. Four of the studies included academic outcomes, reflecting three broad categories: (1) teacher reports of academic ability, academic motivation, and academic skills, (2) grades, and (3) results of state standardized tests of math and reading achievement. In general, effects were found only for outcomes in the first category. Positive Action produced small effects on academic ability and teacher-reported academic motivation, as measured by a single item. A few studies reported effects on academic achievement by subgroup; 4Rs, for example, found moderate effects on academic achievement (measured with reading and math standardized tests) for children identified at the outset of the study as struggling the most with behavior (we should note that this program integrated the SEL curriculum into classroom reading instruction).

Taken together, the effects of SEL programs on student-level outcomes are varied. In each outcome category we see some

statistically significant findings, but also many nonsignificant findings for the same outcomes (for example, two studies found significant effects on aggression and two did not). Of the statistically significant findings, most were small to moderate.

Classroom- and school-level outcomes were measured much less frequently than student-level outcomes, even though most programs specify that they expect to produce shifts in the classroom or school contexts. We should note that when we describe classroom-level outcomes, we're referring to classroom culture and climate, as well as adult and/or teacher classroom practices. Kimberly Schonert-Reichl's article in this issue discusses adult outcomes—as distinct from classroom phenomena—in depth, and therefore we don't consider those outcomes directly.

Teachers and their classroom practices are integral to successful program implementation; typically, teachers receive significant training, coaching, and support. In some cases, teacher practices are the focus of the intervention—for example, Responsive Classroom is a professional development program that promotes a specific teaching approach. Understanding how to improve classroom practices is important for teachers, students, and overall school climate; teachers' burnout and mental health are linked to other important school indicators, such as staff turnover.[37] Teachers also play a pivotal role in classroom dynamics and in the lives of students.[38] Future studies of SEL programs would benefit from including direct measures of adult outcomes, even if the programs aren't strictly adult focused.

Classroom-level outcomes. The classroom is the primary setting for most SEL programs in middle childhood, yet only three studies—Second Step, RULER, and 4Rs—included classroom-level measures. All three studies employed a similar measure (for example, the Classroom Assessment Scoring System, or CLASS), and the effect sizes tended to be moderate to large.[39] In addition, some evidence suggests that emotionally supportive and well-organized classrooms can improve student-level outcomes. Thus, measuring and monitoring features of the classroom environment may help us better understand changes in students' skills.[40]

School-level outcomes. Although other programs we reviewed, such as PATHS and Positive Action, had some elements that focused on the whole school environment, PBIS was the only program that took the school as its primary unit of change and the only program to include school-level measures (its evaluation suggested it generated small changes in overall organizational health).

In some ways, it makes sense that only PBIS measured school-level outcomes. Still, school-level factors and outcomes are important even for programs that don't explicitly target the school as a mechanism for change. Schools differ substantially from one another, and measuring school-level outcomes can help us see which features of the environment promote skill development and facilitate or hinder a program's implementation (for example, programs where school-level leaders buy in and allocate resources tend to be more successful).[41] Finally, given the nested structure of schools—with students embedded in classrooms, and classrooms in schools—understanding the school context and environment is likely to help us interpret program effects on students.

Variation in Program Effects

For whom and under what conditions are programs most effective? Variation in program effects is the key to answering that question.[42] The two meta-analyses we cited above examined program delivery and program duration in one case and variation in effects by recommended program characteristics and implementation problems in the other. The studies included in our review focused on understanding how individual-level social and demographic factors—including racial/ethnic background, socioeconomic status, and baseline risk or ability—are related to different program effects for different groups of students.

In some cases program effects are larger for those least at risk, such as those not in low-income schools, and in other cases they're larger for those most at risk, such as students who begin with poorer skills at the start of the year.

For example, in the Fast Track PATHS study, intervention effects were weaker in low-income schools for acceptance of authority, cognitive concentration, and social competence. And some interventions found effects only for specific subgroups. The Good Behavior Game affected aggression only among children who demonstrated low levels of on-task behavior at the outset of the study. And in Making Choices, children who were considered to be at risk of problem behaviors when the study began demonstrated larger gains in social contact and cognitive concentration. Thus in some cases program effects are larger for those least at risk, such as those not in low-income schools, and in other cases they're larger for those most at risk, such as students who begin with poorer skills at the start of the year. At the school level, then, institutions that are more ready to effectively take on and implement an SEL program may see overall benefits for students. But within schools, those who struggle the most show the greatest short-term gains.

Summary

We reviewed 11 widely used SEL programs for elementary school that underwent randomized controlled trials relatively recently. We summarized the findings from those studies by outcome domain and for different contexts, including classrooms and whole schools. In general, our findings reflect those reported elsewhere: on average, programs generally produce effects on a broad class of outcomes that fall under the umbrella of social and emotional skills. In some cases, we also see effects in areas not necessarily directly targeted by the programs, such as aggression, depression, and academic outcomes. Our review was designed to look a little deeper and to focus on specific effects within the major social and emotional domains defined at the outset, and in particular, to examine how the alignment between program targets and measured outcomes, the role of context, and developmental stage affect the interpretation of intervention program effects.

We found four key points. First, few programs focus directly on aspects of cognitive regulation, such as executive functions including regulation of attention, thought, and action, and goal setting and

planning. Those that do, and that also include measures of cognitive regulation in their evaluations, appear to generate related child-level outcomes. For example, MindUP's program activities include frequent mindfulness practice (in addition to a variety of supports for learning mindfulness and physiological regulation), and its evaluation measures those outcomes directly. Consequently, children show positive growth and change in these specific areas. Second, many programs target basic emotion skills in some way, yet few evaluations include measures of related outcomes. Instead, they measure the sort of more complex emotional phenomena that you might expect to change only after a longer period of exposure to the program; predictably, the effects are small and quite mixed. Even when emotions are a central organizing feature of a program, outcomes in this area aren't well measured. Third, not surprisingly, the social domain dominates during this developmental period; most children are introduced to new social experiences starting in kindergarten, and over the course of elementary school, the social group and peer interaction become increasingly important. Nearly all programs target the social domain, and all evaluations include measures of a variety of social phenomena; the effects in this area are quite robust, particularly for peer reports of social outcomes. Fourth, we see some evidence for small effects in areas of great interest to practitioners and policymakers, including aggressive behavior and academic success. Seeing only small effects in these areas is not all that surprising, as the programs don't necessarily target these complex domains directly. Even small effects in these areas should be considered quite important.

Overall, the different programs generally offer the same theory of change: the intervention is linked to a set of classroom practices (teaching strategies and classroom management) and student skills (social and emotional, and sometimes cognitive) and then to a set of transfer outcomes farther down the road (behavior, academics, and mental health).[43] Yet few studies of the programs have examined this theory directly by including classroom-level outcomes, and then linking those to growth and change in student skills. Studies that do so reveal large effects on teaching strategies and classroom practices, and in some cases show that changes in those areas are partly responsible for changes in student skills.[44] A few programs, such as the CARE intervention, seek to improve adult wellbeing directly, and studies suggest that they are successful.[45] We don't yet know whether those changes are translating into positive effects on student skills in middle childhood, although there is some evidence—based on studies that take place in early childhood or adolescence—that this happens in interventions like My Teaching Partner.[46] Drawing on our findings, we offer three recommendations.

Recommendation 1: Focus More on Teachers, Classrooms

Measuring student skills in isolation provides an incomplete picture of the classroom environment and the interactions that students engage in daily. Teacher- and classroom-level outcomes can give us a richer picture of classroom practices, processes, and relationships, which are likely to affect student-level SEL skills and other key outcomes.[47]

Focus on Teachers

The role of teachers and other adults in SEL interventions differs based on

program type and theory of change. For example, some SEL programs like CARE focus only on building adult skills; other programs like Responsive Classroom provide professional development to train teachers in specific teaching practices and strategies; and other programs like PBIS work to improve school structures and systems. In most programs, lessons, curricula, and other intervention-related content is delivered primarily through teachers, and almost all programs include intensive teacher training and coaching. It's clear that adults are central to SEL interventions, raising the following questions:

1. What are the impacts of SEL interventions, if any, on meaningful adult outcomes, such as teachers' own social-emotional competencies, burnout, etc.? Interventions may be most successful when they promote teachers' own social and emotional skills as well as those of their students.[48]

2. How do the characteristics and skills of teachers and other adults impact intervention implementation and student-level outcomes? Teachers who have higher social-emotional competence and/or experience less stress may be better positioned to interact positively with their students in ways that support social and emotional development. It's possible that changes in student-level outcomes come partly from changes in teachers' skills.

3. How does the student-teacher relationship support the development of social and emotional skills? Some evidence suggests that the quality of student-teacher relationships is instrumental to shaping children's schooling experiences, but few studies include the student-teacher relationship as a mechanism for change and/or explicitly investigate its role in promoting SEL skills.[49]

Focus on the Classroom

The environments in which students are embedded either facilitate or hinder skill development.[50] We need to understand features of the primary setting—in this case, the classroom—to create a comprehensive picture of the mechanisms through which interventions may affect students' skills. Indeed, one group of researchers has hypothesized that interventions may affect students' SEL skills directly via curricula and other activities or indirectly via positive changes in the overall classroom environment.[51] But few studies measure classroom-level outcomes or features of the classroom environment. As a result, current understandings of interventions are for the most part devoid of context.

Studies that do measure features of the classroom environment often use the CLASS observational measure. CLASS assesses teacher-child interaction quality in three domains (emotional support, instructional support, and organizational support) to understand overall classroom climate and quality. In the studies we reviewed, effects measured by CLASS ranged from moderate for classroom emotional support to large for instructional support. Most studies that included

measures of the classroom environment, and all studies that used CLASS, identified statistically significant effects on at least some classroom-level variables. These findings indicate that SEL interventions are making meaningful changes in classroom environments and instructional interactions. What remains to be seen is whether such changes are sufficient, or at a minimum operate as a pathway, to make changes in student skills.

Recommendation 2: Reflect Development

As we've said, middle childhood includes a great many developmental and environmental transitions. To be effective, SEL interventions are likely to work best when they target skills in a manner that reflects developmental growth and the key contexts in which children learn and play. That means targeting and measuring skills in a manner consistent with the developmental principles articulated above: Focus on skills most salient to each grade or age that serve as building blocks for more complex skills later. For example, simple cognitive regulation and emotion skills in the very early grades lead to planning and organizing in second and third grade, and to perspective taking and conflict resolution in fourth and fifth grade. Moreover, studies of SEL programs should articulate a series of reasonable short- and long-term goals or expectations.

Recommendation 3: Rethink Measurement

The measurement of skills in middle childhood should grow narrower in focus but broader in context and depth. By narrower, we mean that researchers, program developers and evaluators, practitioners and other key stakeholders should move away from expansive measurements of SEL outcomes and, instead, choose measures that are more specific and guided by knowledge of development and skill trajectories. By broader, we mean that measurement should be expanded to focus on contexts, including classroom-, school-, and adult-level outcomes. Ignoring ecological principles of development—that is, the environment in which children live and learn, —may obscure meaningful program-related changes. Broadening measurement can also mean expanding data sources, for example, by collecting data from teachers and school staff about their experiences with the program, or what worked and what didn't in their schools or classrooms. Further, collecting data about outcomes related to coaching and parent skills and knowledge could give us more information about the range of factors that affect program implementation and effectiveness.

We also suggest increased methodological clarity and rigor. In particular, we recommend caution when interpreting the effects of programs when the data were analyzed at the individual child level but randomization occurred at the classroom or school level. Such analyses can result in overestimating program effects.

Remaining Challenges

Despite promising evidence in favor of programs and interventions focused on social and emotional skills, a number of important challenges remain:

1. Insufficient dosage, duration, and effectiveness. SEL programs often take the form of short lessons, implemented during one weekly half-hour or hour-long section of a language arts, social studies, or

other class.[52] In our experience, these lessons are often abridged or skipped because of tight schedules and the need to spend class time on academic content. For example, sometimes schools adopt programs without setting aside time in the daily schedule, leaving it to teachers to find extra time or adapt the curriculum. When this happens, programs often aren't sustained, and students experience little continuity from one year to the next. Furthermore, despite recommendations that schools adopt evidence-based programs, many schools use programs that haven't been well tested.[53]

2. Fragmentation and marginalization. In many schools, SEL skills aren't seen as a core part of the educational mission; they may be viewed as extracurricular, add-on, or secondary. As a result, there is little effort to apply the skills learned during SEL programming. A growing number of programs have tried to solve this problem by integrating SEL skills with academic content (for example, by using history, language arts, and social studies curricula to build cultural sensitivity, respect for diversity, and social/ethical awareness), but such integration in schools is rare.[54]

3. Sole focus on classrooms. As we've said, most SEL programs focus solely or primarily on what goes on in the classroom. But SEL skills are also needed on playgrounds, in lunchrooms, in hallways and bathrooms, and in out-of-school settings.[55] Students need support to navigate such spaces and to make the entire school environment safe, positive, and conducive to learning. Even when students don't consider them to be dangerous, these non-classroom contexts offer vital opportunities to practice SEL skills. At any age, children frequently encounter sharing, entering into social situations, and social inclusion and exclusion in parts of the school beyond the classroom.

4. Limited staff training. Broadly speaking, teachers, other school staff, and the adults who staff out-of-school settings typically receive little training (beyond that provided through specific interventions) in how to promote SEL skills, deal with peer conflict, or address other SEL-related issues.[56] For example, preservice teacher training pays little attention to these issues beyond basic behavior management strategies, and teachers get little in-service support on these topics through effective approaches like coaching and mentoring. Staff members other than teachers receive even less training and support, despite the fact that cafeteria monitors, bus drivers, coaches, and other non-teaching staff work with children during many of the interactions that most demand effective SEL strategies and skills.

5. Limited use of data. Few schools use data to make decisions about the selection, implementation, or assessment of the programs and

strategies they use despite a more general trend toward data-driven decision-making in schools. Schools and their partners thus struggle to select and use programs most suited to their contexts and to the specific challenges they face, to monitor results, and to hold themselves accountable.

Conclusions

Returning to the broad question we asked at the outset of this article, What are the sources of variation in the impacts of SEL programs designed for the elementary years? For example, what's the difference between the SACD study and the specific interventions we describe here? Our review suggests that what appears to be variation in impacts may instead be an artifact of imprecise program targets misaligned with too-general outcome measures. In short, when a variety of programs, each with a specific theory or approach, are joined under a universal heading and studied using broad and general measures, we are less likely to see effects. In contrast, when theory, evaluation plan, and measurement are closely aligned, we do see effects. This sort of precision and alignment can help those who select and implement programs determine which approaches are likely to meet their interests and needs.

ENDNOTES

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Social and Emotional Learning Programs for Adolescents

David S. Yeager

Summary

Adolescents may especially need social and emotional help. They're learning how to handle new demands in school and social life while dealing with new, intense emotions (both positive and negative), and they're increasingly feeling that they should do so without adult guidance. Social and emotional learning (SEL) programs are one way to help them navigate these difficulties.

SEL programs try to help adolescents cope with their difficulties more successfully by improving *skills* and *mindsets*, and they try to create respectful school environments that young people want to be a part of by changing the school's *climate*. In this article, David Yeager defines those terms and explains the changes that adolescents experience with the onset of puberty. Then he reviews a variety of SEL programs to see what works best with this age group.

On the positive side, Yeager finds that effective universal SEL can transform adolescents' lives for the better. Less encouragingly, typical SEL programs—which directly teach skills and invite participants to rehearse those skills over the course of many classroom lessons—have a poor track record with middle adolescents (roughly age 14 to 17), even though they work well with children.

But some programs stand out for their effectiveness with adolescents. Rather than teaching them skills, Yeager finds, effective programs for adolescents focus on mindsets and climate. Harnessing adolescents' developmental motivations, such programs aim to make them feel respected by adults and peers and offer them the chance to gain status and admiration in the eyes of people whose opinions they value.

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Adolescence is a period of tremendous learning, exploration, and opportunity. Yet it's also a time when behavioral and health problems can emerge or worsen, with negative consequences that last long into adulthood. For instance, people who are victimized or bullied during adolescence can later become more aggressive and more depressed.[1] Extreme school-discipline policies can push young people toward delinquency as adolescents and toward criminal behavior as young adults, even if they weren't inclined to be delinquent before (a phenomenon called the school-to-prison pipeline).[2] And failing to complete high school on time predicts lower health, wealth, and happiness over the lifespan, even for people who later earn a GED.[3]

Social and emotional learning (SEL) programs for adolescents are appealing in part because they may prevent such problems. SEL programs try to help adolescents cope with their difficulties more successfully by improving *skills* and *mindsets*, and they try to create respectful school environments that young people want to be a part of by changing the school's *climate*.

Adolescents may especially need this kind of social and emotional help. Just when academic work becomes more difficult and friendships become less stable, the brain's method of processing emotions undergoes a dramatic transformation.[4] The onset of puberty—which marks the beginning of adolescence—causes changes in brain structure and hormone activity that can make even minor social difficulties like peer rejection extremely painful and hard to deal with.[5] Those biological changes also create a more intense thrill from risky behavior, especially when it may win peers' admiration.[6] Last, adolescents expect more autonomy and independence in personal choices such as whom to be friends with.[7] In sum, adolescents are learning how to handle new demands in school and social life while learning to deal with new, intense emotions, and increasingly feeling like they should do so without adult guidance. SEL programs are one way to help them navigate these difficulties.

But do SEL programs work for adolescents? If so, how well and under what conditions? And how can they be improved? This article reviews these questions. Here are the main takeaways. First, effective universal social-emotional learning can transform young people's lives for the better. Effective programs can prevent catastrophic outcomes, such as unwanted pregnancy, arrests for violent crime, or dropping out of high school. They can also encourage greater thriving, including having less stress, better health, and a greater love of learning.[8] Improving adolescents' interior social and emotional lives can spill over into other areas of functioning, because social and emotional life matters so much at this age. Given that the same programs can sometimes affect many different outcomes, effective universal SEL can be economically efficient.[9]

Second, and less encouragingly, typical SEL programs, which directly teach adolescents skills and invite them to rehearse those skills over the course of many classroom lessons, have a very poor track record with middle adolescents—roughly age 14 to 17—even though they work with children. Programs for adolescents are sometimes simply aged-up versions of childhood programs. For instance, they communicate the same message, but now the character doing

the talking has a skateboard and a chain wallet. Such programs often fail to capture adolescents' attention, both in what they say and how they say it. The evidence is clear: we can't rely on an elementary-level, classroom-based, social-skill-training program revamped for middle adolescents. The story is less clear for early adolescents, roughly age 10 to 14. Before eighth grade, adolescents sometimes benefit from direct-instruction programs. However, even these younger adolescents may benefit more from programs that are more "adult-like"—indeed, early adolescence may be an excellent time for wiser social-emotional programming.

Third, effective programs make adolescents feel respected by adults and peers and offer them the chance to gain status and admiration in the eyes of people whose opinions they value. Ineffective programs do this less well or focus on factors that matter less, such as knowledge of risks, planning, or goal setting. This means that new programs might use different tactics. Programs might aim to make the good and healthy choice also feel like the "awesome" choice.

Background

Early and Middle Adolescence

Adolescence begins at puberty and ends with independence from adults. In this article, I call *childhood* the elementary years before fifth grade, *early adolescence* roughly fifth to seventh grade, and *middle adolescence* roughly eighth to 12th grade. I say "roughly" because these labels are imprecise. Adolescents begin puberty at very different times. Girls mature earlier than boys, and even within genders it's normal for people to begin puberty two to three years apart. Moreover, different racial and ethnic groups in the United States tend to start puberty at different times. For instance, it is normal for African American girls to begin puberty at age 7 or 8; white and Asian American girls often begin several years later.[10] Until more SEL program evaluators measure indicators of pubertal status, such as secondary sex characteristics or levels of the hormones testosterone or estradiol, it will be hard to separate biological maturation from chronological age and school year when trying to understand why programs show different effects at different ages.

Contrary to popular stereotypes, testosterone isn't an aggression hormone, and it isn't purely a sexual-desire hormone. It's also a status-relevant hormone.

What Changes during Adolescence?

The onset of puberty means that adolescents pay more attention to social cues that signal possible threats to status or respect, and they exhibit greater reactivity to feedback about status or respect (thrill of pride or admiration, fear of humiliation or shame, or anger at unfairness). They also experience increased motivation to engage in social learning situations relevant to status and respect (those that create acceptance).[11]

Hormones

Pubertal maturation leads to increases or changes in the functioning of a number of hormones, including testosterone, estradiol, cortisol, oxytocin, and dehydroepiandrosterone (DHEA-S).[12] All

of these hormones are related to social and emotional functioning, but so far, testosterone has shown the clearest link to what SEL programs might typically do right or wrong.

In both males and females, pubertal maturation leads to a surge in the production of testosterone. Contrary to popular stereotypes, testosterone isn't an aggression hormone, and it isn't purely a sexual-desire hormone. It's also a status-relevant hormone. When people's testosterone levels are high, they're more likely to focus their attention on markers of status and to respond powerfully when their status is on the line.[13] For example, one study found that testosterone predicts aggressive behavior when boys have deviant friends but leadership when they don't—demonstrating how it focuses attention on the criteria for status.[14]

Psychological Needs

Along with biological changes, adolescents experience psychosocial changes. Bradford Brown, a developmental psychologist at the University of Wisconsin, wrote in a report for the National Academy of Sciences that adolescents have four developmental tasks:[15]

1. To stand out: to develop an identity and pursue autonomy;
2. To fit in: to find comfortable affiliations and gain acceptance from peers;
3. To measure up: to develop competence and find ways to achieve, and
4. To take hold: to make commitments to particular goals, activities and beliefs.

When SEL programs honor adolescents' desire to achieve these tasks—that is, when they respect the kind of person an adolescent needs and wants to be—they can capture adolescents' motivation to change. When programs threaten that desire instead, they may not change behavior.

Skills, Climate, and Mindsets

Different people sometimes mean very different things when they talk about SEL programs. One perspective is that the child needs to be changed—that the child's skills need to be supplemented or revised in some way, and the program will teach the child to do that. This is the skills model. Another perspective is that the environment needs to be changed—that the teachers and other grown-ups in the school need to change the emotional climate to be less negative and more supportive. This is the climate model. Research offers evidence for and against both. One perspective sits between the two: the mindsets model. Environments can socialize children and adolescents to hold different belief systems, or mindsets.[16] These mindsets in turn cause them to use (or not use) the skills that they have or are acquiring.

In general, the skills model of SEL seems less effective with adolescents than it is with younger children. The climate model can be powerful, but it doesn't always translate into positive behavior when children leave the affected climate (for example, when they're out of school and on their own, or after the program ends). The mindsets model is promising for producing internalized, lasting change, because it's a mental model that stays with people over time. The evidence I present below suggests that the ideal is to create a supportive

emotional climate that also teaches young people mindsets they can apply when they eventually leave that climate.

Grounding Examples from Diverse Domains

Let's consider concrete examples of the difficulties and potential inherent in adolescent SEL programs. The examples come from very different areas: teen pregnancy, youth violence, teen smoking, and medical adherence.

Teen Pregnancy

Many programs to prevent teen pregnancy tell youth that adults don't condone or allow teenage sex. Abstinence-only training is one such example; others are programs that teach skills for refusing sex. In meta-analyses (studies that aggregate the results of many individual experiments to make overall statements), these skill-based programs have often shown no reductions in teen pregnancy.[17]

But Teen Outreach, a volunteer service program for ninth to 12th graders, led to significant reductions in teen pregnancy.[18] Although less than 15 percent of its content involved discussions of sex—and in many schools, the content on skills for safe sex was not even delivered—Teen Outreach reduced the rate of pregnancy (for girls) or responsibility for pregnancy (boys) from 9.8 percent to 4.2 percent. It also had impressive side effects; it improved academic behavior, reducing suspensions from 29 percent to 13 percent and course failure rates from 47 percent to 27 percent. These kinds of benefits have appeared in numerous evaluations. Some recent replications found weaker benefits, but there were problems with those studies; for instance, in the replications the researchers gave aspects of the treatment to the control group, and so the two groups didn't differ at follow-up.[19]

Although Teen Outreach taught skills, skills training wasn't its core. High school students participating in the program did about 35 hours of community service over one year, thus working to make their communities better. Simultaneously, in their health classes they received training in areas like self-confidence and social skills that could help them serve the community more effectively. The program didn't imply that "you need skills because there is something wrong with you." Instead, it began with the assumption that young people want to matter—they want to do something of consequence for the world around them, and they want to have a coherent life story. Adolescents were willing to learn social skills as long as doing so served the broader purpose of mattering. Presenting skills training in this way can avoid the disrespectful implication that adolescents need such training because of a deficiency.

Youth Violence

The Quantum Opportunity Program was a four-year after-school program that taught low-income high school students about the importance of staying out of trouble with the law.[20] It also taught them about the long-term risks of unhealthy substance-use and sexual behaviors, paired them with adult mentors to coach them in life skills, and gave them financial incentives for attending the sessions and carrying out healthier behaviors. It seemed to involve everything needed to keep young people on track. But 10 years after the program

ended, male participants were more rather than less likely to have been arrested.[21]

Contrast this to Becoming a Man (BAM), a weekly school-based discussion group that produced dramatic effects.[22] BAM reduced arrests among participants by 28 to 35 percent and violent crime by 45 to 50 percent, and increased high school graduation by 12 to 19 percent at long-term follow-up. BAM doesn't ask young men to suppress their desire to fight or retaliate when they are disrespected on the street. BAM doesn't tell young people what they have to do, or what's right or wrong; it even acknowledges that sometimes it is important to retaliate to protect one's reputation. But the program helps young men find other ways to save face and maintain their status when confronted with a threat. It gives them a new mindset for interpreting threats, and it helps them develop different ways to be masculine, such as focusing on integrity and personal accountability. BAM features open-ended, student-led discussions with mentors from the neighborhood, along with a series of activities that build relationships and a sense of community with others in a small group. It also involves an appealing act of defiance: students have to skip class to attend. Paradoxically, skipping class to attend BAM led to higher graduation rates. Overall, BAM is a respectful way of reducing youth violence in Chicago.

Smoking

An enormous amount of research in public health has sought ways to reduce teen smoking via programs that teach social or emotional skills. Such programs have (1) emphasized the long-term consequences of smoking, (2) directly taught refusal skills, or (3) tried to change the whole school's culture through advertisements, promotions, assemblies, and more. Yet a large, randomized evaluation of a program that used this skills model found few if any benefits among 12- to 15-year-olds—a finding matched by many other similar studies.[23]

Paradoxically, skipping class to attend BAM led to higher graduation rates.

But SEL programs can include messages that harness adolescents' deepest motives—their desire to attain respect and status in the eyes of peers or adults whose opinions they value. In the early 2000s, one antismoking campaign did this—the well-known truth® campaign.[24] This campaign didn't emphasize the long-term health consequences of smoking, nor that adults believe teens shouldn't smoke. Instead, it depicted rebellious, autonomous adolescents flooding the streets, screaming into megaphones at rich, old tobacco executives in high-rise buildings in Manhattan, telling them to "take a day off" from tricking and harming children for the sake of profit. In rigorous policy evaluations, this campaign was effective at changing smoking behavior; one evaluation estimated that in its first four years, it kept 450,000 adolescents from starting to smoke.[2]

Adherence to Cancer Treatment

Adolescents often reject SEL programs that aim to improve their mental health. But with surprising frequency, they also reject unpleasant or inconvenient behaviors that could improve their physical health. In a hospital, doctors and nurses can force adolescents to complete treatment.

Yet after they leave the hospital, about half of adolescent cancer patients choose not to complete regimens of painful self-administered drugs, such as oral chemotherapy.[26] (Younger children, by contrast, are much less likely to rebel against their chemotherapy regimen.[27]) A tried-and-true method from the skills model of SEL programs—explaining to adolescents the life-or-death consequences of their choices—hasn't changed such patients' behavior.

The mindsets method offers an alternative. One program sought to change the meaning of adherence to chemotherapy, from something that was seen as compliant and under adult control to something that was seen as rebellious and autonomous. In the video game *Re-Mission*, adolescents control a robot that drives inside the body of a cancer patient and destroys cancer cells.[28] In the game, participants ensure that the human cancer patient their robot inhabits practices positive self-care, such as taking chemotherapy and antibiotics. Compliance is framed as a way to rebel against the unwanted attacks of cancer cells, rather than listening to adults' warnings about long-term health. In a randomized evaluation with about 370 cancer patients, adolescents who played *Re-Mission* were more likely to choose to take their chemotherapy pills and also reported greater self-efficacy in doing so.[29]

Summary

What do these effective programs I've described have in common? They're not based on the skills model, even though they sometimes teach skills. Instead, they find ways to motivate young people in terms of the values that matter most to them, and they try to change how young people see the world—their mindsets. Effective programs align the adult-sanctioned healthy choice—not getting pregnant, not getting arrested, etc.—with peer-sanctioned sources of status and respect like freedom, autonomy, or mattering. These programs do this both in how they talk to young people—by offering opportunities for authentic choice and input—and in what they teach—by helping young people envision a desirable future as the kind of person who makes healthy choices.

Disappointing Effects of Skill-Building SEL Programs

Are the ineffective programs I describe above isolated examples? Unfortunately, no. After a recent review of SEL programs, Nobel laureate James Heckman and Tim Kautz at the University of Chicago concluded, "Programs that target adolescents have not been established to be as effective as programs that target earlier ages."[30] Similarly, in a recent review for policymakers, adolescence expert Lawrence Steinberg wrote that "classroom-based health education is an uphill battle against evolution and endocrinology, and it is not a fight we are likely to win."[31]

What kinds of findings lead to such conclusions? One helpful method is meta-analysis, which can prevent any individual study from exerting too much influence. One of the most prominent meta-analyses of SEL programs reviewed 213 school-based, universal social and emotional programs delivered from kindergarten to 12th grade.[32] It found that older adolescents altered their social-emotional skills substantially less than younger children did.

Or consider universal prevention programs for obesity. These programs typically teach a variety of thinking skills and new

habits for coping with temptation, while emphasizing the desirability of long-term health. A prominent meta-analysis of 64 programs found that they were effective for children younger than 11 but not for adolescents.[33] In fact, 12- to 15-year-olds who received an anti-obesity program gained more weight than those who didn't.

Similarly, the average effect of universal depression-prevention programs for high school students was found to be nonsignificant.[34] Similarly, a meta-analysis of 28 studies involving 19,301 young people ages 12 to 16 found that programs to reduce recidivism among juvenile delinquents had no significant overall benefits.[35]

A more informative test would compare the same programs across different age groups in the same evaluation study. One evaluation of the effects of school-based mentoring did this.[36] A total of 516 predominately Latino students in elementary, middle, and high school were randomly assigned to receive a mentor who met with them at schools an average of eight times. The authors found that although the mentoring program benefited boys' psychosocial outcomes (empathy, cooperation, and connection to teachers) in elementary school, mentoring led to harmful effects for high school boys.

A recent meta-analysis of 72 program effects that I conducted looked at how anti-bullying programs' efficacy changed when delivered at different ages.[37] From kindergarten to seventh grade, anti-bullying programs were beneficial, on average. But when the same programs were delivered in eighth grade or above, the average effect fell to zero. In fact, the estimated effect of the average anti-bullying program in high school was a small increase in bullying.

Traditional programs often work less well with adolescents, and eighth grade may mark a turning point in their efficacy. When evaluating a program, I recommend looking for whether it works specifically with middle adolescents (eight grade and above). Unfortunately, many program evaluations simply report the effect for middle school (sixth to eighth grade) overall. This means that school districts may sometimes scale programs for their older youth, when in fact the evaluation effect size was buoyed by a benefit for sixth graders.

Adolescents might find it condescending to be given information they already have. For example, most teens already know that smoking is harmful.

Caveats

In this discussion, I don't mean to say that traditional programs have never worked with older adolescents, or that they can't work in the future. I'm simply saying that, on average, they haven't yet worked reliably.

A few other cautions are in order. For one thing, many studies' outcome measures have relied on participants' self-reporting. These studies would be more compelling if direct measurements of behavior showed the same results. Still, studies that measured behavior generally showed the same discouraging results. Also, many studies didn't compare the same program delivered at different ages—only the anti-bullying and mentoring studies did.

Therefore, the age trends I've discussed aren't definitive.

Last, these studies don't consider the possibility of sleeper effects, that is, beneficial effects that show up later, in early adulthood. Indeed, one prominent SEL intervention study found just such effects.[38] That's why researchers like Heckman have called for more studies that follow adolescents as they grow older.[39]

Troubleshooting Failed Interventions

Why might programs be less effective for middle adolescents than for elementary-age children? Four explanations are plausible.

First, it's tempting to think that typical programs aren't long or comprehensive enough. If adolescents are novices in the skills they're being taught in SEL programs, then perhaps the more they practice those skills, the more expertise they'll acquire. However, data offer little support for this claim. In fact, two meta-analyses (of obesity and depression prevention programs) by Eric Stice and his colleagues at the Oregon Research Institute found that shorter programs had stronger effects.[40] Likewise, one group of researchers found no effects for a long and comprehensive training program to prevent teen smoking, but much stronger effects after the researchers reduced its length by two-thirds.[41] One reason for these results may be that adolescents feel stigmatized by long programs that teach them what seem like basic social skills. They might also find it condescending to be given information they already have; for example, most teens already know that smoking is harmful.[42]

Second, it's also possible to think that social-emotional skills are no longer malleable by adolescence. But although early childhood does provide a "sensitive period" for some brain and stress-response systems, neuroscientists now agree that adolescence is a second window of opportunity for development, especially in the social and emotional domain.[43]

For example, Edith Chen and Gregory Miller, psychologists who specialize in how biology contributes to health, have found that childhood poverty is often a better predictor of later health problems than adolescent poverty, which could seemingly imply that the damage is done after a certain age.[44] Yet in the same studies, among adolescents who developed strong, supportive ties to family or who developed mindsets in which they didn't see the world as threatening, childhood poverty didn't predict poor outcomes.[45] Adolescents have the ability to form new social relationships or adopt new mindsets that buffer against stress, and effective SEL programs can help provide those things.[46]

Third, it's plausible that even if social-emotional skills are malleable during adolescence, typical programs could be targeting the wrong skills. Maybe traditional programs are simply targeting skills that are less relevant to the effects they seek to produce—on grades, school dropout, stress and coping, and depression, etc.—than they are in early childhood.

Take the case of anti-bullying interventions. The underlying theory for many anti-aggression programs is that students are aggressive because they lack social or emotional skills. However, summaries of many past studies show this is true primarily for younger children. Among middle adolescents, peer aggression is predicted by social and emotional strengths, such as

increased perspective taking, greater social influence, or high popularity.[47] Harming others' reputations through rumors or exclusion, which is what high school students often do, takes a certain amount of social savvy, while punching people—what young children do—does not.

Fourth, SEL programs may target meaningful, malleable skills but do so in ways that teens don't internalize—that is, they may not show a willingness to implement the skill or mindset in a different setting when they don't have to. Indeed, the neural and hormonal changes at the onset of puberty suggest that when the thrill of social success and the agony of public humiliation feel overwhelming, adolescents may be on the alert for quickly shifting attention and motivation.[48] Traditional methods of behavior change may sometimes force adolescents to choose between uncertain physical harm in the future (dying of lung cancer) and the feeling of certain social death in the present (humiliation before one's peers). More effective methods can frame a behavior in a way that lets adolescents opt for both future health and the immediate feeling of social respect, as Teen Outreach, BAM, truth®, and *Re-Mission* do.

For instance, adolescents in one recent study who watched video clips of their mothers telling them how they should change their behavior (for example, by cleaning their room, taking their shoes downstairs, or being nice to their siblings) showed a pattern of neural activity that suggested they weren't processing the criticism or planning to alter their behavior.[49] Specifically, in response to maternal criticism, regions of the brain relevant to anger were activated while regions relevant to processing information and making plans showed blunted activation.

Yet not all adult-provided experiences elicit strong negative responses from adolescents. Recall the example of the *Re-Mission* video game, which increased adherence to a regimen of unpleasant cancer drugs. When researchers used functional magnetic resonance imaging (fMRI) to scan adolescents' brains while they played *Re-Mission*, the researchers found that game play activated neural circuits associated with intrinsic reward.[50] Adolescents felt pleasure when they were able to make their own choices and discover for themselves the consequences of their actions. Such neural circuits are known to be highly active, especially during adolescence, and they create a strong intrinsic motivation to learn and internalize an SEL message if it offers choice and exploration.[51]

In general, when SEL programs feel to adolescents like a mother telling them how to make their personal choices, null effects shouldn't surprise us. But when SEL programs offer adolescents a route to feelings of status and respect, it's likely that they'll internalize acquired skills and apply them in the real world.

Climate and Mindset Approaches

Next, I review several studies that used the climate and mindset approaches to improve adolescent SEL outcomes. They illustrate ways to create climates that are more respectful, or mindsets in which adolescents perceive that healthy choices confer status or that peer conflicts are less disrespectful. They take three approaches:

1. Creating a mindset that harnesses the adolescent desire for status and respect.

2. Creating a climate that's more respectful toward adolescents.

3. Creating a mindset that blunts the power of threats to peer status and respect.

The cases I discuss target different domains: academic achievement, healthy eating, school discipline, and aggression in response to peer victimization. Since these cases represent relatively new approaches, the interventions are more limited in scope and the data are sometimes from short-term demonstrations of efficacy, rather than from longer-term follow-ups.

In addition, this review of effective programs isn't exhaustive. Instead, I've chosen examples that do four things: show initial promise; illustrate a different component of the theoretical model proposed here; include early evidence of mechanisms that are in line with the proposed theory; and may therefore serve as a guide for the development of more robust programs.

Harnessing the Desire for Status and Respect

A few interventions have taught mindsets that harness adolescents' values by aligning healthy, long-term, self-oriented behaviors with the shorter-term desire to have or display status and value. Such interventions offer adolescents a purpose larger than their own self-interest to adopt a positive behavior.

This approach can be surprisingly effective. Adolescents are often characterized as selfish and concerned with short-term gains. So it can feel surprising to learn that they're also highly motivated to contribute to some part of the world beyond the self—to matter.[52] In the brain, adolescents appear to derive so-called *eudemonic* (as opposed to *hedonic*) rewards from contributing to the world beyond the self.[53] This phenomenon is captured by adolescents' precocious attraction to social movements and their attention to hypocrisy.[54] And at a neurobiological level, there's evidence that testosterone—a key pubertal hormone—can heighten attention to unfairness, a first step toward social action.[55]

Purpose for learning. Recall that Teen Outreach increased academic achievement and prevented teen pregnancy by helping adolescents find meaningful roles serving the community. Analogously, some research has more precisely tested a "purpose for learning," defined as a motive for learning in school that both benefits the self in the long term and could have a positive effect on some component of the world beyond the self.[56] In correlational research, my colleagues and I found that adolescents who say they're learning in school so that they can make a positive difference in the world—but not adolescents who say that they're pursuing an interesting and enjoyable life—showed greater grit (perseverance toward long-term goals) and self-control, greater behavioral persistence on a tedious task, and greater persistence in college many months later.[57]

Can an intervention increase a purpose for learning? Yes. Our purpose-for-learning intervention asked adolescents to reflect on social issues that mattered most to them or the people they care about.[58] Next, it presented data and stories showing that many students like them desire to learn so that they can make a difference—not only so that they can achieve self-oriented ends. Last, the adolescents were asked to write to future students to persuade them to adopt a purpose for learning; in doing so, they persuaded themselves to adopt such a purpose, as well.[59]

Rather than encouraging adolescents to suppress their desire to feel autonomous or to garner the respect of their peers, SEL programs can give them a mindset that harnesses their developmental motivations.

In an initial study conducted with more than 400 ninth-graders at one high school, one-time exposure to the intervention in the spring semester improved grade point averages for all students at the end of the semester by approximately .10 grade points. For students who had previously earned low grades, the benefit was twice as large.[60] These effects were replicated in another study conducted with more than 1,500 students in a number of high schools across the country.[61]

Purpose for healthy eating. Inspired in part by the truth® campaign, Christopher Bryan, a social psychologist at the University of Chicago, developed a behavioral intervention for middle school students that taught "a purpose for healthy eating."[62] Its intention was to align healthy choices with adolescent values, so as to create an immediate feeling of status and respect. Like truth®, the program sought to redefine what it meant to be a healthy eater so that it had greater social-status appeal, implying that healthy eaters are independent-minded people who make the world a better place.

The intervention took the form of an exposé of industry practices, using real journalistic accounts to describe how food companies pay scientists to make junk food addictive to children's brains; how companies hired former tobacco executives to use cartoons to market food to children; and how food executives themselves will not eat the junk food or let their children eat it, making them hypocrites.[63] Viewed from this perspective, being the kind of person who stands up to these executives through healthy eating enhances respect—it's autonomous and prosocial, it allows one to join a social movement, and it affords the chance to demonstrate mastery.

A double-blind, randomized behavioral experiment evaluated the intervention—a 30-minute reading and writing exercise with a similar format to the purpose-for-learning intervention—with more than 450 eighth-grade students. The key behavioral outcome came the next day. The principal announced that the entire eighth-grade class would get a "snack pack," and students received a menu that had healthy food choices (fruit, nuts, and water) and unhealthy choices (cheese puffs, cookies, and soda). The researchers found that completing the exercise led students to choose junk food significantly less often. Crucially, the treatment was effective because it changed adolescents' perspectives on healthy eating, making them say that they respected healthy eaters more than unhealthy eaters.These two examples illustrate that rather than encouraging adolescents to suppress their desire to feel autonomous or to garner the respect of their peers, SEL programs can give them a mindset that harnesses their developmental motivations.

What about peer influence? The examples above don't include studies that have tried to harness adolescents' desire to impress

their peers and use it to support positive behavioral intervention. Conformity to peer norms turns out to be a fickle tool.

For instance, Tom Valente, a behavioral scientist at the University of Southern California's Keck School of Medicine, assigned high school–aged adolescents to a substance abuse–prevention intervention. For half of the participants, the intervention included a social network component, allowing them to work on the content together and share it.[64] The social network acted as an accelerator: adolescents were less likely to use substances if no one in their group had used them before, but if even one person had done so, the whole group was more likely to start using. The substance-using peer seemed to inoculate the other group members against the program's messages.

Creating a More Respectful Climate

The truth® campaign and the "purpose" approaches made adolescents more aware of how adults were disrespecting them, and then channeled that awareness into positive behavior change. A second approach to working with adolescent sensitivities, however, is to reduce adolescents' experiences of being disrespected by changing the climate.

For example, consider a classic group-dynamics experiment that Kurt Lewin, a founder of social psychology, conducted in the 1930s.[65] In the Lewin experiment, a disrespectful group leader who maintained order with threats and insults created a group dynamic in which adolescent boys began fighting soon after they were left unsupervised. Yet a respectful group leader who built consensus and valued boys' autonomy and competence by using democratic processes created an internalized group norm through which adolescent boys refrained from aggressive behavior regardless of whether they were supervised.[66]

In more contemporary research, programs that implemented *restorative justice*—working collaboratively with young people to repair relationships and reputation after they've committed an offense—were among the only programs that reduced recidivism in the juvenile justice system.[67] Restorative justice may convey dignity and respect by honoring adolescents' competence, while building relationships that create a sense of belonging.

Training Teachers to Create Respectful Environments

More recently, Anne Gregory, a developmental psychologist at Rutgers University, used a comprehensive teacher training and mentoring program (My Teaching Partner–Secondary) to help 86 high school teachers (with more than 2,000 students among them) create an intellectually challenging but respectful classroom climate.[68] Students got more autonomy in choosing meaningful work, which helped teachers show that they cared by creating belonging. Crucially, the students were able to engage in higher-order thinking and reasoning, rather than tedious "seat work," thus showing that their competence was respected. My Teaching Partner–Secondary isn't a typical SEL program—it doesn't teach students self-control skills or how to manage their emotions. Instead, it trains teachers to create a climate that treats students with respect and takes them seriously.

Strikingly, Gregory's program had effects that skill-based SEL programs rarely produce. Students in treatment classes were less likely to be disciplined for breaking rules.

Furthermore, there was a strong racial gap in discipline infractions in the control group that was statistically eliminated in the treatment group, even two years after the teacher training ended. This reduction in classroom discipline infractions for African-American students was strongest when teachers created academically demanding classrooms that respected students' intellectual competence as rated by third-party observers. That is, making school easier isn't what led students to respect the rules of the class; it was being challenged and treated as though they could develop competence.

Jason Okonofua, a professor of social psychology at the University of California, Berkeley, used an even more minimal intervention to achieve a similar result.[69] Okonofua created an online activity for middle school teachers they could complete on their own time, without guidance from researchers, that changed their beliefs about discipline. They were persuaded that discipline should be empathetic, not "zero tolerance" and lacking compassion for students' reasons for acting out. In an evaluation with more than 35 teachers and 1,200 students, Okonofua found that students in treatment classrooms reported fewer experiences of disrespect and also received half as many suspensions, which fell from 9 percent of students to 4.5 percent. When students felt that the climate was more respectful, they behaved in ways that showed they could manage their frustrations and emotions.

These examples illustrate three important points. First, the Gregory study highlights the interplay between academic and social learning. Making the classroom more rigorous constituted highly effective SEL programming. Teachers didn't have to choose between rigor and emotions.

Second, many approaches to reducing school discipline are child-focused and come from the skills model of SEL. This is, of course, a reasonable model for children. In adolescence, however, young people act out against rules that they think are unfair. Students may note that discipline is being applied primarily to minorities, with too little lenience or compassion, feeding into the sense that the system is biased, unjust, and disrespectful.[70] Teaching them more self-control may have no benefit, but reducing unfairness may have a large effect.

Third, adolescents are often characterized as peer-focused, to the exclusion of adults. Yet authentic relationships with adults—achieved by honoring young people's desire to feel respected—can produce important changes in their disciplinary behavior.

Blunting Power of Peer Threats to Status and Respect

Sometimes it's not possible to align a positive behavior with how adolescents' react to adult authority or to change their relationships with adults. In such cases, a third approach may be useful: creating a mindset that blunts the effects of threats to status and respect. Although adolescents shouldn't be oblivious to social threats, it may be helpful to learn that life or death doesn't hang in the balance with each incident of embarrassment or peer disrespect.

One method to convey this is to change adolescents' mindsets about the malleability of their personal qualities, which can promote resilience in the face of difficulty.[71]

Mindsets of Personality

In a number of past studies, Carol Dweck of Stanford University and I have found that when adolescents believe that people's socially relevant traits and labels are fixed and unchangeable—called an entity theory of personality—this belief strongly predicts their reactions to social difficulty.[72] And teaching the belief that traits and labels are malleable and have the potential to change—called an *incremental theory of personality*—alters their reactions to social conflicts.[73] Interventions based on an incremental theory of personality teach that people have the potential to change (although change may not be easy or certain). Therefore, you're not stuck being a loser if bad things happen, and your peers aren't stuck as evil tormenters. This message can change the meaning of social events. Rather than feeling that their permanent status is on the line with each social misstep, adolescents may feel that they have space to make a mistake.

New research shows that changing mindsets of personality can promote greater social-emotional resilience in the face of daily stresses. An incremental theory of personality led adolescents to report being less emotionally affected by peer exclusion, and it improved their cardiovascular responses and stress hormones (as measured by cortisol).[74] A daily diary and saliva-sampling study showed corresponding benefits for stress hormones up to a week later.[75]

Research has also found that an entity theory strongly predicts a desire to take revenge. Those who believed people couldn't be changed were more likely to say peers were "bad people" and to report hatred toward them, which fed into the expectation that one would feel better if the perpetrator suffered harm.[76]

In one study conducted by my colleagues and I, adolescents were taught an incremental theory, then tested to see whether it reduced behavioral aggression. Six classroom workshops were led by practitioners trained in the developmentally wise methods for lesson delivery I described earlier in the healthy eating example: autonomy-supportive language, opportunities for self-persuasion, and capitalizing on descriptive norms (stories from upperclassmen who found the messages helpful).[77]

In an experiment conducted in ninth- and 10th-grade classrooms, the incremental theory intervention was compared to a traditional coping-skills intervention that taught the best available skills but didn't address adolescents' underlying mindsets. Although it focused on skills, the control-group workshop was also aligned with adolescent values, including social norms, autonomy-supportive practices, and self-persuasion. Both interventions were compared to a no-treatment group.

We evaluated the program at one-month follow-up by examining whether adolescents would respond aggressively to a peer (actually, an electronic confederate) who excluded them via the online Cyberball game.[78] Aggression was measured by allowing participants to allocate unpleasantly spicy hot sauce to a peer who (the participants believe) hates hot sauce, just excluded the participants in the online game, and would have to consume the entire sample.[79] Adolescents who received the traditional coping-skills intervention were

Recommendations for Research, Policy, and Practice

1. Differentiate Recommendations by Age

When a meta-analysis of a behavior-change or skill-building program includes studies conducted with children from kindergarten to high school and reports an average positive effect, it can be tempting to conclude that the program is effective for all age groups. Yet, as we've seen, such a conclusion can be misleading—effects can be very different for different age groups.

2. Find Ways to Make Environments More Respectful

Programs that seek to directly train adolescents in skills or habits for coping with difficult situations have shown very weak evidence for efficacy. By contrast, some of the most effective SEL programs work indirectly by changing the classroom environment to make it more respectful. When adolescents experience a more respectful environment, their internal traits may change in a positive direction. Future research might look more carefully at how to alter the psychological environment.

3. Think Carefully about What We Measure

As school districts and states embrace SEL programs, they'll want to measure whether such programs are effective. Here are three things to consider.

First, students' skills may not always be the best thing to measure. Rather, it may be more informative to measure psychological climate or perceptions of climate. For instance, students may lack self-control not because they aren't capable of it, but because they've discerned that the instructional content of a class isn't worth deploying their self-control skills.

Second, even when social-emotional skills matter, it isn't clear that they are commonly taught by high school teachers in the short term. Even programs taught by professional SEL educators under the close supervision of program designers show weak effects on SEL skills in high school. It may be unrealistic to expect that everyday teachers should be held accountable for the SEL skill scores of their students.

Third, even if SEL skills can be taught, there are many problems with current SEL skills measures. Most of them are based on self-reporting. Self-reporting can be fine when only the students know the answer to a question, such as when they report feeling disrespected or that they don't belong. But it can be unreliable when students have to count behaviors, such as the number of times they showed self-control.

Sources: James J. Heckman and Tim Kautz, "Fostering and Measuring Skills: Interventions That Improve Character and Cognition," working paper no. 7750, National Bureau of Economic Research, Cambridge, MA, 2013; Laurence Steinberg, "How to Improve the Health of American Adolescents," *Perspectives on Psychological Science* 10 (2015): 711–15; Joseph P. Allen et al., "An Interaction-Based Approach to Enhancing Secondary School Instruction and Student Achievement," *Science* 333, no. 6045 (2011): 1034–37; Anne Gregory et al., "Closing the Racial Discipline Gap in Classrooms by Changing Teacher Practice," *School Psychology Review* (forthcoming); Jason A. Okonofua, David Paunesku, and Gregory M. Walton, "A Brief Intervention to Encourage Empathic Discipline Cuts Suspension Rates in Half among Adolescents," *Proceedings of the National Academy of Sciences of the United States of America* (forthcoming); Joseph A. Durlak et al., "The Impact of Enhancing Students' Social and Emotional Learning: A Meta-Analysis of School-Based Universal Interventions," *Child Development* 82 (2011): 405–32

no less aggressive than the no-treatment control group. But adolescents who were taught the incremental theory of personality showed 40 percent less aggressive retaliation than either of the other two groups.

It isn't possible to protect adolescents from all potential threats to status and respect. These examples show that it may be helpful to change the meaning of some of those threats by altering the mindsets that determine how adolescents interpret them.

Conclusions

Can adolescent SEL programs be successful? It depends on how we define them. If we define a successful program as

one that intentionally instructs adolescents in a given skill, leading them to use that skill in novel settings and thereby show greater wellbeing, then the evidence is discouraging. But if we broaden our definition to include programs that affect social-emotional outcomes by creating climates and mindsets that help adolescents cope more successfully with the challenges they encounter, then the evidence is not only encouraging but demands urgent action in schools across the country.[80]

ENDNOTES

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SEL-Focused After-School Programs

Noelle Hurd and Nancy Deutsch

Summary

After-school programs offer young people opportunities for self-expression, exploring their talents, and forming relationships with supportive adults. That is, after-school programs promote young people's social and emotional learning (SEL) skills—whether the programs use that term or not.

Despite these programs' potential, Noelle Hurd and Nancy Deutsch write, they have yet to make a big impact on the field of SEL. One reason is that studying them poses many problems for researchers—for example, attendance isn't mandatory, meaning that it can be hard to separate a program's effects from young people's personal characteristics that led them to choose the program in the first place. Still, research shows that after-school programs can promote many desirable SEL outcomes, and Hurd and Deutsch outline the factors that make high-quality programs stand out.

How could policy help after-school programs promote SEL more effectively? First, positive youth-staff relationships are crucial to effective programs, and competent adult staff are the linchpin of effective after-school programs targeting SEL outcomes. Yet the after-school work force is poorly paid, and turnover is high. Hurd and Deutsch suggest several ways to professionalize after-school work—for example, by boosting professional development and creating more opportunities for career advancement.

Second, as schools have become more focused on standardized test scores, funders and policymakers have pushed after-school programs, too, to demonstrate their academic impact. Hurd and Deutsch write that this approach is misguided: overemphasizing academic outcomes leads to neglect of SEL outcomes that can help young people become productive and engaged citizens. They argue for expanding the criteria used to determine whether after-school programs are effective to include SEL. More broadly, they write, high-stakes evaluations create a disincentive for programs to undertake the difficult work of assessing and improving their own practices. A better approach to evaluation would focus less on whether programs "work" and instead seek ways to make them work better.

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Out-of-school settings, such as after-school programs and community organizations, are natural sites for social and emotional learning (SEL) interventions. Because these programs and organizations don't have schools' curricular demands and often have broader developmental goals and missions, they can focus on SEL skills and outcomes to a greater extent than schools can. Many of the types of skills that SEL interventions target are also implicit or explicit in the missions and objectives of out-of-school programs. Yet despite their potential to strongly influence SEL, out-of-school programs generally have had limited impact on the field of SEL, possibly because of their diversity—they range from after-school and summer programs to family- and community-level interventions—or the challenges of evaluating interventions in such settings. In this article, we examine research specific to SEL interventions that occur outside of school hours. But rather than consider all out-of-school contexts, we limit our scope to after-school programs, defined as adult-structured programs for students that are offered during the school year between the hours of 3:00 and 6:00 p.m.[1] Moreover, we review only programs that explicitly target what we define as SEL skills, whether the program uses the term SEL or not. This narrowed focus lets us be more thorough. In any case, most of the research on SEL interventions in out-of-school contexts has taken place in after-school programs rather than other settings. Thus research on after-school programs also offers the best opportunity to learn what works.

Even though SEL goals are common in programs that operate outside of school time (a history we review below), only one extensive review has examined whether after-school programs that focus on social and personal development hold promise for boosting students' SEL development. In this article, we go over the findings from that analysis, paying particular attention to the features of effective programs. We also briefly review a broader set of studies that investigate the impacts of participating in SEL-focused after-school programs. To structure the article, we ask five questions specific to SEL and after-school programs:

1. Are after-school programs well suited for promoting SEL?
2. Is it realistic to expect after-school programs to affect SEL?
3. Do after-school programs affect SEL?
4. Why have findings thus far been so disappointing?
5. Where should researchers and practitioners focus in the future?

We conclude with policy implications for promoting SEL via after-school programs.

Are After-School Programs Well Suited for Promoting SEL?

The history of formal after-school programs suggests that they've always focused on SEL. Such programs arose in response to changing social conditions and the constraints of school, and their goals are often aligned with those of SEL. Thus, research on after-school programs often asks whether and how they foster SEL-related competencies. After-school programs are also rich in relationships. They offer good opportunities for young people to form the

kinds of relationships with adults that we believe enhance SEL.

The history of formal after-school programs suggests that they've always focused on SEL.

Historical Perspective

After-school programs have been around for more than a century, and they've always aimed to foster positive youth development broadly, including what we now call SEL. After-school programs were developed in the late 19th century as a practitioner-based movement, long before they became a field of study. Early programs sprang from reformers' concerns about children's safety and socialization. Child labor and compulsory education laws combined to leave children free during the after-school hours. In large cities with growing immigrant populations and crowded housing, many working-class and low-income children spent their out-of-school time on the streets. Child advocates worried about these trends. They saw a need for safe spaces where children could play after school. They also saw a need for adults to structure and supervise such play to socialize children in middle-class American values. The programs they built varied greatly and local actors developed their own aims and policies within them, yet they shared common goals. In his history of after-school programming, Robert Halpern identified the early goals of the field as protecting and caring for children; giving children opportunities to play, frequently as a means to promote SEL-related skills; preventing delinquency among boys and reducing sexual risk among girls; teaching vocational and domestic skills (for boys and girls, respectively); and Americanization of immigrant youth, who made up a large proportion of the children served by early programs.[2] The adult staff members in these programs were to provide consistent oversight, guidance, role modeling, and support. From the beginning, programs differentiated themselves from schools in both their aims and activities.

These broad trends continued through the mid-20th century. Although these programs' aims were shaped by changing demographics and by societal developments such as mass media, the economy, and families' work circumstances, the focus on play, children's developmental needs, and after-school programs as unique out-of-school settings continued. During the second half of the 20th century, programs again responded to social concerns about low-income children.[3] Reformers feared that these children were feeling alienated from broader American society. As a result, after-school programs became a space where poor children could "feel valued and recognized."[4] At the same time, after-school programs continued to identify themselves as places where children who felt alienated by schools could express themselves and experience a sense of belonging. In the 1960s, in response to increasing worries about urban poverty, programs began to focus more on academic activities, which gave them access to government funding earmarked for improving education in high-poverty neighborhoods. And as more and more mothers entered the work force in the late 20th century, public attention again turned to after-school programs as safe, supervised spaces for children.

Although most programs retained their core recreational activities and continued to offer young people opportunities for self-expression, exploring their talents, and forming relationships with supportive adults, it also became increasingly common to set aside time for children to get help with their homework. More recently, after-school programs have been under pressure to demonstrate academic impacts, but this push has been driven by funders and policy makers rather than the programs themselves. As schools have become more focused on standardized test scores, after-school programs, too, have been pushed to demonstrate their academic impact. This trend threatens after-school programs' traditional focus on self-expression, exploration, and development.

Despite the increased pressure to boost test scores, numerous after-school programs explicitly aim to enhance young people's social and emotional competencies. For example, Boys & Girls Clubs of America, one of the nation's largest networks of out-of-school centers (serving nearly four million children at four thousand clubs), seeks to "promote and enhance the development of boys and girls by instilling a sense of competence, usefulness, belonging and influence." Its mission is "to enable all young people, especially those who need us most, to reach their full potential as productive, caring, responsible citizens."[5] Similarly, 4-H, which reaches six million young people, aims to "[empower] young people to be true leaders," described as "young people who have confidence; know how to work well with others; can endure through challenges; and will stick with a job until it gets done."[6] 4-H'ers work on four values (the four H's of the organization's name): head (managing, thinking), heart (relating, caring), hands (giving, working), and health (being, living). Although Boys & Girls Clubs and 4-H both include some academic programming, their goals are much broader than academics alone, encompassing the types of personal and social competence that make up SEL.

The Role of Adult Staff

Competent adult staff are the linchpin of effective after-school programs targeting SEL outcomes.[7] Interactions with staff shape young people's experiences, and those interactions are the pathways through which after-school programs affect SEL.[8] Adult staff influence young people's outcomes in many ways. They determine whether the program's space will be conducive to SEL development, they implement the curriculum and transmit the program's values, and they cultivate meaningful relationships.

Effective Staff Practices for Promoting SEL

Adult staff foster SEL development by giving young people autonomy, choice, and appropriate levels of structure and supervision.[9] Basing its recommendations on the best developmental science research, the National Research Council and Institute of Medicine suggests that adults can foster positive developmental settings by providing eight components:[10]

- physical and psychological safety;
- appropriate structure;
- opportunities to belong;
- positive social norms;
- support for efficacy and mattering;

- opportunities for skill building;
- integration of family, school, and community efforts, and
- nurturance and support.

Below, we apply each of these recommendations to promoting SEL in after-school programs.

Safety. Unquestionably, adult staff members' ability to ensure participants' physical and emotional safety is vital—not just during the program itself, but on the way to and from it as well. Safety is a basic human need that must be satisfied for young people to have the mental resources they need to improve their social and emotional competencies. Staff can ensure safety by selecting safe locations, by establishing transportation plans that consider safety hazards, and by including activities that foster healthy and positive peer group interactions. Ensuring safety also means understanding implicit and explicit biases on the part of both staff and young people, and collectively working to confront these biases by modeling fair treatment of young participants.

Structure. After-school programs should be structured to ensure that they give young people the stability to grow and develop. Specifically, daily activities should give young people space to process their emotions, share their experiences, listen to the experiences of others, work together in teams, solve problems, and reflect on the outcomes of their decisions.[11] Staff must find the right balance between giving participants autonomy and, through clear and consistent rules and expectations, setting limits on their behavior. Depending on their age and how long they participate in the program, young people may also benefit from increasing opportunities to help set rules and expectations themselves. Thus, staff can set and monitor clear boundaries but also let young people make important program decisions. University of Illinois researchers Reed Larson and Rachel Angus have called this approach "leading from behind"; they found that young people benefit most when adult staff support participants' leadership and offer "light touch guidance and assistance as needed."[12]

Belonging. By highlighting their strengths, emphasizing healthy identity development, and encouraging positive bonding, staff can enhance young people's sense of belonging, which in turn will help recruit and retain a diverse set of participants.[13] Program staff must also deal effectively with the participants' social identities and cultural backgrounds. Belonging is likely to be more important to young people from marginalized social groups, for whom key developmental tasks include being able to feel good about their group membership and connection to similar others. Participants should be able to feel good about their own social identities (for example, race, ethnicity, gender, sexual orientation, ability status) and to interact positively with members of different groups. Thus, staff should ensure that interactions occur on a level of equal status, explicitly talk about difference in relation to privilege and oppression, and ask young people from different groups to work collaboratively to achieve shared goals.[14] Because no population of young people is homogeneous, staff should also pay attention to differences within racial, ethnic, cultural, gender, ability, and sexual orientation groups, as well as between such groups.[15]

Positive social norms. Program staff can foster SEL competencies by supporting a group culture that is conducive to prosocial values and behavior. For example, staff can set expectations regarding the use of inclusive language; group check-ins (in which participants report on their weekly highs and lows) can be an opportunity for staff to model caring responses to the good and bad things happening in young people's lives. Although a program's cultural norms should vary to accommodate the participants' backgrounds and needs, prosocial norms are fundamental to constructive behavior. Programs can establish patterns of behavior that lead participants to internalize certain values and morals.[16] In this way, behavioral patterns can be self-reinforcing and solidified as good habits. But if staff and participants don't intentionally establish positive social norms, less favorable norms may emerge and become difficult to alter. Therefore, staff need to develop practices that foster good behavior, mutual respect, and inclusivity from the very beginning and maintain them throughout the program.

Efficacy and mattering. Feeling effective at appropriately challenging tasks and making a difference in one's social world are central to growth in SEL competencies. Adult program staff can foster efficacy and mattering through engaging and personally meaningful activities. As they progress from childhood to adolescence, young people are increasingly likely to benefit from empowering, youth-centered programs. They can learn to develop their own voice and leadership potential when they have a say in how programs are run or what types of activities are made available.[17] They can also help identify community service projects or injustices that they would like to take on. When activities have consequences for real-world problems facing them and their communities, young people can gain a sense of mattering and making a difference. Adult staff can help them gain agency by actively seeking their input and creating leadership positions for them to fill. Adults also can give young people greater responsibility based on their age and experience in the program. For example, *youth-adult partnerships*—in which youth and adults work collaboratively to address important social issues—seek an equal distribution of power between adult staff and participants.

Skill building. Staff can promote SEL by letting participants plan, practice, and perform targeted skills and apply those skills to the real world; by giving frequent feedback; by making sure that young people take an active role in their own learning; and by helping young people focus on personal improvement instead of comparing themselves to others.[18] Staff also can model SEL skills themselves. Other ways to build skills include coaching youth on successful interactions with peers or adults, setting high expectations for participants, encouraging them to persevere when things get tough, celebrating their effort, and scaffolding (that is, providing more support initially and gradually withdrawing it as they become able to complete a task independently).[19] As in other areas, young people's cultures, backgrounds, ages, and experiences should guide which skills the program targets. For example, an important SEL skill for young people of color is *bicultural competence*, or the ability to successfully navigate two cultures. Thus, programs that serve racial and ethnic minorities may help participants

get better at *code switching*—moving from one cultural style of interacting to another.

After-school staff may have more opportunities for informal conversations and shared activities than the young people's own parents.

Integration of family, school, and community. When adult expectations and values are consistent across family, school, and community, it's easier for young people to establish positive attitudes and patterns of behavior. Moreover, adults can use their connections with other adults to help give young people new opportunities and connections of their own. Adult program staff are uniquely positioned to bridge youths' social contexts such as family, school, community, and workplace. They can expose families, schools, and the broader community to the SEL content that program participants are learning. If they do so, adults in other settings can reinforce the after-school learning and apply it more broadly.

Nurturance and support. Caring and responsive staff members have the best chance to enhance young people's SEL outcomes.[20] Adults who have the capacity to understand and appropriately respond to young people's cultural backgrounds and needs are best positioned to build strong, positive relationships. Thus, after-school programs seeking to boost students' SEL outcomes should screen adults for key qualities such as attunement (that is, the ability to read and flexibly respond to young people's needs and desires), effective communication, and empathy. Adults who understand the roles of power and privilege in maintaining societal inequities can effectively bridge differences have the best chance to nurture and support all young participants.

Youth-Staff Relationships

Unlike teachers, after-school program staff don't face heavy instructional requirements and evaluation responsibilities. That means they have more flexibility in working with young people.[21] In fact, after-school staff may have more opportunities for informal conversations and shared activities than the young people's own parents, who may be contending with work and other competing responsibilities. Unlike parents and teachers, after-school staff not only have time to share with young people during the after-school hours, but can also often do so around activities that align with their interests. These less structured and perhaps more enjoyable interactions may be ideal for transferring adult values, advice, and perspectives.[22] After-school program staff also tend to be closer in age to young participants and are often from the same communities. Both factors may encourage closer relationships and lead young people to see program staff as more credible sources of information than teachers or parents. These two factors may also help after-school staff serve as role models, especially if they've overcome challenges similar to those that the program's participants face.[23]

In-depth observations of after-school programs and interviews with staff members and participants have identified features of youth-staff relationships that appear to be

related to young people's SEL development. These include such things as the nature of staff-youth communication (for example, the peerlike nature of interactions or culturally relevant ways of communicating), the way staff handle young people's dilemmas that crop up during the program, how they express respect for participants, and how staff and participants communicate with each other about the young people's strengths and struggles.[24] Using data from its National Outcomes Survey, the Boys & Girls Clubs of America examined associations between youth-staff relationships and how young people described their experiences at the clubs. It found that young people tended to have more positive experiences when staff knew all the participants' names, had relationships with their parents, worked well together, and had received training in program planning.[25] Although such research can't prove that links between youth-staff relationships and outcomes are causal, it nonetheless suggests that programs can foster SEL when staff cultivate meaningful relationships with young participants.

Supporting Adult Staff

If staff practices play a central role in young people's SEL development, then support for the staff is crucial to after-school programs' success. Recently, the SEL Challenge—a collaboration among practitioners, researchers, and a prominent national foundation that analyzed eight highly effective after-school programs across the country—sought to identify key practices that foster growth in six SEL outcomes: emotion management, empathy, teamwork, initiative, responsibility, and problem solving.[26] Among its recommendations, the project suggested five strategies for supporting program staff:

- First, programs should recruit young people who are more likely to benefit from participation (for example, because their interests are a good match with the program's activities). Seeing youth succeed in the program is a powerful incentive for staff because it reinforces the challenging work that they do.

- Second, programs should ensure that multiple staff members have appropriate training in practices to promote SEL. Staff members should receive equivalent training so that they can best support each other and all youth in attendance. Having many trained people on hand also means that one staff member can work on an individual participant's needs while another leads the larger group.

- Third, staff members need collaborative planning time before program sessions and interactive debriefing afterward to ensure that they can communicate with one another, prepare adequately for program sessions, and work together to respond to problems that arise. Staff members may also need time to process their own reactions to program sessions and to support one another when they encounter difficulty. A supportive and collegial environment can motivate staff members to put forth their best effort and may reduce staff turnover.

- Fourth, staff need organizational supports such as extended vacation after intensive periods of work, mental health services or referrals,

resources for continued learning, and check-ins with supervisors to ensure the staff's general wellbeing. Staff who have the supports they need to bolster their own mental health and wellbeing are better positioned to serve program participants effectively.

- Fifth, programs should support continuous improvement. Staff need opportunities to reflect on and refine program practices. The inclusion of evaluation components to assess their practices will make staff members more aware of strengths and areas that need improvement. Such evaluations could collect data from young people, staff, and staff supervisors; if these evaluations include self-assessment, however, that should not be the only component.

Is It Realistic to Expect After-School Programs to Affect SEL?

After-school programs are natural settings for promoting young people's SEL skills. Because the programs don't face schools' curricular demands, they can focus on nonacademic skills. Well-run after-school programs let young people participate in activities that are meaningful to them and that form rewarding relationships. But despite these strengths, after-school programs face a number of barriers in promoting SEL. First, participation in after-school programs isn't mandatory. As a result, SEL interventions in after-school programs will never reach all young people, and sporadic attendance may dampen a program's effects. Further, staff turnover in after-school programs tends to be high. Therefore, even though youth-adult relationships can be a significant strength of such programs, they can also be less stable than in schools. Funders' increasing focus on academic outcomes may also lead programs to offer fewer types of activities that are most likely to enhance SEL. Some of these issues, such as sporadic attendance, affect researchers' ability to confidently measure program effects. They may also affect the quality of the programs themselves, and as we discuss below, quality has an impact on program effects.

Despite their strengths, after-school programs face a number of barriers in promoting SEL, such as sporadic attendance and high staff turnover.

Do After-School Programs Affect SEL?

Many comprehensive after-school programs focus on personal and social skills broadly, even if they don't use the term SEL. Reviews of how after-school programming affects academic outcomes have yielded mixed findings.[27] Here we review the research exploring SEL-related outcomes from after-school programs that aim to improve young people's personal and social development. These types of after-school programs have been associated with improvement in such SEL outcomes as self-confidence, self-regulation, and social competence, as well as with decreases in adjustment problems such as delinquency, depression, and anxiety.[28] Evaluations of

after-school programs that target SEL skills, however, vary widely with respect to the methods they use and the effects they report.

In 2010, psychologists Joseph Durlak, Roger Weissberg, and Molly Pachan published a meta-analysis of after-school programs with an explicit SEL component (a meta-analysis is a statistical technique that combines the results from many studies to test for overall effects).[29] They included 68 studies of SEL-focused after-school programs. About half the programs targeted elementary school-aged students, about one-third targeted middle school–aged students, and about 10 percent were geared toward high school students (several evaluations didn't report participants' ages). About one-third of the studies used a *randomized* design, meaning that young people were randomly assigned either to a program or to an alternative such as a waiting list. Because a randomized design removes bias introduced by self-selection into a program (that is, young people who sign up for and attend after-school programs may differ in important ways from those who don't), it's considered the best way to test whether an intervention works. The rest of the studies included in the meta-analysis used what researchers call *quasi-experimental* designs, which use different approaches to cope with bias and isolate program effects. Although more than one-third of the studies did not give much information about the demographics of study participants, those that did represented groups of young people who were diverse with regard to race/ethnicity and socioeconomic status.

The meta-analysis found that after-school programs targeting SEL outcomes appear to improve young people's self-confidence, positive attitudes toward school, positive social behavior (for example, cooperation and leadership), grades, and standardized test scores. At the same time, they reduced problematic behaviors such as aggression and drug use. Overall, the size of these effects was in the small-to-medium range; in statistical terms, average program effect sizes—a number that assesses how large the difference is between two groups on an outcome of interest—ranged from .12 for academic grades to .34 for increased self-esteem.

Not all after-school programs targeting SEL outcomes produced the desired improvements in students' skills and behaviors. Only programs that used evidence-based skills-training approaches were effective in boosting students' SEL outcomes. Evidence-based skills-training approaches met four requirements, identified by the acronym SAFE: they included a sequenced (S) set of activities, emphasized active (A) forms of learning, included a focused (F) component aimed directly at improving students' social and emotional skills, and contained explicit (E) learning objectives (that is, program staff communicate to young people what they're expected to learn through the program). Programs that didn't follow the SAFE guidelines showed no effects on the studied SEL outcomes. The SAFE programs yielded average effect sizes in the small-to-medium range—from .14 for school attendance to .37 for increased self-esteem.

The fact that SEL-focused after-school programs can affect such a variety of outcomes underscores their potential value. Moreover, even if the size of the programs' effects fell in the small-to-medium range, those effects were larger than those found

Table 1. SEL-Related Outcomes of After-School Programs

Program	Population	SEL Skills Assessed	Findings
Boys & Girls Clubs of America (four clubs in one city)	Club members ages 10–18	Psychosocial functioning	Positive experience at clubs, but not attendance alone, was associated with positive outcomes
Boys & Girls Clubs of America (10 urban clubs)	Club members in seventh and eighth grade	Character development	Greater attendance was associated with improvement in about half the outcomes assessed
Boys & Girls Clubs of America (one urban club)	Club members and comparison group from same community; mean age 11	Self-concept, social skills, attachment to family, risky behaviors	Greater attendance at clubs, but not participation alone, was associated with positive outcomes
Boys & Girls Clubs of America (2,400 clubs nationally)	Club members nationally; compared to data on peers from other national studies	Community service, social skills, risky behaviors	Middle and high school club members volunteered more and reported lower levels of substance use; higher quality and level of participation associated with some outcomes
4-H (in 42 states)	7,000 youth in grades 5–12 (~2,520 of those were 4-H participants)	5 C's—Confidence, Competence, Character, Caring, and Connection—as well as contribution to community	In some grades 4-H members demonstrated more positive outcomes in the 5 C's and were more likely to contribute to their communities
After School Matters (apprenticeship program in Chicago)*	High school students	21st Century Skills linked to SEL	Positive effect on some outcomes; no effect on majority of outcomes
Systematic review of programs with recreational or youth development focus combined with academic supports *	Primarily low-income racial/ethnic minority students in urban areas	College aspirations, believing the best about people, bonding, feeling bad for others, feeling left out, sticking to beliefs	No effects
Maryland's After School Community Grant Program (14 sites)**	Elementary and middle school students	Social skills, social bonding, delinquency, substance use	Participation was linked to small decreases in delinquency for middle school students
35 high-quality after-school programs from ethnically diverse, high poverty communities	3,000 elementary and middle school students	Work habits, task persistence, social skills, prosocial behaviors, problem behaviors, misconduct	Program participants improved in many of the tested skills

Sources: See endnote 30.

Note: * = experimental design; ** = three of 14 sites used experimental design.

for other types of youth programs, such as school-based drug prevention or mentoring programs. In fact, the average effect of SAFE after-school programs on students' standardized test scores was larger than the average effects found in meta-analyses for after-school and summer school programs that focus heavily on academics. The effects of SAFE programs may also have been underestimated. A high proportion of the comparison group students (that is, those who did not participate in a particular SEL after-school program) were participating in other types of after-school activities, rather than attending no program at all. Further, at least some of the SEL after-school programs recorded fairly inconsistent attendance by participants. Both of these factors make it harder for researchers to isolate a program's effects. The fact that we see rather strong findings despite the presence of factors that could undermine their effects suggests that SAFE after-school programs can indeed foster SEL development along with a host of other positive youth outcomes.

What Does the Rest of the Research Say?

Beyond the meta-analysis by Durlak, Weissberg, and Pachan, other evaluations of after-school programs' effects on SEL outcomes have yielded inconsistent results. Table 1 summarizes findings from studies of after-school programs that have examined SEL-related outcomes, ranging from studies of single after-school centers to combined studies of multiple programs. Although there is a rich tradition of qualitatively analyzing SEL development in after-school programs using a descriptive approach, we only included quantitative (that is, numeric) findings in our summary so that we can compare the sizes of program effects.

Participating in SEL-focused after-school programs has been associated with outcomes that include improvements in social skills, prosocial behavior, community service, civic activity, academic and school-related outcomes, and reductions in delinquency and other problem behaviors. But even when studies have documented positive effects on some outcomes, they tend to find no effects on others. And the effects they do find are often limited to certain age groups or genders. Overall, findings from correlational studies (that is, studies that look at associations between programs and outcomes without fully controlling for sources of bias) tend to find some positive outcomes, but experimental studies (that is, studies that more completely account for bias) find fewer or none. One limitation of correlational studies is that they don't let us determine whether participation in the program actually *caused* the differences we see in youth outcomes, as opposed to the possibility that the program attracted young people who were already doing better than their peers.

One trend that we see across many of the studies is that program quality matters. Attendance alone doesn't appear to be enough to promote SEL outcomes. Rather, multiple studies have found that positive outcomes are related to how much young people participate in the program and the quality of the experience they have there. Although program quality is often measured by outside observers, young people's own perceptions of program quality may also be an important predictor of outcomes.[31]

Differences among Young People

Young people's experiences in after-school programs and the extent to which they

benefit from participation aren't a function of the program alone—they're determined by the fit between the program and the young people's characteristics.[32] Not only may outcomes differ across different groups, but different program features may be important to different young people.[33] Despite the role that race, ethnicity, culture, and other characteristics play in shaping young people's experiences in SEL-focused after-school programs, however, few studies have considered differences in experiences and outcomes as a function of participants' characteristics. Among the few studies that have done so, age and gender have been associated with differences in a program's effects.[34] But these differences haven't shown a consistent pattern.

The very nature of after-school programs poses problems for researchers. After-school programs are both voluntary and, for many families, necessary.

Why Have Findings Been Disappointing?

Significant limitations make it hard to draw definite conclusions from studies of SEL-focused after-school programs. First, many studies of after-school programs don't evaluate program curricula or specific program activities, so it isn't clear what precisely is being evaluated. Second, few studies of after-school programs use research designs that prove a causal link between participation and SEL-related outcomes. Even studies that have used rigorous randomized designs have been criticized for other methodological flaws, such as ignoring differences in implementation across sites. Third, evaluation studies often look only at participation versus nonparticipation in a given program. But participation comprises many things, including frequency of attendance, years of participation, breadth of the activities in which one participates, and quality of engagement.[35] Therefore, participation defined simply in terms of attendance may not be related to effects. Fourth, young people who don't participate in a given program are frequently participating in another program, rather than no program at all. Working parents need childcare after school, and they're likely to find an alternative program if their child isn't assigned to the after-school program being studied. For example, in the experimental study of After School Matters, 91 percent of the comparison group participated in other after-school programs.[36] Thus, after-school research is often comparing the program being studied to another program or activity. And as the Study of Promising After-School Programs shows, many young people participate in several programs, which makes distinguishing the effects of any given program even harder.[37]

Indeed, the very nature of after-school programs poses problems for researchers. After-school programs are both voluntary and, for many families, necessary. Moreover, many of the outcomes that researchers are interested in are related to the very youth and family characteristics that may also affect young people's participation in after-school programs. Although it's hard for researchers to isolate program effects, we recognize that after-school programs

are an important part of the landscape for young people, especially those who live in marginalized communities and attend under-resourced schools. Being unsupervised in the after-school hours is associated with substantial risk for young people, suggesting that involvement in any supervised after-school programs is preferable to being left unsupervised.[38] Consequently, it may be better if researchers and practitioners focus on improving the quality of programs rather than on simply attempting to prove whether particular programs work.

Where Should Researchers and Practitioners Focus in the Future?

As we've noted, evaluations of after-school programs—and the conclusions we can draw from them—have been limited in various ways. Self-selection into programs restricts our ability to ascertain their effects and determine whether any given findings generalize to groups of young people who differ in substantial ways from those studied. Other complicating factors include the tremendous variety in purpose, activities, and dosage (that is, frequency and length) across SEL-focused after-school programs. All these factors likely play a role in determining the extent to which young people benefit. And as we've mentioned, young people's own attributes also likely influence their experiences in programs, meaning that some of them benefit more than others.

It's important to highlight all the challenges facing evaluations of SEL-focused after-school programs, because these challenges can contribute to inconsistent findings across evaluation studies. They can lead us to find effects that don't exist and to miss effects that do. Currently, many researchers argue that better integration of multiple approaches to evaluation could better account for the complexities inherent in evaluating SEL-focused after-school programming.[39] Although randomized design has been upheld as the gold standard for evaluating program effects, this approach does little to help us identify how and why programs benefit (or fail to benefit) young people. When assessments are limited to closed-ended measures, and only include measures of attitudes and behaviors before and after a program, evaluators miss the opportunity to collect more detailed information about how individuals experienced the program and what they found to be most or least beneficial. As a result, evaluators may not be able to explain what about the program made a difference (or why it didn't)—and that's the kind of information that can help programs improve. Integrating various approaches to evaluating programs—for example, by including open-ended interviews with program staff and participants—could help researchers determine not just whether a program benefited its participants, but also understand why it did or did not confer benefits and in what other contexts we may or may not expect to see effects.[40] Extensive observations of highly effective SEL-focused after-school programs have identified universal processes that effectively build SEL across different programs, and they've pointed to program practices that best promote these processes.[41] And new measures (for example, the Youth Program Quality Assessment) have been developed to assess two critical ingredients of SEL-focused after-school programs: the quality of the setting as a whole, and the experiences and interactions of the young people and adults in that setting.[42]

Measuring these dimensions also can help to capture universal processes that drive program effects, and programs can use such assessments to drive improvements in their practices. The notion that only researchers should conduct evaluations is antiquated. Scholars increasingly advocate for greater bidirectional influence between research and practice and for shifting the broader agenda of evaluation research away from proving what works to identifying opportunities to improve programs.[43] This approach to evaluation could greatly enhance the experiences and outcomes of young people who attend SEL-focused after-school programs.

We also advocate for considering social justice in the practice and study of SEL-focused after-school programing. For example, we should ask what program factors can promote the greatest improvements among the most marginalized and underserved youth.[44] Moreover, underserved youth may find it harder to get to after-school programs because of factors such as cost and transportation. If they can't get to after-school programs, they're likely to spend more time in unsupervised and unstructured activities, placing them further at risk for poor outcomes. Staff turnover and limited program offerings also tend to be more common in programs that serve marginalized youth. In this way, after-school programs may replicate and extend societal inequality. If young people's experiences in after-school programs vary in accordance with their access to resources more generally, such programs will exacerbate disparities rather than remedy them.

Implications for Policy

To bolster the potential of after-school programs to promote improvements in SEL, we must look beyond research and practice to consider the pivotal role of policy. To start, we make several recommendations for policy changes at various levels that could make adult staff more effective. Positive youth-staff relationships likely are the driving force of effective after-school programs targeting SEL outcomes, and a number of structural program elements may determine whether these relationships confer benefits to participating youth. For example, a high youth-staff ratio and high staff turnover can undermine the formation of strong ties between young people and adults. High-quality programs have been found to have low staff turnover rates and to hire staff with more experience and higher levels of education.[45] Yet the after-school workforce as a whole tends to have high turnover rates, and workers enter the field with mixed levels of relevant prior experience—and, as with other childcare jobs, the pay is low.[46] Thus, programs may have a hard time hiring and retaining the most qualified people.

One way to boost staff quality is to professionalize after-school staff positions.[47] These positions often feature low status and low pay, and they seldom provide opportunities for hierarchical advancement within a youth-serving organization. A greater emphasis on professional development, growth, and career advancement is key to improving staff quality and retention. Furthermore, staff evaluations should focus explicitly on the quality of interactions with young people, and incentives should be provided for staff members who consistently perform well or demonstrate improvements. We can also help create professional networks of

youth workers—similar to teacher learning communities—so that they can learn from one another and access in-person and online opportunities for networking, training, and support.[48]

Another challenge is that staff positions in after-school programs are, by their very nature, part-time. Hence they may be better suited to young adults who are completing their education, or to retirees. One way to encourage young adults to take these positions would be to forgive student loans in exchange for a set time commitment to after-school programs in underserved communities. Such an approach could make these positions more desirable for young adults and diminish staff turnover in under-resourced programs. Giving young adults opportunities to advance into full-time positions in an organization could also help to attract qualified staff and would increase opportunities for junior leadership. And some organizations, such as Boys and Girls Clubs of America, have junior staff programs in which teenage participants undertake an apprenticeship program aimed at developing their skills and interests in human services work. In any program, as staff members move through the ranks, they could mentor less experienced hires.

Another option for overcoming the problems associated with part-time work would be to hire staff who can combine school and after-school work hours. This could mean hiring teachers and teacher's aides as after-school program staff or finding opportunities for after-school staff to extend their hours by working in schools during the day.[49] Such an approach might not only enhance the quality of after-school program staff, it could also bridge young people's school and after-school experiences. Consistency of adults across different contexts can further support SEL development.

Policy could also alter the approach to evaluating after-school programs by broadening the criteria used to determine whether programs are effective and, consequently, worth funding. The current overemphasis on academic and economic outcomes leads to neglect of SEL outcomes that are valuable in their own right and also have great potential to foster more successful life outcomes over time. Focusing exclusively on academic improvement or reductions in problem behavior as the key determinants of effective after-school programming can mean taking resources away from programs that effectively foster growth in SEL competencies. And because SEL competencies can take time to translate into improvements in academic performance and classroom behavior, programs shouldn't lose funding if little or no immediate change can be seen in those outcomes. Expanding the criteria used to evaluate programs to include key SEL outcomes could also help to produce productive and engaged citizens, rather than just high-achieving students.[50] Collectively, we should invest in supporting the next generation's ability to make positive contributions to society in many areas. Undoubtedly, feeling self-confident and being able to effectively manage relationships with others are central to engaged citizenship, and the personal and social skills that constitute SEL are at the core of civil society.

We've discussed the need for evaluations of after-school programs to shift from focusing

solely on whether programs are effective to focusing on how to make them work better. The current policy environment isn't structured to support such a shift. Notions of accountability reinforce the removal of human and financial support from programs when evaluations don't show effects. This policy climate may, in fact, discourage programs from seeking evaluation and may undermine opportunities to learn about nuanced aspects of programs that could be modified to yield program benefits. An alternative approach to evaluation would prioritize finding the key elements of features or practices that have been linked to improvements in after-school participants' outcomes. Evaluation data could then drive program improvements and subsequent re-evaluation. High-stakes evaluations create a disincentive for programs to undertake the difficult work of assessing their practices and outcomes. But creating incentives for evaluation would better support after-school programs' efforts to further develop and refine their approaches to fostering young people's SEL development. After-school programs are uniquely positioned to further the goals of the SEL movement. Not only are their objectives aligned with those of targeted SEL interventions, they also can help level the playing field for young people with the fewest resources. Thus, allocating more attention and resources to determining how we can best promote SEL after school holds promise for broadening the SEL movement's impact on all young people.

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Social and Emotional Learning and Equity in School Discipline

Anne Gregory and Edward Fergus

Summary

Beginning as early as preschool, race and gender are intertwined with the way US schools mete out discipline. In particular, black students and male students are much more likely than others to be suspended or expelled—punishments that we know can hold them back academically. These disparities, and the damage they can cause, have driven recent reforms, including some that incorporate social and emotional learning (SEL) practices.

Anne Gregory and Edward Fergus review federal and state mandates to cut down on punishments that remove students from school, and they show how some districts are embracing SEL in their efforts to do so. Yet even in these districts, large disparities in discipline persist. The authors suggest two reasons current discipline reforms that embrace SEL practices may hold limited promise for reducing discipline disparities.

The first is that prevailing "colorblind" notions of SEL don't consider power, privilege, and cultural difference—thus ignoring how individual beliefs and structural biases can lead educators to react harshly to behaviors that fall outside a white cultural frame of reference. The second is that most SEL models are centered on students, but not on the adults who interact with them. Yet research shows that educators' own social and emotional competencies strongly influence students' motivation to learn and the school climate in general.

Gregory and Fergus describe how one school district is striving to orient its discipline policies around a conception of SEL that stresses equity and promotes both adults' and students' SEL competencies. Although such reforms hold promise, they are still in the early stages, and the authors call for rigorous empirical work to test whether such efforts can substantially reduce or eradicate racial and gender disparities in discipline.

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Growing evidence shows that suspending or expelling students from school for misconduct can harm their academic progress.[1] We also know that students' race and gender play a role in how school discipline is meted out. Statistical comparisons of students who've been referred for discipline for similar reasons (such as fighting) show that black students and male students are more likely to receive out-of-school suspension than white students and female students.[2]

Such disparities are spurring reforms at all levels of government. For example, the federal Every Student Succeeds Act (ESSA), signed into law in 2015, specifies that one way to support learning is to curb the overuse of disciplinary practices that remove students from the classroom. Reforms are happening at the state level as well. California schools can't suspend students in kindergarten through third grade for infractions that don't threaten others' safety, such as "disruption" and "willful defiance." Connecticut has banned suspension of young students for any reason, with minor exceptions. Some school districts, such as Denver, CO's, have revised their student codes of conduct in response to grassroots organizing by parents and students, who filed complaints and produced reports documenting disparate suspension patterns. And civil rights investigations by the US Department of Justice have spurred extensive reforms in places like Oakland, CA.

In this article, we describe recent federal and state legislative policy reforms that aim to reduce schools' reliance on suspension. We also give examples of local efforts to reduce discipline disparities by incorporating social and emotional learning (SEL) practices—thus making room for more developmentally appropriate, SEL-oriented approaches to behavior. We describe in detail the multifaceted efforts of three school districts where proposed changes in disciplinary procedures and practices will likely create more opportunities for student SEL and for structures that support SEL among adults in the schools.

Yet even if race- and gender-based equity discipline reforms fully embrace SEL as most people now understand it, the promise for substantially narrowing or eliminating disparities remains limited. That's because the prevailing understanding of SEL is "colorblind" and doesn't take power, privilege, and culture into account. Another limiting factor is an emphasis only on students' SEL, despite the evidence that students' and teachers' social and emotional competencies are interrelated.[3] We believe that more promising policy reforms could arise if we reconceptualized SEL to account for the cultural beliefs, biases, and power dynamics that privilege developmental expressions of behavior that are more likely to be nurtured among white middle-class children.[4] We speculate that this approach would make school environments healthier both socially and emotionally, while also strengthening educators' own social and emotional competence and improving their ability to foster students' SEL.

Racial and Gender Disparities in School Discipline

Latino, American Indian, and black youth—particularly black males in special education—are significantly

more likely than other students to be referred to school administrators for discipline problems. They are also more likely to be punished by out-of-school suspension, expulsion, or a referral to law enforcement—a fact that's well documented across states, districts, and schools.[5] Recent research has found that lesbian, gay, bisexual, and transgender students may also be disciplined more often.[6]

School discipline, poor achievement, and contact with the juvenile justice system are interconnected.[7] For example, researchers who followed a large cohort of Florida youth beginning in ninth grade found that each suspension the students experienced decreased the odds of their graduating from high school by 20 percent and of enrolling in college by 12 percent.[8] A Texas statewide study found that students suspended or expelled for a discretionary school violation—that is, a violation for which suspension or expulsion wasn't mandatory, allowing administrators to exercise discretion in assigning consequences—were about three times more likely than other young people to have contact with the juvenile justice system in the next school year.[9] Over the long term, these facts imply that groups of students who are disproportionately suspended are less likely to succeed in life.

In this article, we focus on race and gender disparities between black and white youth because these groups have the most consistent and longstanding discipline gaps. The differences are striking: black youth are two to three times more likely than white youth to be suspended. Similar disparities occur between male and female students; still, in many schools the suspension rate for black female students surpasses the rate for male students who aren't black.

The discipline gap between black and white students starts as early as preschool.

The discipline gap between black and white students starts as early as preschool. National data from 2013–14 show that although only 19 percent of preschool children are black, they represent 47 percent of preschool children who receive one or more out-of-school suspensions. These disproportionalities continue as students proceed through elementary, middle, and high school.

Could the disparities we see across racial groups be driven by other differences that fall along racial lines? The answer is no: rigorous research has shown that disparities in income, special education placement, and academic achievement don't fully explain the high rates at which black students are disciplined. For example, when researchers in the above-mentioned Texas study used statistical analyses to account for 83 possible differences among students (such as income and achievement), being black rather than white placed a student at a statistically significant higher risk of being suspended.[10]

Other studies have shown that black students are at risk for receiving harsher sanctions when compared to white students whose misconduct was equally serious.[11] When a black student and a white student who are comparable in many ways are issued

discipline referrals for similar reasons, the black student is more likely to receive an out-of-school suspension—thereby losing more days of instruction than the white student, who is more likely to receive detention or in-school suspension. This suggests that the adult assigning the sanctions may harbor implicit or explicit racial bias. Yet attributing racial disparities to bias on the part of the adults who assign sanctions is too simplistic. Bias-based beliefs and inappropriate processes and procedures in the school's structure also contribute to racial inequality.[12]

Evidence that exclusionary discipline is harmful—and that students face persistent discipline disparities by gender and race—has spurred a wave of reforms. Next we examine the range of reforms at the federal, state, and local levels, and the degree to which these reforms might increase SEL opportunities in schools.

Federal and State Policies to Reduce Suspension

Federal and state discipline reform policies don't directly call for more SEL opportunities for students. Instead, they tend to focus on reducing the use of suspension in general. The 2015 reauthorization of the Elementary Secondary Education Act—now called the Every Student Succeeds Act (ESSA)—establishes the federal government's perspective and approach on discipline. ESSA seeks mainly to curtail the overuse of exclusionary practices that remove students from the classroom. The act outlines five strategies for doing so:

1. State education agencies will now be required to collect data from school districts on different forms of exclusionary discipline.
2. State education agencies will receive funds to support activities and programs on behavioral interventions.
3. State education agencies will develop plans for supporting school districts in reducing their use of exclusionary discipline.
4. School districts will develop plans for reducing the use of exclusionary discipline.
5. School districts will identify schools with high rates of discipline disaggregated by subgroups.

Together, these strategies promise to help reduce discipline disparities by requiring that states identify discipline problems, collect data on them, and support behavioral interventions.

Though ESSA doesn't explicitly mention discipline disparities, a resource guide from the US Department of Education spells out the connection between disparate outcomes and some of the ESSA policy provisions, framing racial disparities in discipline as a civil rights issue.[13] The guide states that the disparities documented by the department's Office for Civil Rights don't occur by chance, and that school districts therefore need to know their statutory obligations to ensure that discipline is administered without discrimination on the basis of race, gender, or national origin. To prevent discrimination, the guide argues, school districts must understand that "fair and equitable discipline policies" are part of a school environment that helps all students learn and grow. According to the guide, "Equipping school officials with an array of tools to support positive student behavior,

thereby providing a range of options to prevent and address misconduct … will both promote safety and avoid the use of discipline policies that are discriminatory or inappropriate."[14]

Together, ESSA and the DOE resource guide make room for schools to consider SEL approaches to handle student behavior. Moreover, a directory in the DOE guide offers resources for training and interventions focused on SEL. But we don't yet know whether states and districts will provide more SEL opportunities for students in response to federal policy changes that aim to reduce reliance on suspensions

State Legislation

States have also passed legislation recognizing that exclusionary discipline fails to create safer school environments and should be used sparingly. For example, California Assembly Bill 1729, which took effect in 2013, mandates that suspension should not be the first disciplinary consequence for students. According to the bill, "The overuse of school suspension and expulsion undermines the public policy of this state and does not result in safer school environments or improved pupil behavior."[15] In 2010, Connecticut lawmakers removed suspension and expulsion as an option at the preschool level.[16]

In other states, legislators are seeking to reframe zero tolerance policies to give school and district administrators the discretion to use less exclusionary practices. For example, a Colorado law argued that:

> The use of inflexible "zero tolerance" policies as a means of addressing disciplinary problems in schools has resulted in unnecessary expulsion, out-of-school suspensions, and referrals to law enforcement agencies … [and that] state laws must allow school administrators and local boards of education to use their discretion to determine the appropriate disciplinary response to each incident of student misconduct.[17]

Another argument is that exclusionary practices are inappropriate for children at certain developmental stages, particularly elementary-age children. For example, California's Assembly Bill AB420—which passed in 2014 and took effect January 1, 2015—prohibits school districts from using in-school and out-of-school suspension for students in kindergarten through third grade for disruption or willful defiance.[18] In 2015, Connecticut's General Assembly prohibited schools from suspending children in second grade and below, except for possession of weapons.[19] That same year, Oregon's State Legislature moved in a similar direction, limiting the circumstances in which students in fifth grade and below may be suspended or expelled. Oregon's law also requires school administrators to consider students' age and behavior patterns before imposing suspension.[20]

Banning or limiting the suspension of young children may help states reduce lost instructional time. It can also interrupt a reinforcing circle of disengagement and punishment for students from groups that have traditionally been suspended disproportionately. In preschools and elementary schools, removing or limiting suspension also opens up opportunities for different approaches to handling student behavior. Without the option of sending a student home, schools may seek other ways

Overall, policymakers and practitioners are recognizing that exclusionary disciplinary practices don't improve the quality of children's educational experience.

to deal with misconduct, and educators in schools with traditionally high suspension rates could be prompted to turn to SEL approaches. The laws may compel educators to shift from a punishment mindset to a developmental perspective, which recognizes that fostering students' social and behavioral competencies will help them follow school rules.

Overall—as the framing of state and federal discipline policy reform shows—policymakers and practitioners are recognizing that exclusionary disciplinary practices don't improve the quality of children's educational experience. Policies that aim to identify more inclusive disciplinary practices may help usher in SEL as a discipline reform strategy. However, it's still an open question whether such policy changes will actually give students new opportunities to learn, improve, and practice SEL skills.

School District Discipline Reforms

If federal and state reforms have made room for SEL by reducing reliance on suspension, some district-level reforms have gone a step further by embracing an SEL orientation. In other words, these districts are orienting policies and practices toward increasing SEL opportunities in schools.

To illustrate this point, we briefly describe discipline reforms in three US school districts: the Syracuse (NY) City School District, Denver (CO) Public Schools, and the Cleveland (OH) Metropolitan School District. Reforms in all three districts discourage punitive discipline and emphasize prevention and early detection of behavioral difficulties, suggesting that students need opportunities to increase their social and emotional literacy.

Syracuse

Syracuse public schools began their reforms after being investigated by the New York State Attorney General's office for possible civil rights violations related to using school discipline in a manner that treated "similarly situated individuals differently on the basis of race."[21] At the time of the investigation, Syracuse's suspension rates placed it among the top 3 percent of districts in the nation. In the district's secondary schools in 2009–10, 38 percent of black students were issued one or more suspensions—14 percentage points above the national average for black high school students.[22]

In 2014, after an extended process that involved numerous constituencies, the district released a revised student code of conduct. Its aim was to ensure "that schools provide equal access to a wide range of supports and interventions that promote positive behavior, help students develop self-discipline and social and emotional efficacy, and enable students to improve and correct inappropriate, unacceptable, and unskillful behaviors."[23] Whereas typical codes of conduct usually focus on a matrix of punishments applied to each type of infraction, the Syracuse district's revised

code limits the use of in-school and out-of-school suspension, stressing that removing students from the classroom should be a last resort. With its SEL orientation, the code focuses on supports and interventions that can help students develop self-discipline. At the same time, it emphasizes equal access to such supports.

To help shift the district away from a punitive approach to behavior, the Syracuse code uses a *multi-tiered system of support*. This framework, characterized by four conceptual tiers or levels of support, aims to build capacity among all students and to intervene with greater intensity when students have more need. At the first level, school-wide efforts focus on teaching, practicing, and recognizing positive behaviors with all students. At the second level, students with specific needs receive targeted interventions. At levels 3 and 4, students with the greatest needs receive comprehensive interventions.[24] Opportunities for SEL likely arise throughout all four levels of support.

The Syracuse code also emphasizes an alternative approach to student misconduct—*restorative* interventions.[25] Such interventions can help students correct their own behaviors, solve problems, make amends and repair harm, learn new behaviors, and restore their good standing. These benefits of restorative interventions overlap conceptually with social-emotional competencies such as self-management, relationship skills, and responsible decision-making.

Denver

Like those in Syracuse, Denver's public schools have been working to reduce exclusionary discipline and integrate restorative approaches. Reforms there came in response to grassroots organizing by parents and young people in the activist group Padres & Jóvenes Unidos, which collaborated with the Advancement Project on a 2005 report drawing attention to the problem of racial disparities.[26] Since then, the group has worked with the district to support a staged rollout of restorative interventions, beginning with seven pilot schools. More than 2,500 Denver educators have now been trained to lead restorative interventions.

Unlike traditional school discipline, restorative approaches—which the Syracuse and Denver districts integrated into their equity reforms—focus on strengthening relationships, encouraging collaborative problem-solving, and giving voice to both the person harmed and the person who caused the harm.[27] Restorative practices in schools arose out of the restorative justice movement, wherein victims, offenders, and other affected people—including families and community members—meet to resolve conflicts and repair relationships.[28]

Many schools apply restorative approaches to behavior within multi-tiered systems of support. At tier 1, for example, all students participate in *community-building circles:* as they sit facing one another, they're asked to reflect on a prompt or question and then take turns voicing their perspectives. At tier 2, students affected by a minor disciplinary incident work together in *responsive circles* to resolve the problem. At tier 3, everyone involved in a serious disciplinary event participates in *restorative conferences*, in which a facilitator guides the exchange using a structured set of questions. Ultimately, participants are asked to jointly develop a solution to the problem and repair the

harm caused. Also at this tier, school administrators and others involved in a student's return to school after a long-term absence participate in a re-entry process to welcome the student back and to identify any supports the student may need.

Restorative circles and conferences are thought to offer SEL opportunities for students. When participants gather after a discipline incident, they have an opportunity to reflect on such questions as, What happened? What were you thinking about at the time? Who was affected by what you did? How has this affected you and others? What do you think needs to happen to make things right? What do you think you need to do to make things right?[29] We need more research to confirm it, but we believe that these questions may foster the type of reflection that enhances students' self-awareness, self-management, social awareness, relationship skills, and responsible decision-making.

Cleveland

Beginning in 2008–09, the Cleveland schools adopted a series of reforms to increase school safety, support students' behavioral and academic needs, and reduce punitive approaches to behavior.[30] The reforms included supports for students that were oriented toward both prevention and intervention. The reforms also established support teams to identify students who could benefit from early behavioral help, to discern the underlying reasons for the students' behavioral problems, and to develop plans accordingly.

The district also aimed to provide equitable access to such supports and interventions, a move that may especially benefit students in demographic groups that tend to be criminalized or harshly punished instead of offered help or support.[31] Cleveland revamped its in-school suspension programs as well: now called "planning centers," they use de-escalation strategies and social-problem-solving techniques to help students practice alternative ways to resolve conflicts while continuing their academic work.

The Cleveland schools also joined seven other districts around the nation in the multi-year Collaborating Districts Initiative, led by the Collaborative for Academic, Social, and Emotional Learning (CASEL). CASEL helps members of the initiative build capacity for systematic changes to enhance students' social and emotional development.[32] For example, Cleveland is training all prekindergarten to fifth-grade teachers in an SEL curriculum called Promoting Alternative Thinking Strategies in which classroom lessons that promote emotional literacy, self-control, social competence, positive peer relations, and interpersonal problem-solving skills are carried out two or more times a week for a minimum of 20 to 30 minutes per lesson. Teachers are also trained to use instructional strategies throughout the school day that reinforce concepts introduced in the formal SEL curriculum.[33]

Evidence for District-Level Change

Data show that all three districts discussed above have substantially reduced exclusionary discipline. For example, in 2014–15, when Syracuse implemented its reforms, 54 percent fewer black students were suspended than in 2011–12. The number of white students who were suspended also fell, by 39 percent. From 2006 to 2013 in Denver, the district's overall suspension rate dropped by half, from 10.58

percent to 5.63 percent. In Cleveland, suspensions dropped by 60 percent over three years. Moreover, in Cleveland schools whose principals reported medium- or high-level implementation of Promoting Alternative Thinking Strategies, discipline incidents decreased significantly in the categories of disobedient/disruptive behavior, fighting/violence, harassment/intimidation and serious bodily injury.[34]

The good news is that in all three districts, substantially fewer students were excluded from instruction for discipline infractions. The bad news is that black students' exclusionary discipline rates remained substantially higher than those of white students.

Because the three districts implemented numerous initiatives each school year, and because simply comparing pre- and post-reform discipline data only tells us so much, we can't pinpoint which programs or policies helped reduce discipline incidents and suspensions. In fact, we can't even claim that the reforms caused the reduction—that is, we can't rule out the possibility that other factors in the districts were responsible for the reductions. We also have only limited information on how well the reforms were implemented. That said, we speculate that the SEL orientation of these comprehensive reforms, as opposed to a punishment orientation, was integral to changing how these schools approached students' behavioral development. It seems reasonable to suppose that such multifaceted reforms as multi-tiered systems of support, restorative justice, and SEL coursework helped re-orient responses to behavior by emphasizing students' social and emotional development.

Persisting Disparity Despite Reforms

Although the Syracuse, Denver, and Cleveland school districts have reduced suspension rates, large racial disparities in discipline persist. For example, in Syracuse in 2014–15, black students constituted 50 percent of those enrolled but 69.5 percent of those suspended. During the same period, white students constituted 24 percent of those enrolled but only 14.1 percent of those suspended. Denver saw a slight narrowing of racial suspension gaps: from 2006 to 2013, suspension rates for black students fell by 7.2 percentage points—the largest reduction among the district's racial groups in absolute terms. Still, in 2013 the suspension rate for black students, at 10.42 percent, remained almost five times higher than that for white students, at 2.28 percent.[35] Moreover, a recent study found that black students in Denver were still significantly more likely to be suspended than white students, even after controlling for various school and student characteristics (such as low income status), the reasons students were referred to the office for misconduct (for example, tardiness versus fighting), and whether the students participated in restorative conferences or circles. These findings suggest that despite the reforms, Denver's black students continued to receive harsher sanctions for similar misconduct.[36]

The good news is that in all three districts, substantially fewer students were excluded from instruction for discipline infractions. The bad news is that black students' exclusionary discipline rates remained substantially higher than those of white students. This suggests that using an SEL orientation to guide policy and practice reform is only a first step. It's likely that the prevailing SEL mindset doesn't sufficiently account for the *ecological* conditions in schools that affect equity. In the context of schools, ecology refers to interactions between young people and the factors that influence their development—such as the quality of instruction, classroom management strategies, messages on the school walls, and so on. These ecological factors may contain bias-based beliefs and discriminatory processes that affect students' school experiences. To make more progress toward racial equity in discipline, we may need to pay more attention to such factors, as well as to the dynamics of power and privilege in the lives of students and adults.

Ecologically and Equity-Oriented SEL

We believe that even discipline reforms that fully embrace SEL as it's currently conceptualized hold limited promise for eliminating disparities, for two reasons. The first is that "colorblind" notions of SEL don't consider power, privilege, and cultural difference. The second is that prevailing SEL models are centered on students, but not on the adults who interact with them. Student-centered SEL doesn't consider the school environment, with all its multifaceted influences—policies, disciplinary practices, and interpersonal interactions guided by culturally informed adult and student social and emotional competencies.

In the 2015 *Handbo*ok of Social and Emotional Learning, psychologist Joseph Durlak of Loyola University Chicago and his colleagues present a conceptual SEL model of coordinated classroom, school, family, and community strategies that are supported through district, state, and federal policies. They argue that a positive school climate and fair and equitable discipline are integral to school-wide SEL. In the same volume, Patricia Jennings and Jennifer Frank of Pennsylvania State University draw on categories developed by CASEL—which we discuss in more detail later in this article—to argue that educators themselves need social and emotional competencies. For example, they write, teachers with high self-awareness recognize their own emotions and can motivate students to learn through joy and enthusiasm. Teachers with high social awareness understand how their own emotions and those of their students' affect one another. And teachers with strong relationship-building skills develop mutual understanding with their students, consider multiple perspectives during conflicts, and resolve disputes skillfully.[37]

Other scholars have also made the case that educators' social and emotional skills are essential for building positive student relationships and preventing discipline incidents.[38] Whereas typical SEL interventions tend to focus on students' skills, some interventions do aim to strengthen those of educators. For example, the RULER program developed at Yale University helps teachers

recognize, understand, label, express, and regulate emotions.[39]

We're concerned that when schools implement equity-oriented discipline reform, they may lose sight of ecological, school-wide perspectives on SEL. The reforms in Syracuse, Denver, and Cleveland lend themselves to an SEL orientation that focuses solely on the students as the problem—and, in the case of racial disparities, on black students with SEL "deficits" as the problem. Unfortunately, these reforms pay little attention to beliefs about race and racialized groups that set the stage for how SEL practices are interpreted and enacted. For instance, researchers have shown that teachers' beliefs are correlated with students' academic performance.[40] One study found that teachers' beliefs about cognitive ability among different groups contribute to whether black students were identified for gifted-student programs.[41] Yet beliefs alone don't produce disparate outcomes. Instead, beliefs foster discriminatory behaviors that then contribute to excessive referrals of racial/ethnic minority students for special education and discipline.[42]

Thus as schools adopt discipline reforms, we worry that students may become the sole focus and that schools won't seek to improve the equity-oriented social and emotional competencies of adults—or, for that matter, of the system as a whole. For example, multi-tiered systems of support tend to focus on changing student behavior, identifying students' behavioral needs, and developing individualized interventions to help those students. Restorative justice focuses on giving students new ways to build community, resolve conflict, and repair harm. Both these strategies put less emphasis on the need for adults to increase their own social and emotional competencies. In the case of multi-tiered systems of support, adults may need to shift away from a tendency to reprimand and toward a habit of acknowledging and teaching positive behavior. In the case of restorative justice, adults may need to learn how to listen as students share their perspectives, how to temper their concerns about giving students' authority in resolving conflicts, and how to practice sharing their own emotional experience of discipline incidents.

We also worry that "colorblind" notions of SEL limit the degree to which an SEL orientation can substantially narrow or eliminate racial disparities in school discipline. Duke University sociologist Eduardo Bonilla-Silva lays out a sound theoretical case for this concern. He describes colorblindness as a new form of racial ideology that emerged after the civil rights era, with three key beliefs:[43]

1. The best way to remove racism is to omit race, gender, and other social identities as descriptors.

2. We should treat people as individuals, without considering their social identities.

3. We should focus on the commonalities among people.

The first and second features of this ideology sustain a white cultural frame as a way of viewing the world. Imagine an educator seeing a white student and a black student arguing in a hallway, or an educator reprimanding a Mexican American student for speaking Spanish in the hallway. In those examples, educators using a white cultural

frame might view the black student's argumentative stance as "menacing" or "threatening" and the Mexican American student's use of Spanish as disrupting the dominance of English.

In SEL, colorblindness can lead to an unspoken conceptualization of social and emotional competencies based on a white cultural frame.

Bonilla-Silva argues that the third feature of colorblindness ideology—focusing on people's commonality—has led to rationalizing racial inequality as a product of "market dynamics, naturally occurring phenomena, and blacks' imputed cultural limitations."[44] For example, he writes, this belief is used to make assertions such as "Latinos' high poverty rate [is due] to a relaxed work ethic, or residential segregation [is due to] natural tendencies among groups."[45] Extending Bonilla-Silva's theory, we propose that in SEL, colorblindness can lead to an unspoken conceptualization of social and emotional competencies based on a white cultural frame and the idea of commonalities. This prevents any exploration of other expressions of SEL that are tied to race- and gender-based marginalization.

Finally, we believe that SEL today is too narrowly focused on how social and emotional competencies can enhance student academic performance or improve self-regulation so that students comply with adults' instructions. We agree with University of Michigan psychologist Robert Jagers, who says that SEL can "advance resistance to oppression and collective wellbeing for a range of disenfranchised groups."[46] Jagers argues that SEL programs can position students as experts in promoting equity and justice. Such a shift in the purpose of SEL, we hypothesize, would promote students' agency and their critical consciousness about the sociohistorical conditions of power and privilege.

Equity-Oriented Social and Emotional Competencies

We believe educators and scholars need to further refine theory and conduct empirical testing to develop a more comprehensive, equity-oriented conceptualization of the five widely recognized social and emotional competencies set forth by CASEL: self-awareness, social awareness, self-management, relationship skills, and responsible decision-making.[47] These competencies could be augmented to make them more sensitive to the ways that culture, power, and privilege affect schools and students. More specifically, we should consider how students from marginalized groups are expected to attain the same SEL competencies as white students, who don't face the constraints imposed by power and privilege.

As an illustration, we offer some preliminary ideas about how equity considerations might be integrated into educators' own social and emotional competencies. (We acknowledge that these ideas must be empirically tested.)

Self-awareness is the ability to understand your own emotions, values, and personal goals. To advance equity, educators could examine their own conscious and unconscious beliefs, and consider whether

they hold negative stereotypes about students' cultural and stylistic codes.[48] When they see students of color who sag their pants, for example, some teachers may make snap judgments—stereotyping the students as not committed to education or prone to reject adult authority. Educators could also examine how their unconscious beliefs affect their decision-making. In a recent experimental study, teachers were shown an office discipline referral for a student with two incidents of misconduct. The researchers varied the name of the disciplined student, sometimes using a stereotypically black name (Darnell or Deshawn), sometimes a stereotypically white name (Greg or Jake). The teachers indicated that students with stereotypically black names should be disciplined more severely than those with stereotypically white names.[49] Those harsher sanctions for students with stereotypically black names may have been affected by implicit racial bias. This study suggests that for educators to overcome what University of Wisconsin psychologist Patricia Devine—an expert on prejudice—calls the "habit" of implicit bias, they need strategies to recognize it.[50]

Educators committed to raising their self-awareness might also consider how their cultural frame of reference affects their personal goals and values. While at Smith College, Ann Arnett Ferguson observed teacher-student interactions in an elementary school and found that teachers affirmed and elevated the expressive modes of the dominant societal group and devalued the expressive mode of African American boys. She writes, "A defiant, challenging oppositional body; dramatic, emotional expressions; [and] a rich, complex nonstandard vocabulary establish the 'outer limits' in a field of comparison in which the desired norm is a docile bodily presence and the intonation and homogenous syntax of Standard English."[51] Educators who learn to scrutinize their own culturally informed values might be able to detect when they're honoring familiar forms of student behavior and speech—and when they're monitoring and punitively responding to behavior and speech less aligned with their own culture.

Social awareness is the ability to take the perspective of people with different backgrounds or cultures and to empathize and feel compassion. To develop their social awareness, educators likely need to minimize colorblindness and adopt a sociocultural, historical orientation. This would help them understand the complex ways that valuing or devaluing certain culturally based forms of expression can contribute to discipline disparities. For example, Monique Morris, founder of the National Black Women's Justice Institute, has described how adults who criticize black girls for being loud or having an "attitude" don't understand the girls' desire to be heard and seen in the context of gender and race oppression.[52]

Adopting a sociocultural, historical orientation might help educators see how their students experience social inequalities.[53] For example, if educators understood more about systemic racism and abuse of power, they might empathize when their students of color describe feeling unfairly treated during a disciplinary incident. But achieving such empathy might be hard for many educators. It requires them to relinquish the discourse of individualism—"I am an individual. I make my own reality. I make my own path"—in explaining conditions and behaviors. Otherwise, educators will continue to see

racism as an individual act, rather than a system predicated on favoring certain characteristics and behaviors. Teachers who fail to understand that racism is systemic may perceive colorblindness as a more elevated form of social awareness.

Self-management includes skills and attitudes that regulate emotions and behaviors. Educators can help marginalized students recognize the self-management demands they face as they move between cultures.[54] When they're among friends or family, the way they express themselves may be admired. But in another context, the same expressions may be devalued or seen as disruptive. When the culture of the neighborhood, home, and peers contrasts with the culture of school and classroom, students may carry the extra burden of learning to code-switch (that is, alter language and tone depending on context) or to minimize their cultural expressions to ensure that members of dominant cultural groups feel comfortable during interactions.[55]

Relationship skills help establish and maintain healthy interactions among individuals. To do this, people need to communicate clearly, listen well, cooperate, and resolve conflict when necessary. Relationship skills may be especially important for the predominantly white and female teaching force to develop trust with their diverse students. Compared to white students, black and Latino students tend to report less support from adults in school.[56] Elementary teachers have reported less warmth in their relationships with black students compared to their white students.[57] And the largest discipline disparities between black and white students occur for reasons related to perceived disruption and defiance—disparities that may reflect the poorer quality of relationships between teachers and their black students.[58] Taken together, these findings suggest that educators need to strengthen their relationship skills and develop trust among students from diverse groups.

Responsible decision-making includes the consideration of ethical standards, safety, social norms, and your own wellbeing and that of others when making choices about personal behavior and social interactions. When educators must make choices about disciplinary policy and enforcement, responsible decision-making can guide them to consider the potential effects on diverse groups. For example, Edward Fergus (an author of this article) learned that the administrators in a certain high school recently required all students to address their teachers using "Ms." or "Mr." and their surname. The aim was to promote more respectful interactions between teachers and students. But after the policy was implemented, Spanish-speaking students were being issued numerous discipline referrals for not using "Ms." or Mr." Instead, they tended to use "*maestra*" and "*maestro*"—a cultural norm demonstrating respect for the instructor. Thus the blanket policy didn't consider the new rule's cultural specificity and its adverse effect on Spanish-speaking students. Administrators versed in equity-oriented responsible decision-making might have adjusted the policy to head off this disparate impact.

A Framework in Oakland, CA

The Oakland Unified School District (OUSD) is striving to orient its discipline policy toward ecologically and equity-oriented SEL. The district's reforms are still

in the early stages, and rigorous empirical work will be needed to test whether these efforts can substantially reduce or eradicate racial and gender disparities in discipline. Moreover, the OUSD reforms include the expansion of charter schools, which some community members fear will undermine initiatives in the district's traditional public schools.[59] A local blogger expressed skepticism about the changes: "For many who have watched these cycles of reform, it seems that they are just that—cycles—that often leave us in roughly the same place we started, with fewer resources, and more discouraged stakeholders, with a lot of talk, paper, and bills from consultants, but no better schools for underserved students."[60] However, we believe that the policy OUSD is developing may eventually align discipline reforms with ecologically and equity-oriented SEL.

In 2012, OUSD entered a Voluntary Resolution Agreement with the US Department of Education, Office for Civil Rights to end its investigation into racial discrimination in the district.[61] The district agreed to use:

- school-wide Positive Behavior Intervention Supports that encourage adults to establish clearly defined expectations of behavior and systematically reinforce positive student behavior throughout the school;
- restorative practices that aim to repair harm, restore relationships, and build community;
- services that incorporate understanding of trauma effects and wraparound supports (that is, an individualized plan of care developed by a collaborative team);
- data to improve and revise strategies; and
- discipline policies that reduce the use of exclusionary discipline.

These reforms are similar in many ways to those adopted in Syracuse, Denver, and Cleveland. But the OUSD went further by introducing the Manhood Development Program (MDP), which is grounded in equity-oriented SEL.[62] An in-school elective for black male middle and high school students, the program aims to help these young people develop positive cultural identities, culturally relevant social and emotional competencies, and academic skills. OUSD also joined CASEL's Collaborating Districts Initiative, which we described earlier.

After several years of reforms, OUSD made progress in shifting disciplinary practices. From 2011 to 2013, its overall suspension rate dropped from 13.2 percent to 10.2 percent; the suspension rate of black students decreased by 7 percentage points—the greatest decrease relative to other groups.[63] From 2011 to 2014, the number of referrals issued to black males for disruption or willful defiance declined by 37 percent.[64] Yet despite progress over several years of reform, the racial discipline gap persisted. In 2013, the suspension rate of black students (20.5 percent) remained about ten times higher than that of white students (1.8 percent).[65] Given these persistently large disparities, the district worked to strengthen its reforms by aligning them with ecologically and equity-oriented SEL.

In recent public statements and board policies, OUSD administrators have drawn explicit links between SEL, equity, and system-wide institutional practices and

procedures.[66] For example, the district integrated its concerns about equity into an SEL guidance document that explains:

> OUSD aims to seamlessly integrate Social Emotional Learning into the academic experience of all our students and across our organization for every adult. We seek to reverse old paradigms predicated on hierarchy, violence, race, and subordination. Instead, equality, mutual respect, collaboration, civic participation, high academic achievement, and joy in learning will be the norm.[67]

OUSD administrators are also introducing new professional development and learning opportunities for teachers, leaders, and staff members. For example, the district has created a Teacher Growth and Development System that integrates teachers' goal-setting with equity, SEL, and cultural competence.[68] The system's rubric asks observers to rate teaching performance in four domains, using performance indicators that regularly encompass equity and SEL. For example, in the domain "Building a supportive and challenging learning environment," the rubric describes teacher and student behaviors that touch on issues of equity and SEL. It asks whether students "make connections between curriculum and personal community and culture" and "describe the classroom as a place where they feel accepted." It also questions whether teachers "accept different registers of language and explicitly teach their appropriate use in different contexts (code-switching)" and "address systems of power and privilege, even in mono-cultural classrooms, in a way that decreases bias and increases equity." By measuring such observable behaviors in the classroom and setting concrete goals for progress, the district believes the rubric will provide a roadmap for improvement. In this way, teachers can improve their own and their students' social and emotional competencies and increase equitable outcomes in the classroom.

OUSD illustrates how one district is striving to move beyond discipline policy reforms that ignore the role of power and privilege. Since OUSD's reforms are in the early stages, we don't yet know whether they'll substantially reduce or eliminate gender and racial disparities in discipline. The district's challenge now is to bridge the substantial gap between policy and practice.

Conclusions

State and federal discipline policy reforms aim to reduce reliance on suspension. In doing so, they make room for more developmentally appropriate SEL-oriented approaches to behavior. Many school districts are undertaking multifaceted reforms that integrate a range of programming, some with the potential to provide SEL opportunities to marginalized students. Yet we believe that a student-focused and colorblind conceptualization of SEL limits the potential of these reforms to substantially reduce racial and gender discipline disparities. Though SEL as currently conceived might narrow these gaps, we've made the case that further progress may require an ecologically and equity-oriented SEL that acknowledges the cultural and power dynamics inherent in disciplinary interactions. Such an approach could make the school environment healthier, enhance educators' own social and emotional competencies, and improve their ability to foster students' SEL.

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Social and Emotional Learning and Teachers

Kimberly A. Schonert-Reichl

Summary

Teachers are the engine that drives social and emotional learning (SEL) programs and practices in schools and classrooms, and their own social-emotional competence and wellbeing strongly influence their students. Classrooms with warm teacher-child relationships support deep learning and positive social and emotional development among students, writes Kimberly Schonert-Reichl. But when teachers poorly manage the social and emotional demands of teaching, students' academic achievement and behavior both suffer. If we don't accurately understand teachers' own social-emotional wellbeing and how teachers influence students' SEL, says Schonert-Reichl, we can never fully know how to promote SEL in the classroom.

How can we boost teachers' social-emotional competence, and how can we help them create the kind of classroom environment that promotes students' SEL? Teachers are certainly at risk for poor social-emotional wellbeing. Research shows that teaching is one of the most stressful occupations; moreover, stress in the classroom is contagious—simply put, stressed-out teachers tend to have stressed-out students. In the past few years, several interventions have specifically sought to improve teachers' social-emotional competence and stress management in school, and Schonert-Reichly reviews the results, many of which are promising.

She also shows how teachers' beliefs—about their own teaching efficacy, or about whether they receive adequate support, for example—influence the fidelity with which they implement SEL programs in the classroom. When fidelity is low, SEL programs are less successful. Finally, she examines the extent to which US teacher education programs prepare teacher candidates to promote their own and their students' social-emotional competence, and she argues that we can and should do much more.

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As the articles in this issue attest, research in the field of social and emotional learning (SEL) has grown dramatically in recent years. We've learned that we can promote students' social and emotional competence, and that doing so increases not only their SEL skills but also their academic achievement.[1] In other words, for our children and youth to achieve their full potential as productive adult citizens, parents, and volunteers in a pluralistic society, educators must focus explicitly on promoting social and emotional competence.

Teachers are the engine that drives SEL programs and practices in schools and classrooms. Yet until recently, their role in promoting SEL and their own social and emotional competence and wellbeing have received scant attention. What do we know about teachers and SEL? Do they buy in to integrating SEL in their classrooms? What about their own social and emotional competence and wellbeing? How does teachers' social-emotional competence influence students' SEL, and how can we promote it? How do teachers' beliefs about SEL influence their implementation of SEL programs? And do prospective teachers receive any information about SEL and their own social and emotional competence in their teacher preparation programs?

The importance of these questions should not be underestimated. If we don't accurately understand teachers' own wellbeing and how teachers influence students' SEL, we can never fully know whether and how to promote SEL in the classroom. Such knowledge could not only guide theory, it could also give us practical information about how teachers can steer students toward becoming socially skilled and well-rounded individuals, ready to responsibly navigate their personal and professional paths to adulthood.

SEL and Teachers: A Framework

Extensive research evidence now confirms that SEL skills can be taught and measured, that they promote positive development and reduce problem behaviors, and that they improve students' academic performance, citizenship, and health-related behaviors.[2] Moreover, these skills predict such important life outcomes as completing high school on time, obtaining a college degree, and securing stable employment.[3] Recent empirical evidence showing that SEL promotes students' academic, life, and career success has led to federal, state, and local policies that support social, emotional, and academic growth in our nation's young people.

Several organizing frameworks for SEL have been proposed, each outlining various components that influence SEL, such as school culture and climate, or teachers' pedagogical skills. Each framework identifies similar student outcomes, such as greater academic achievement and improved social-emotional competence. Many of these frameworks share three distinct and interrelated dimensions—the learning context, students' SEL, and teachers' SEL—and any discussion of SEL should include all three. In figure 1, these three dimensions are portrayed in a circle to illustrate their interconnectedness: each dimension influences and is influenced by the others.

The Learning Context

To be effective, SEL skill development and interventions should occur in a safe, caring, supportive, participatory, and well-managed

environment—that is, an environment that supports students' development and lets them practice the skills they learn. The learning context encompasses such factors as communication styles, performance expectations, classroom structures and rules, school organizational climate, commitment to academic success for all students, district policies, and parental and community involvement.

Children who feel comfortable with their teachers and peers are more willing to grapple with challenging material and persist at difficult learning tasks.

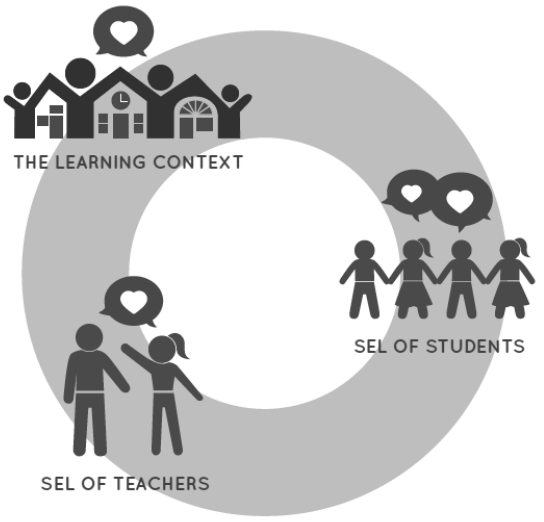
Students' SEL

SEL involves the processes by which people acquire and effectively apply the knowledge, attitudes, and skills to understand and manage their emotions, to feel and show empathy for others, to establish and achieve positive goals, to develop and maintain positive relationships, and to make responsible decisions. Based on extensive research, the Collaborative for Academic, Social, and Emotional Learning (CASEL) has identified five interrelated competencies that are central to SEL: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making.[4]

Teachers' SEL

Teachers' social-emotional competence and wellbeing strongly influence the learning context and the infusion of SEL into classrooms and schools.[5] Teachers' own competencies shape the nature of their relationships with students; according to researchers Patricia Jennings of the University of Virginia and Mark Greenberg of Pennsylvania State University, "the quality of teacher-student relationships, student and classroom management, and effective social and emotional learning program implementation all mediate classroom and student outcomes."[6] Classrooms with warm teacher-child relationships promote deep learning among students: children who feel comfortable with their teachers and peers are more willing to grapple with challenging material and persist at difficult learning tasks.[7] Conversely, when teachers poorly manage the social and emotional demands of teaching, students demonstrate lower performance and on-task behavior.[8] Clearly, we need to optimize teachers' classroom performance and their ability to promote SEL in their students by helping them build their own social-emotional competence.[9] I discuss this topic in more depth below.

Figure 1. Three-Component Framework for SEL



Do Teachers Buy In to SEL?

Any discussion of teachers and SEL should begin by asking whether they accept the notion that education should explicitly promote students' SEL. Simply put, do teachers agree that SEL should be a part of education? Recent research indicates that the answer is a resounding yes. Indeed, teachers are strong advocates for students' SEL. A nationally representative survey of more than 600 teachers found that large majorities of preschool to high school teachers believe that SEL skills are teachable, that promoting SEL will benefit students from both rich and poor backgrounds, and that SEL has many positive effects—on school attendance and graduation, standardized test scores and overall academic performance, college preparation, workforce readiness, and citizenship. However, the teachers also said that to effectively implement and promote SEL skills in classrooms and schools, they need strong support from district and school leaders.[10]

Teachers' Stressful Lives

If teachers support SEL, what might prevent them from implementing SEL strategies and programs in their classrooms? Decades' worth of research shows that teaching is one of the most stressful professions in the human service industry.[11] Work-related stress encompasses the detrimental physical and emotional responses that arise from a mismatch between a job's requirements and a worker's capabilities, resources, or needs.[12] In the context of education, teachers can experience stress when they appraise a situation as threatening but have limited ability to change or improve it. Take the case of teacher autonomy: among people in professional occupations, teachers rank lowest in believing that they have a say in what happens in the workplace.[13] The percentage of teachers who report low job autonomy increased from 18 percent in 2004 to 26 percent in 2012.[14]

The proportion of teachers who report significant levels of on-the-job stress is also rising. In a recent Gallup Poll on occupational stress, 46 percent of teachers reported high daily stress—on par with nurses and just above doctors (45 percent). Teachers and nurses had the highest levels of reported stress among all occupational groups.[15]

Why does teacher stress matter for our understanding of SEL? High levels of chronic stress can lead to occupational burnout—characterized by emotional exhaustion, depersonalization, and a low sense of accomplishment in one's work.[16] What's more, teacher stress has been linked to decreased job satisfaction, poor instructional practices, and poor student outcomes.[17]

High stress levels also harm teachers' physical health and wellbeing. For example, when people are highly stressed, the quantity and quality of their sleep is severely compromised. A study of high school teachers found that 46 percent suffered excessive daytime sleepiness and 51 percent had poor sleep quality.[18] Sleep disturbances, in turn, produce a cascade of negative effects, including increased risk for infectious disease and depression, and susceptibility to illnesses such as heart disease and cancer.[19]

Chronic work stress and exhaustion among teachers is also associated with negative changes in biological indicators of stress. Recent research has found that teachers who report chronic stress demonstrate atypical

patterns of physiological stress reactivity, as assessed via daytime levels of the stress hormone cortisol.[20]

Stress Contagion in the Classroom

How does teacher stress affect students' SEL? Research shows that stress is contagious—when teachers are stressed, students suffer collateral damage. A recent study of more than 10,000 first-grade students and their teachers examined the relationship between classroom environments and the students' mental health. The researchers found that teachers who reported higher levels of stress had more students in their classrooms with mental health problems.[21] Specifically, when teachers lacked key ingredients for teaching—ranging from basic resources such as paper and pencils and heat to child-friendly furnishings and computers—students exhibited higher levels of externalizing problems (arguing, fighting, impulsive behavior, and the like), interpersonal problems (for example, trouble expressing emotions and resolving conflicts), and internalizing problems (such as anxiety, sadness, and low self-esteem). Students also suffered when teachers weren't supported by their colleagues.

My own recent research corroborates the idea that classroom stress is contagious. My colleague Eva Oberle and I examined the link between teacher burnout and student stress in a sample of Canadian fourth- and seventh-graders.[22] The teachers completed a survey called the Maslach Burnout Inventory, modified for teachers.[23] To measure students' stress, we collected their salivary cortisol. After adjusting for differences in cortisol levels due to age, gender, and time of awakening, we found that higher levels of self-reported burnout in classroom teachers could significantly predict higher morning cortisol levels in students. Although our findings were correlational, our study was the first to show that teachers' occupational stress is linked to students' physiological stress regulation. But we don't yet know the direction of the stress contagion. That is, does teacher burnout boost stress levels in students? Or do students who enter the classroom with higher levels of stress lead to increased teacher burnout?

Warm classroom environments and positive teacher-student relationships promote both academic learning and SEL.

Teacher Attrition

In addition to burnout, attrition is a major obstacle to improving teacher quality. According to a 2007 report from the National Commission on Teaching and America's Future, teacher turnover costs the United States up to $7 billion a year, and the highest turnover occurs in low-performing, high-poverty schools with a high percentage of minority students.[24] Stress and poor emotion management are the primary reasons that teachers become dissatisfied and leave their positions.[25] Another contributing factor is student behavior. For instance, one study found that among the 50 percent of teachers who eventually leave the profession permanently, almost 35 percent report that their decision was related to problems with student discipline.[26] Problems with student discipline, classroom management, and student mental health emerge at the

beginning of teachers' careers—first-year teachers tend to feel unprepared to manage their classrooms effectively, and they can't recognize common mental health problems in their students, such as anxiety.[27] On a more positive note, data also suggest that when teachers are trained in the behavioral and emotional factors that influence teaching and learning in the classroom, they feel better equipped to propose and implement classroom management strategies that deter students' aggressive behaviors and promote a positive learning climate.[28]

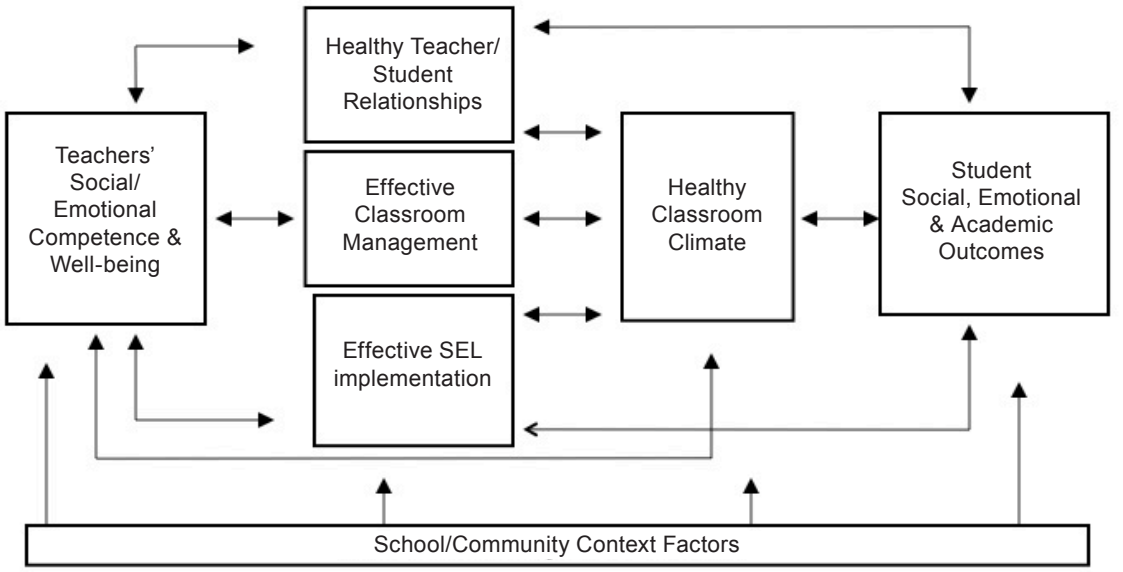
Teachers' Social and Emotional Competence and Students' SEL

As I said above, a safe, caring, participatory, and well-managed learning environment is a necessary but not sufficient condition for promoting social and emotional competence. Research shows that warm classroom environments and positive teacher-student relationships promote both academic learning and SEL.[29] Hence, teachers don't just need to know how to explicitly teach social and emotional skills; they also need the knowledge, dispositions, and skills for creating a safe, caring, supportive, and responsive school and classroom community.

Thus to successfully promote SEL, it's not enough to enhance teachers' knowledge of SEL alone. Teachers' own social and emotional competence and wellbeing appear to play a crucial role. To illustrate this, Stephanie Jones and Suzanne Bouffard of Harvard University created a conceptual model that highlights how teachers' background characteristics, social-emotional competence, and pedagogical skills influence school and classroom context as well as both short- and long-term child outcomes.[30] At the center of their model, Jones and Bouffard place core SEL skills in three conceptual domains: emotional processes, social/interpersonal skills, and cognitive regulation.

Similarly, Jennings and Greenberg's Prosocial Classroom Model (see figure 2) suggests that teachers' social-emotional competence and wellbeing affect the classroom management

Figure 2. The Prosocial Classroom Model



strategies they use, the relationships they form with students, and their ability to implement SEL programs and practices.[31] These factors, in turn, can contribute to a healthy classroom climate that then leads to students' own academic and SEL success.

According to Jennings and Greenberg, teachers with high social and emotional competence are self-aware. They recognize their own emotions, they're able to use their emotions positively to motivate others to learn, and they understand their own capacities and emotional strengths and weaknesses particularly well.[32] They're also socially aware—they recognize and understand others' emotions, including those of their students and colleagues, and they work to build strong, supportive relationships. And they're culturally aware—their understanding that others' perspectives may differ from their own helps them negotiate positive solutions to conflicts.

Teachers with high social and emotional competence also demonstrate prosocial values—they have deep respect for their colleagues, students, and students' families, and they care about how their own decisions affect the wellbeing of others. Finally, such teachers possess strong self-management skills. Even in emotionally charged situations, they can regulate their emotions and their behaviors in healthy ways that promote a positive classroom environment for their students.

As figure 2 shows, teachers' social and emotional competence is associated with their psychological wellbeing. Teachers who master social and emotional challenges feel more efficacious, and teaching becomes more enjoyable and rewarding to them.[33] When teachers experience distress, it impairs their ability to provide emotional and instructional support to their students. Teachers' social and emotional competence and wellbeing are reflected in their classroom behavior and interactions with students—a primary mechanism for socialization. Teachers with higher social-emotional competence organize their classrooms and provide emotional and instructional support in ways that are associated with a high-quality classroom climate.[34] Jennings and Greenberg recommend that SEL interventions take into account teachers' own SEL competence and wellbeing to help them implement SEL effectively.

Interventions to Promote Teachers' SEL Competence

In the past few years, several interventions have specifically sought to improve teachers' social-emotional competence and stress management in school. Two of these programs are based on mindfulness: CARE (Cultivating Awareness and Resilience in Education) and SMART-in-Education (Stress Management and Resiliency Training). *Mindfulness* means an attentive, nonjudgmental, and receptive awareness of present-moment experiences in terms of feelings, images, thoughts, sensations, and perceptions.[35] In boosting teachers' mindfulness, both programs aim to increase their job satisfaction, compassion and empathy for students, and efficacy in regulating emotions, while reducing stress and burnout. Initial research has shown both programs to be effective in promoting teachers' SEL competence and wellbeing.[36]

Recently, Patricia Jennings and Joshua Brown, a professor in the Department of Psychology at Fordham University, along with several colleagues, conducted

a large randomized trial involving 224 teachers in 36 urban elementary schools.[37] The researchers found that compared to a control group, teachers who received CARE training showed greater improvements in adaptive emotion regulation and mindfulness, and greater reductions in psychological distress and time urgency (a feeling of time pressure and needing to hurry through daily tasks). In classrooms of teachers who received CARE training, levels of emotional support were sustained across the school year; in control-group classrooms, emotional support fell as the year went on.

How Teachers' Beliefs Influence SEL Programs

Recent evidence suggests that teacher-related factors can affect the implementation of SEL programs in ways that may influence a program's quality and success.[38] For instance, teachers implement SEL programs more successfully when they have a positive attitude toward the program, are motivated to deliver it with fidelity, and are confident that they possess the skills and knowledge to do so well.[39] The fidelity with which teachers implement SEL programs has been associated with a number of teacher beliefs, attitudes, and perceptions: beliefs about whether the SEL program's activities are aligned with their teaching approach; beliefs about their own teaching efficacy; level of comfort with delivering an SEL curriculum; beliefs about behavior management practices; dedication to developing students' SEL skills; beliefs about whether they receive adequate support from school principals; and perceptions of the school culture's support for SEL instruction.[40]

During initial implementation of the SEL program RULER, which was developed at Yale University, one group of researchers examined whether students' SEL outcomes were affected by the amount of training teachers received, the quality of delivery of the SEL program, and the number of lessons students received (known as *dosage*).[41] The study, a large randomized controlled trial, involved 812 sixth-grade students and their teachers from 28 elementary schools in a large urban school district in the northeastern United States. Teachers were clustered into one of three groups: *low-quality implementers* (teachers who were initially resistant to the program and delivered it poorly, though they became more open to the program by the end of the school year), *moderate-quality implementers* (teachers who were middle-of-the-road in their attitudes toward and delivery of the program from beginning to end), and *high-quality implementers* (teachers who were open to the program and consistently delivered it well).

Analyses revealed that when teachers received more training and carried out more lessons, their students had more positive outcomes. Moreover, low-quality implementers were less confident than high-quality implementers about their ability to modify their teaching practices to influence students' engagement and learning (that is, their teaching efficacy), especially among difficult and unmotivated students. These findings show that alongside training and program fidelity, SEL interventions should take into account teachers' beliefs about their teaching efficacy when assessing how implementation affects students' SEL outcomes.

To date, only one study has examined whether implementing an SEL program for students can increase a teacher's own SEL competence. Celene Domitrovich, a senior research scientist at CASEL, along with several colleagues, looked at data from two school-based randomized controlled trials that tested the impact of two prevention programs in a sample of 350 K–5 teachers across 27 schools. They found that implementing a prevention program for students can yield positive benefits to teachers, particularly when the program includes a social-emotional component.[42]

Teacher Preparation in the United States

Preservice teacher preparation refers to the education and training received by teacher candidates before they enter the profession. It typically occurs at a college or university, and includes a set program of coursework and experiences that are delineated by state-level requirements for teacher certification. About 30 percent of teachers follow alternative routes to certification, though the percentage is rising.[43]

Most of the nation's teachers prepare at one of more than 1,400 institutions of higher education; according to the National Council on Teacher Quality, about 200,000 people graduate from teacher preparation programs each year.[44] Preservice teacher education programs vary considerably in duration (they include four-year bachelor's degree programs and one- or two-year graduate programs). They also vary in other ways: their emphasis on pedagogy across particular school levels (elementary, middle, or high school) and content area (teachers of older students typically identify a subject area, such as science, math, or social studies); length of practicums; and requirements for certification. To obtain a degree in teacher education, prospective teachers generally must have a minimum GPA; a bachelor's degree; knowledge of how social, institutional, and state policy affect the educational process; an understanding of how learning occurs and how to teach effectively; and successful supervised field experiences.[45] A certificate obtained in one country or state may not be recognized by another. Within the United States, state-to-state reciprocity is limited.

We're now at a critical juncture in the field of teacher preparation.

Researchers are only beginning to study the extent to which preservice teacher education includes information about and/or direct training in SEL. A few recent studies offer us a glimpse. In the next section, I examine the extent to which SEL is incorporated into coursework in US preservice teacher education programs.

SEL and Teacher Preparation

How can we best prepare teachers to effectively teach students from diverse backgrounds and create the conditions for optimal teaching and learning? That's an important question for policy makers, educational leaders, and researchers who want to ensure that students are fully prepared for engaged citizenship and productive and meaningful careers. Studies on what constitutes high-quality teacher preparation and professional development have sought to determine which courses and

experiences will give teachers the skills, dispositions, and knowledge they need to foster the success of all their students. More recently, researchers have also been asking what social and emotional skills and competencies teachers need to best promote students' SEL.

Recent reports suggest that we're now at a critical juncture in the field of teacher preparation.[46] Indeed, never before has teacher preparation and teacher quality been under such intense scrutiny. The past two decades have witnessed intense work to develop successful programs to improve the quality of teacher preparation and teacher professional development.[47] New policies have delineated professional standards, improved teacher preparation and certification requirements, and increased investments in programs that provide mentoring to new teachers and support teachers' professional development.[48]

Despite this work, student achievement in the United States still lags far behind that of other countries. Linda Darling-Hammond, an education expert and professor emeritus at Stanford University, states that "we have advanced little in achievement, especially in international comparisons, with no real reduction in the achievement gap after the large gains made in the 1960s and 1970s; we have lost ground on graduation rates and college-going, and we have expanded inequality in access to school resources. Meanwhile, many other nations like Finland, the Netherlands, Singapore, Korea, China (in particular, Hong Kong and Macao), New Zealand, and Australia have been pulling ahead, making intensive and sustained investments in teaching—the major policy strategy our nation has been unwilling to try."[49]

Knowledge about Child Development

One dimension that's central to effective, high-quality teaching and learning is teachers' knowledge and understanding of their students' social, emotional, and cognitive development.[50] Research tells us that teachers who understand child and adolescent development are better able to design and carry out learning experiences in ways that support social, emotional, and academic competence and enhance student outcomes.[51] Research has also shown how successful social relationships in schools (both between teachers and students and among students) are connected to positive social and academic outcomes.[52]

The National Council for Accreditation of Teacher Education and several federal agencies collaborated with a group of internationally renowned experts on two roundtable discussions about incorporating child and adolescent development research into preservice teacher preparation.[53] The reports that followed emphasized that preservice teachers should learn about many issues related to SEL, including children's social and emotional development, teacher-student relationships, and the learning environment. But do preservice teachers learn about child development? The NCATE explored this question in 2005, sending a 33-item online survey to unit heads at 595 NCATE-accredited institutions, both public and private. Forty-eight percent of the institutions responded, about two-thirds of them public and one-third private. Of the 283 responses, 90 percent indicated that their institution required teacher candidates to take at least one course in child or adolescent development (although several programs reported forgoing such courses altogether

because of state limitations on credit hours for teacher preparation programs).

Whether knowledge of development is applied to classroom practice is an open question, however. For one thing, in the NCATE survey, 20 percent of programs reported that they didn't teach their own development courses, relying instead on psychology departments, where connections to the classroom are less likely. Furthermore, many of the textbooks used by institutions in their courses contained virtually no application of child and adolescent development to actual classroom practice, leaving instructors to create their own examples. These survey responses underscore the potential benefits of course materials that make more explicit connections between developmental research and its application.

Knowledge about Students' SEL and Classroom Management

Research has shown that teachers can foster positive student-teacher relationships and create supportive and caring classroom environments, and that when they effectively integrate SEL programs into their practice, their students have better outcomes.[54] We know less about the teacher's role when it comes to mental illness and social, emotional, and behavioral problems among students. Teachers are uniquely situated to recognize significant adjustment problems or identify common disruptive behaviors. But most teachers feel poorly prepared to tackle such problems because they lack knowledge and skills in the areas of mental health and/or classroom management.[55] Indeed, one study found that neither experienced nor first-year teachers felt that their teacher-education programs had adequately trained them to identify and manage students' mental health problems.[56] Similarly, in a national study of 2,335 educators conducted by the Coalition for Psychology in Schools and Education, teachers indicated that they hadn't received adequate preservice training for handling student behavior.[57] The majority, and especially first-year teachers, ranked classroom management as one of their top two professional development needs.

Another study examined the extent to which university graduate-level teacher education programs included content that covered four topics related to SEL—social development, emotional development, behavior management, and abuse and neglect.[58] The researchers analyzed course descriptions for all required classes in the top 50 graduate-level teacher education programs (according to *US News and World Report*'s 2012 rankings), documenting whether the inclusion of these topics varied as a function of program level (elementary vs. secondary training), type of university (public vs. private), or geographic location (Northeast, South, West, Midwest). The final sample of 78 elementary and secondary education programs from 43 universities across the United States included only those programs that made online course descriptions publicly available.

More than two-thirds of the 78 programs required at least one course on the topics of social development, emotional development, behavior management, or abuse and neglect (although only one course mentioned abuse and neglect). Behavior management was cited most frequently—a little more than half the graduate teacher education programs reviewed (52.6 percent) included a course whose title or description specifically mentioned behavior, behavior management, or classroom management. About one-fourth

of the programs (26.9 percent) required a course on social development, one-fifth (20.5 percent) required two courses, and one program (1.3 percent) even required three courses. Few programs required a course on emotional development (16.7 percent), although three programs (3.8 percent) required two classes on the topic.

Whether these topics were included didn't vary across elementary vs. secondary programs or public vs. private institutions. There were, however, significant regional differences. Fewer programs in the South included social development, and behavior management was more frequently covered in the West. The researchers speculated that these differences might result from variations in state legislation and policies related to school mental health services and teacher licensure requirements, as well as the value systems of schools, teachers, and school mental health service providers.[59]

A recent report from the National Council on Teacher Quality also found relatively little attention being paid to classroom management in preservice education.[60] Using course materials such as syllabi, textbooks, and student teaching observation and evaluation forms, the NCTQ study examined classroom management–related professional coursework in 119 teacher preparation programs in 79 institutions of higher education in 33 states. Almost all of these programs (97 percent) included some mention of classroom management, but instruction and practice in classroom management strategies were often scattered around the curriculum and didn't draw from the latest scientific research identifying the most effective strategies. Moreover, during their student-teaching experience, preservice teachers had relatively few opportunities to translate knowledge of effective classroom management into practice. Only about one-third of the programs required prospective teachers to practice classroom management skills as they learned them. Given the lack of attention to training and experience in classroom management for preservice teachers, it isn't surprising that a high proportion of teachers say that student behavior significantly impedes their success in the classroom.[61]

In summary, though only a few studies have examined the extent to which preservice teacher education programs cover subjects relevant to SEL and its practical application, those studies have consistently found that programs pay little attention to giving teachers the knowledge and skills they need to promote their students' social and emotional competence and to create positive classroom environments that enhance student success.[62] How can we influence preservice teacher education programs to expand their focus on SEL? In the next section, I present findings from a recent state-level scan (review and examination) for SEL content in courses in US colleges of education—a critical first step in ensuring that teachers are adequately prepared to integrate SEL into their educational practice.

A Review of SEL Content in US Teacher Preparation Courses

As I've shown, much recent research supports taking action to promote both teachers' and students' social and emotional competence.[63] But no research had examined the extent to which teacher preparation programs equip teacher candidates with the SEL knowledge and skills they need. To answer this question,

my colleagues and I conducted the first ever comprehensive scan of SEL content in preservice US teacher education programs.[64]

We analyzed 3,916 required courses in teacher preparation programs offered by 304 US colleges of education (representing 30 percent of all US colleges that offer teacher preparation coursework). We found that few teacher education programs covered the five SEL competencies outlined by CASEL. Specifically, only 13 percent had at least one course that included information on relationship skills. For responsible decision-making, self-management, social awareness, and self-awareness, the numbers were 7 percent, 6 percent, 2 percent, and 1 percent, respectively.

A strength of our scan is that we obtained a wide body of data that represented every US state and the District of Columbia. But while our data had breadth, it lacked depth of information about how SEL content is incorporated. For example, although the scan revealed the presence of SEL content in course descriptions on the colleges' websites, we don't know the specific content covered or the quality of that content. We need more research, using both quantitative and qualitative data, to get a more detailed picture of how SEL is incorporated in teacher preparation.

Embedding SEL in Teacher Preparation

A few teacher preparation programs have begun to incorporate theory, research, and practical application of SEL into teachers' preservice education. For example, San Jose State University's Center for Reaching and Teaching the Whole Child is committed to embedding the social-emotional dimension of teaching and learning into the university's teacher preparation program. Preservice courses, such as math and science methods or classroom management, have been revised to include SEL content. The faculty has also developed an observation protocol with an SEL orientation for mentor teachers and university supervisors to use when they observe student teaching.

At the University of British Columbia, where I work, the Faculty of Education has explicitly integrated SEL into a post-baccalaureate 12-month teacher preparation program. One of the nine options available to our approximately 400 elementary preservice teacher education students is an SEL cohort that comprises about 36 students each year. In this program, teacher candidates follow the general outline of the regular education program but with an added emphasis on SEL. They don't just learn about SEL research and theory in their coursework; during their student-teaching practicum, they also learn how to implement evidence-based SEL programs and SEL practices in the classroom. Teacher candidates can review a wide variety of SEL programs in our SEL program library and integrate the strategies they learn into their coursework and student teaching. All teacher candidates in the cohort are taught active learning approaches that help to create safe, caring, and participatory classroom and school environments.[65]

Explicitly promoting SEL in preservice teacher education is an important step. But challenges remain. For example, if we add a course on creating safe, caring, and supportive learning contexts to an already demanding and intensive one-year program, we have to cut required coursework in another area. Still, we must recognize and promote SEL as a necessary part of teacher training. Indeed, given the importance of

teachers' own social-emotional wellbeing for implementing SEL programs and practices, preservice teacher education shouldn't just give teacher candidates knowledge about students' SEL; it should also give them tools and strategies to build their own social and emotional competence. Such an approach would help integrate SEL into the fabric of K–12 education and create a generation of students who have acquired the social and emotional competencies they need for their adult roles as citizens, employees, parents, and volunteers.

ENDNOTES

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Social-Emotional Assessment, Performance, and Standards

Clark McKown

Summary

In the push to boost young people's social and emotional learning (SEL), assessment has lagged behind policy and practice. We have few usable, feasible, and scalable tools to assess children's SEL. And without good assessments, teachers, administrators, parents, and policymakers can't get the data they need to make informed decisions about SEL.

Some existing SEL assessments, writes Clark McKown, are appropriate for some purposes, such as keeping teachers abreast of their students' progress or evaluating SEL interventions. But too few high-quality SEL assessments are able to serve a growing range of purposes—from formative assessment to accountability, and from prekindergarten through high school.

McKown recommends proceeding along two paths. First, he writes, educators should become familiar with existing SEL assessments so that they can learn their appropriate uses and limits in a low-stakes context. At the same, we need to invest money and talent to create assessment systems that can be used to meet important assessment goals at all grade levels.

McKown walks us through definitions of SEL, identifying three broad areas of SEL skills—thinking, behavior, and self-control. Each area encompasses skills that are associated with important life and academic outcomes, that are feasible to assess, and that can be influenced by children's experiences. Such *meaningful, measurable,* and *malleable* skills, McKown argues, should form the basis of SEL assessments.

The next generation of SEL assessments should follow six principles, he concludes. First, assessments should meet the highest ethical and scientific standards. Second, developers should design SEL assessment systems specifically for educational use. Third, assessments should measure dimensions of SEL that span the three categories of thinking, behavioral, and self-control skills. Fourth, assessment methods should be matched to what's being measured. Fifth, assessments should be developmentally appropriate—in other words, children of different ages will need different sorts of assessments. Last, to discourage inappropriate uses, developers should clearly specify the intended purpose of any SEL assessment system, beginning from the design stage.

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Social and emotional learning, or SEL, includes a broad range of mental, behavioral, and self-control skills that people use in social interactions to achieve social goals. Although scholars haven't reached consensus on its definition, SEL includes skills such as the ability to infer others' thoughts and feelings (thinking skills), the ability to initiate a positive interaction (behavioral skills), and the ability to stay calm when upset (self-control skills). Labeled variously as "soft" or "noncognitive" skills, SEL skills are highly consequential. Decades' worth of research has consistently found that the better developed their SEL skills, the better children do in school and life.[1]

Parents, educators, and policymakers increasingly recognize the importance of SEL. In the past three decades, prevention scientists and others have developed and rigorously evaluated a number of comprehensive, evidence-based SEL programs. These programs are widely used: In a 2015 nationwide survey of 562 teachers and administrators, 59 percent of respondents reported using a program called School Wide Positive Behavioral Intervention and Supports (SWPBIS), and 32 percent of respondents reported using an SEL program such as PATHS® or Second Step.[2] Furthermore, a growing number of states now include SEL in their educational standards.[3]

Purposes of SEL Assessment and Lack of Appropriate Tools

Although policy and practice are moving forward, one area lags. We have few usable, feasible, and scalable tools for educators to assess children's SEL, creating a conundrum for policymakers and practitioners. Just like good academic assessment, good SEL assessment could help educators achieve many goals. It could be used to determine children's strengths and needs, and guide decisions about curriculum and instruction; that's *formative assessment*. It could tell us whether SEL programs and practices work; that's *program evaluation*. It could be used to monitor students' social-emotional development in response to the introduction of interventions; that's *progress monitoring*. It could help determine whether children are meeting SEL standards; that's *standards-based assessment*. Finally, assessment could help decide whether students receive special services, and it can guide teacher, school, and district accountability; those are examples of high-stakes decision making based on SEL assessment data.

Here is the conundrum: Without good assessment, it's difficult to see how teachers, administrators, parents, and policymakers can get the data they need to make informed decisions as they seek to foster children's healthy social and emotional development. Without meaningful assessment data, decisions affecting children—from policy to instruction—are likely to be buffeted by the forces of fad and politics. For SEL policy and programs to be as effective as possible, we need to develop usable, scalable, and scientifically sound SEL assessment systems.

In addition, existing policy motivates practitioners to use SEL assessment for some purposes more than others. In particular, a growing number of states have incorporated SEL components into their learning standards, creating a powerful impetus for educators to select and develop curriculum materials and instructional

strategies to ensure that students meet those standards. At the federal level, the Every Student Succeeds Act, or ESSA, gives states flexibility to use nonacademic assessments of school environment and student outcomes for accountability.

In light of state standards and federal law, it seems likely that SEL assessments will be called upon to determine whether teachers, schools, districts, and states are successfully fostering social and emotional outcomes alongside academic ones. That's a problem because, broadly, no system of social-emotional assessment that I'm aware of has adequate technical properties to serve as part of a high-stakes accountability system. Current SEL assessments, many of which I describe below, are appropriate for formative assessment, program evaluation, and progress monitoring. They may also be appropriate for low-stakes measurement of progress toward state standards, by which I mean broad surveillance to determine whether schools, districts, and states are moving in the right direction, without high-stakes consequences attached. All of these purposes, and the assessment systems available to fulfill them, may put us on a path toward SEL assessment for high-stakes accountability. But prematurely adopting assessments ill-suited to accountability may inadvertently undercut advances in the field of SEL.

Thus, we see a mismatch between what's arguably the greatest demand for assessment—high-stakes accountability—and the appropriateness of existing assessment systems. This problem has no easy solution. However, two constructive parallel paths may help maximize benefit while mitigating risk. First, educators should become familiar with, adopt, and use existing, well-designed SEL assessments for appropriate purposes—formative assessment, progress monitoring, and program evaluation—so that they can learn their uses and limits in a low-stakes context. Second, a significant investment of money and talent will be needed to create assessment systems that can serve multiple ends, including ends such as high-stakes accountability for which existing assessments are inappropriate.

Because SEL assessment systems are underdeveloped, it's important that schools and districts undertake SEL assessment with clear goals and realistic expectations. Contrast fictitious districts A and B. Leaders of District A have decided to measure many dimensions of SEL and to determine how to use those measures afterward. Leaders of District B have decided to measure particular SEL skills exclusively to guide instructional planning. Because District A doesn't make clear how SEL assessment data will be interpreted and used, there's a strong possibility that the data could serve inappropriate purposes, such as evaluating teacher performance. And because District A isn't clear about goals, it's likely that it will expend considerable resources gathering data that aren't put to work to help teachers teach and children grow.

In contrast, everyone involved in District B knows the purpose of assessment and the uses of assessment data. Because the purpose is clear, the district can arrange focused and practical training in how to interpret and use the assessment data, increasing the odds that they will be used appropriately. Moreover, everyone involved in District B understands that a large number of decisions—school and teacher accountability, special education placement,

etc.— won't be guided by the data. Therefore, educators will be less anxious that data could be used against them. It's still possible that formative assessment data collected in District B could do unintended harm. But because the goals are clear, that's significantly less likely.

Neither researchers nor practitioners nor policymakers have come to a consensus about what SEL is.

Before practitioners, program evaluators, policymakers, and others can use SEL assessment for any purpose, we need to define SEL and identify which dimensions can and should be measured for what purposes. Practitioners should also consider what methods of assessment are best suited to measuring a targeted SEL skill.

What Is SEL?

To create SEL standards and assess progress toward those standards presupposes that we agree about what SEL is. Yet neither researchers nor practitioners nor policymakers have come to such a consensus. The Collaborative for Academic Social and Emotional Learning (CASEL) defines SEL broadly as "the process through which children and adults 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." The CASEL model names five categories of SEL skills: self-awareness, self-management, social awareness, relationship skills, and responsible decision making.[4] This widely cited model has influenced the content of state SEL standards.

Other models complement or compete with CASEL's. A report on "Foundations for Young Adult Success" from the University of Chicago describes "noncognitive" factors that include academic behaviors, academic perseverance, academic mindsets, learning strategies, and social skills.[5] Another report, by the National Academy of Sciences, argues that "21st century skills" include both intrapersonal or self-management skills and interpersonal or people skills.[6] Other scholars emphasize cognitive, emotional, and social/interpersonal skills, along with the school context that influences how those skills develop and the outcomes they produce.[7] Still others emphasize information processing, emotional processes, or argue that attitudes such as grit or growth mindsets are part of SEL.[8]

Each of these models has merit, and each of the skills, competencies, behaviors, and attitudes they describe is consequential. But to have competing models that claim to describe the same thing can cause problems. It interferes with communication (we use the same words to mean different things), impedes science (we can't accumulate knowledge on SEL if each researcher has a different definition), undermines practice (dissimilar programs with unequal effectiveness can be described with the same language), and confuses the public. In addition, when policymakers genuinely interested in fostering children's SEL turn to experts for guidance, they may get conflicting advice that could become codified into a crazy quilt of standards. Arguably, the assessment endeavor suffers

most from conflict over what SEL is, as definitional ambiguity makes it hard to translate good ideas into sound assessment practices. Vigorous efforts to create conceptually coherent and scientifically sound SEL assessments may help to create a common understanding of SEL.

Finding Common Ground for Policy, Practice, and Assessment

Despite their differences, all models of SEL share important commonalities. Most describe skills used in social interactions that vary across individuals, that are associated with important interpersonal and life outcomes, and that are malleable. In addition, all models of SEL encompass three broad categories: thinking skills, behavioral skills, and self-control skills. We can find common ground, therefore, by defining SEL as *the thinking, behavioral, and self-control skills that are applied in social interactions and that influence children's social and other life outcomes*. That definition is sufficiently specific to guide policymakers, practitioners, and assessment developers, but sufficiently flexible to spur continued innovation.

SEL thinking skills include the ability to encode, interpret, and reason about social and emotional information, as we do when we recognize others' emotions, take others' perspectives, or solve social problems.[9] SEL behavioral skills are actions people take during social interactions to achieve a social goal. Behavioral skills include positive actions that are associated with making and maintaining positive relationships, such as assertiveness, politeness, and turn-taking. But social behavior also includes negative actions that interfere with positive relationships, such as aggressiveness, impulsivity, and social withdrawal.[10] Self-control skills encompass the ability to modulate thoughts, feelings, and behavior to achieve a goal.[11] In this article, I focus on self-control as applied in social contexts. Some dimensions of self-control are mental, including the effortful control of attention and emotions.[12] Other dimensions of self-control are behavioral, such as refraining from impulsive behavior.

Precisely what thinking, behavioral, or self-control skills make up SEL is an open question. I next describe SEL skills that are *meaningful, measurable,* and *malleable*.[13] To be meaningful, SEL skills must be associated with important life and academic outcomes, and included in SEL policies and programs. To be measurable, SEL skills must be feasible to assess. *On-task behavior*, for example, is a measurable skill, while *virtue* is a construct that's more difficult to measure. To be malleable, SEL skills must be influenced by experience, as demonstrated either by observational research establishing a relationship between experiences and skills or by studies demonstrating that a particular intervention can influence a targeted skill. Within each of the three areas of SEL—thinking, behavior, and self-control—we can identify skills that are meaningful, measurable, and malleable.

Meaningful, Measurable, and Malleable Dimensions of SEL

Meaningful Thinking Skills

Several SEL thinking skills are meaningfully related to important outcomes and have been incorporated in state standards. For example, children with a better-developed *ability to recognize emotions in others* do better on a range of important outcomes. Research has shown that, for example,

preschoolers' knowledge of emotions predicts concurrent and later social competence and academic success.[14] This association persists into the elementary grades; a review of 14 studies and found that in first through sixth grade, children who were better at reading emotions from facial expression, tone of voice, and posture also had better-developed reading and math skills. The same review also found that being able to recognize emotions was positively associated with self-control, self-esteem, and peer acceptance.[15]

Perspective-taking—defined as the ability to infer others' beliefs, thoughts, and desires—is also meaningful. For example, several investigators have found that preschoolers' understanding of others' beliefs and perspectives is associated with later academic skills.[16] But perspective-taking's benefits extend well beyond academic outcomes. Research has shown that children who are better at inferring others' beliefs are more prosocial, less aggressive, less withdrawn, and more accepted by peers.[17]

Social problem-solving involves understanding interpersonal conflict, developing social goals, and generating ideas about how to resolve those conflicts. Among school-age children, social problem-solving is associated with academic functioning.[18] In addition, children who are better at solving social problems are less aggressive and more frequently engage in socially positive behavior.[19]

Together, emotion recognition, perspective-taking, and problem-solving are more strongly associated with positive academic and social outcomes than any one of them is in isolation. For example, when we examined both typically developing and clinic-referred children from four to 17 years old, our group of researchers found that a composite score reflecting emotion recognition, perspective-taking, and social problem-solving together was robustly associated with positive social behavior as reported by parents and teachers. The magnitude of that association was greater than the magnitude of associations between any individual skill and behavioral outcomes. Our finding suggests that we should be assessing multiple dimensions of SEL thinking skills.[20]

SEL thinking skills change with age, in both quantity and quality.

The dimensions of SEL that I've discussed are reflected in the Illinois state SEL standards, the first comprehensive preschool through high school state SEL standards in the nation. For example, the standards declare that upper elementary children should be able to "identify verbal, physical, and situational cues that indicate how others may feel" and should be able to "describe the expressed feelings … of others" (emotion recognition); "describe the … perspectives of others" (perspective-taking); and "manage and resolve interpersonal conflicts in constructive ways," "apply decision-making skills to deal responsibly with academic and social situations," and "identify the steps of systematic decision-making" (problem-solving).[21]

Developmental Considerations

SEL thinking skills change with age, in both quantity (overall skill level) and quality (the

kinds of social-emotional phenomena that children can understand). For example, we know that between childhood and adulthood people's ability to recognize basic emotions from facial expression improves significantly.[22] We also know that new kinds of understanding of others' emotions develop in late elementary school, when, for example, children become capable of understanding that people can feel mixed emotions and that the morality of actions is associated with awareness of complex emotions such as pride and guilt.[23]

Similarly, children's understanding of others' perspectives develops with age, and these changes, like changes in emotion recognition, are both quantitative and qualitative. Between the ages of three and six, children develop a more and more advanced understanding of others' beliefs and desires;between eight and 12, we see a dramatic increase in children's ability to infer others' beliefs in real-world contexts.[24] Furthermore, children come to understand the relationship between thoughts, emotions, and behavior in themselves and others.[25]

Fewer researchers have examined age-related changes in social problem-solving, but we do have evidence that social problem-solving skills improve with age; that what constitutes a competent response changes somewhat with age—for example, asking for adult help is considered more competent when children are younger than when they're older; and that nevertheless, the components of social problem-solving don't change throughout the lifespan.[26]

Measurable Thinking Skills

Researchers have developed direct assessments for emotion recognition, perspective-taking, and social problem-solving.[27] As with all assessments, these tests have strengths and weaknesses. Most assess a particular dimension of social-emotional comprehension. Few are suitable for mass administration. We have no usable, feasible, and scientifically sound system that can be administered to groups of children to assess social-emotional comprehension and execution in the upper elementary grades.

To investigate the feasibility and promise of measures of social-emotional thinking, my colleagues and I collected data from 186 general education students and 118 clinic-referred children ages six to 14, using direct assessments that had been designed for research purposes. We found that:

- emotion recognition, perspective-taking, and social problem-solving can be reliably assessed;
- these three constructs are partially independent components of a higher-order global social-emotional comprehension construct;
- individual children's social-emotional comprehension varies considerably;
- general-education students perform better than clinic-referred children on direct assessments of social-emotional comprehension, and;
- better social-emotional comprehension is associated with more frequent socially competent behavior and less frequent socially aversive behavior, such as aggression, impulsivity, norm-violating aberrant behavior, and social withdrawal.[28]

Malleable Thinking Skills

Several lines of research suggest that SEL thinking skills are malleable. Evidence-based SEL programs include a range of curricula and instructional strategies designed to promote social-emotional comprehension and execution among all students. Children who participate in well-implemented, evidence-based SEL programs do better on measures of social, behavioral, and academic outcomes. A 2011 meta-analysis summarized the impact of 213 school-based universal SEL programs that included 270,034 students. It found that when the programs were implemented well, about 67 percent of children improved in their thinking skills, compared with about 34 percent of children who didn't participate in the programs.[29]

These studies suggest that SEL thinking skills are malleable. But they focus on programs that have many components and they measure multiple outcomes, leaving open the question of which skills are most malleable and what interventions are most effective for what skills. Some research suggests that targeted interventions can influence specific SEL thinking skills. For example, our group and others have found that when facial emotion-recognition training technology is paired with individual coaching, children can learn facial emotion-recognition skills. Similarly, interventions for high-functioning children on the autism spectrum have improved their perspective-taking skills, and interventions to teach social problem-solving skills have been effective for children with aggressive behavior.[30] Together, these studies suggest that specific SEL thinking skills are malleable.

Meaningful Behaviors

SEL encompasses both socially skilled behaviors, characterized by positive interactions that enhance relationships, and socially aversive behaviors, characterized by negative interactions that detract from relationships.[31] Behavioral skills are associated with academic and other important outcomes. In one study, for example, first- through sixth-grade students' interpersonal skills, as reported by their teachers, were positively associated with their standardized test scores.[32] In a sample of 423 sixth- and seventh-graders, more positive social behavior was associated with better grades and test scores.[33] Longitudinal studies—that is, studies that followed students over time—have found that positive social behavior in third grade is associated with greater academic achievement in eighth grade and that children who exhibit prosocial behavior in kindergarten are likely to attain more years of schooling.[34] In contrast, socially aversive behaviors are associated with poor academic outcomes. For example, aggressive behavior in kindergarten predicts lower scores on standardized literacy and math tests in later grades.[35] Among school-aged children, hyperactivity and impulsivity are also associated with poor academic outcomes.[36]

Behavioral skills are also associated with nonacademic outcomes. For example, elementary school–age children who rarely exhibit socially skilled behavior and more frequently exhibit socially aversive behaviors are more likely to be socially rejected; in turn peer rejection puts children at risk for maladaptive behavior and poor mental health.[37] Similarly, prosocial skills in kindergarten are associated with greater adult employment and a lower likelihood of

using public assistance, exhibiting criminal behavior, or suffering from mental illness.[38]

Social behaviors are integral to some state standards. For example, the Illinois standards say that children should learn to "identify and manage [their] … behavior," "demonstrate ways to express emotions in a socially acceptable manner," "manage and resolve interpersonal conflicts in constructive ways," "apply constructive approaches in resolving conflicts," and "use communication and social skills to interact effectively with others." [39]

Developmental Considerations

As we've seen, the quantity and quality of thinking skills change as children grow older. But socially skilled and socially aversive behaviors remain somewhat more stable across the elementary grades. Impulsive and aggressive behaviors do typically decline from early childhood through adolescence, and children learn about and can express increasingly complex positive social behaviors as they grow older. In general, however, similar positive and negative behavioral skills are important at all ages—a fact that's reflected in the construction of many widely used behavior rating scales. For example, the Social Skills Improvement System, or SSIS, has a single form for children from five to 12 years old, and the averages and distributions of the rating scale's scores don't change dramatically in that age range. [40]

Measurable Behaviors

Many rating scales measure important dimensions of social behavior. Whatever their focus, they ask raters (usually teachers) to assess the frequency of various behaviors.

Like SEL thinking skills, positive and aversive social behaviors appear to be malleable.

The resulting scores tell us how the frequency of a child's behaviors compares to the frequency of those behaviors in a typical sample. Many such scales are well-suited to measuring behaviors that either support or interfere with positive social relationships because behavior, unlike social-emotional comprehension, can be directly observed. For example, the SSIS assesses several dimensions of socially skilled and aversive behaviors. The Devereux Student Strengths Assessment focuses specifically on social-emotional learning skills, such as relationship skills and goal-directed behavior.[41] Using both teacher ratings and children's own reports, the Academic Competence Evaluation Scales measures both academic competence and the socially skilled behaviors associated with it.[42]

Malleable Behaviors

Like SEL thinking skills, positive and aversive social behaviors appear to be malleable. We have evidence from three kinds of interventions—those designed to nurture children's social-emotional skills, those designed to create social norms that influence behavior, and those that use instructional strategies to reduce problem behavior.

Programs that nurture social-emotional skills. Meta-analyses suggest that school-based SEL programs produce significant and meaningful behavioral benefits. One meta-analysis of 213 universal school-based SEL programs found that about 57 percent of children who participated in well-implemented, evidence-based SEL programs showed improvement on measures of behavioral outcomes, compared with about 43 percent of children who didn't participate in such programs.[43] Programs for children with psychological and behavioral problems showed even more dramatic benefits: In a meta-analysis of 130 indicated preventive interventions, about 63 percent of children improved, compared with about 36 percent of children in control groups.[44]

Programs to create social norms. SWPBIS encompasses a universal framework for behavior management that applies broad and flexible principles, rather than prescribed programs. In SWPBIS schools, educators set and teach positive behavioral expectations, collect and review data on student behavior, and use various strategies to encourage desired behaviors and discourage undesired behaviors. In a randomized field trial involving 37 ethnically and socioeconomically diverse schools with more than 12,000 students, children in SWPBIS schools displayed more positive behaviors and fewer problem behaviors than children in schools that didn't use SWPBIS.[45] In another study, students with greater teacher-reported concentration problems, disruptive behavior, and emotion dysregulation, and less frequent positive behavior, showed the greatest increases in positive behavior and the greatest decreases in disruptive behavior when exposed to SWPBIS.[46] Thus, SWPBIS provides further evidence that social behavior is malleable.

Instructional strategies. Instructional strategies can increase positive social behaviors and reduce problem behavior. Take, for example, the Good Behavior Game, in which children are assigned to groups and given points for targeted misbehaviors. The team with the fewest points wins a prize after a specified number of rounds. (It can also work the other way around: teams get points for positive behavior.) Many studies have shown that the Good Behavior Game significantly reduces problem behaviors.[47] The game is relatively easy to implement well, is widely accepted by teachers, and can be incorporated into regular classroom curricula.

Meaningful Aspects of Self-Control

It's beyond the scope of this article to review the complex scholarship about self-control and the debates about how to define, measure, and assess it. Rather, I'll examine three interrelated and commonly studied dimensions of self-control that are known to be associated with social and academic outcomes: delayed gratification, frustration tolerance, and behavioral impulse control.

A recent review of research found consistent evidence that cognitive, social, and emotional dimensions of self-control are all associated with young children's readiness to enter school.[48] Moreover, self-control remains important throughout elementary school. For example, in a study of an ethnically diverse sample of six- to 10-year-olds that relied on reports from teachers, effortful control was positively related to academic skills.[49] And in two samples totaling 304 middle school students, a measure of self-control that integrated parents', teachers' and children's own reports of their behavior with performance

on a delay of gratification task were better than IQ at predicting eighth-graders' academic outcomes.[50]

Indeed, childhood self-control is associated with wellbeing throughout the lifespan. Analyzing data from the Dunedin Multidisciplinary Health and Development Study—a longitudinal study of more than 1,000 participants who were followed from birth to adulthood—one set of researchers found that after controlling for initial socioeconomic status, a composite measure of researcher-observed and parent- and teacher-reported impulsivity in childhood was strongly associated with adult outcomes as wide-ranging as physical health, substance use, income, socioeconomic status, single parenthood, and criminality.[51]

Self-control is also incorporated in the Illinois SEL standards, which state that children should be able to "identify and manage … emotions and behavior" and "describe and demonstrate ways to express emotions in a socially acceptable manner."[52]

Developmental Considerations

Self-control measured in childhood is strongly associated with both concurrent and later outcomes. As with other dimensions of social-emotional learning, children's self-control changes with age. In early childhood, behavioral impulsivity is sufficiently typical that behavioral performance tasks, such as the famous marshmallow task I discuss in the next section, are meaningful indicators of self-control. In early elementary school, however, behavioral self-control becomes better developed and the frequency of impulsive behavior declines. In fourth to sixth grades, children can use attentional, cognitive, and behavioral strategies to control their behavior.[53] Because self-control changes with age, the means of measuring it must also change with age.

Measurable Aspects of Self-Control

How is self-control best measured? In preschool, simple behavioral-challenge tasks measure delay of gratification. For example, in the marshmallow task, children must choose between an immediate reward of a marshmallow and a larger but delayed reward of several marshmallows.[54] More recently, researchers developed the Preschool Self Regulation Assessment, which uses a series of simple performance tasks, from holding a piece of candy on the tongue to walking slowly on a line, to measure different aspects of self-control.[55] Scores from the assessment are reliable (consistent across tasks and time) and valid (associated with other measures of self-control), and are associated with social competence and school readiness.[56]

Beyond preschool, various direct assessments have been developed to measure mental aspects of self-control. Our team developed two web-based direct assessments for children in kindergarten through third grades to measure self-control. The first was a choice-delay task in which children chose between lower-scoring but fast responses and higher-scoring but slow and tedious responses.[57] The second was a frustration tolerance task in which children were given a certain amount of time to solve a problem; to induce frustration, the task was programmed so that several items stuck, as if the computer had frozen.[58] Both tasks yielded reliable scores that were associated with other social-emotional thinking skills and functional outcomes.

Other strategies to directly assess aspects of self-control have shown evidence of feasibility, including:

- asking children to follow rules that require them to disregard their natural inclinations, such as directing them to press the right side of a screen when something appears on the left side;[59]
- using a computerized game called the Iowa Gambling Task to measure the tendency to select smaller consistent rewards over large but risky rewards, and;[60]
- asking children to choose between a series of smaller but more immediate rewards and larger but delayed rewards.[61]

In the elementary grades, teaching children mindfulness shows promise to improve both self-control and other dimensions of wellness.

Malleable Aspects of Self-Control

Some evidence suggests that self-control is malleable. For example, when the Chicago School Readiness Project (CSRP)—an intervention to train teachers in behavior management strategies that can foster student self-regulation—was tested in a randomized field trial in Head Start preschools, children whose teachers received the training showed both greater self-control and stronger early literacy and mathematics skills. Furthermore, the investigators found some evidence that improved self-regulation was the mechanism through which the CSRP intervention improved early academic skills.[62]

In the elementary grades, teaching children mindfulness—the ability to focus attention on present experience without judgment—shows promise to improve both self-control and other dimensions of wellness. One randomized study of a brief mindfulness intervention among fourth- and fifth-graders found that students who learned mindfulness strategies improved their cognitive control and showed fewer physiological signs of stress. Moreover, the children who participated in the intervention were better liked by their peers, who said that the participants exhibited positive behavior more often.[63]

The Right Tool: Matching Method to What's Measured

The match, or lack thereof, between the measurement method and the dimension of SEL being measured is a critical and underappreciated consideration. *Method* means the procedure we use to sample behaviors that are hypothesized to reflect an underlying skill; they include self-report questionnaires, peer nominations or ratings, observation, teacher ratings, a hybrid of observation and teacher ratings called direct behavior ratings, and direct assessments, in which children demonstrate skills by solving challenging problems.[64] No single method measures every dimension of SEL well, and each is better suited to measuring some things than others.

Thinking skills, behavioral skills, and self-control skills are each best measured in different ways. For example, although observers and raters can make educated

guesses about children's thinking skills, these skills exist in a child's mind and can't be directly observed. A skill such as reading others' facial expressions is an unobservable mental event. To assess it through observation requires a large inferential leap from observable behavior. The same is true for perspective-taking and problem-solving skills.

So although teachers could rate such skills or children could rate themselves, direct assessment may be a better choice. Take academic assessment as an example: If we wanted to assess how well a child reads, we could ask her to fill out a questionnaire in which she rates her own reading skills. But a sound direct assessment—in which she reads a text and answers questions about it, for example—is likely to be more informative. Similarly, we could ask a child to rate his own skill at reading facial expressions, but it may be better to directly assess the skill by showing him pictures of people with various facial expressions and asking him what the people are feeling.

In contrast to SEL thinking skills, behavioral skills are expressed outwardly, so they can be directly observed—for example, when a child compromises with or hits another child. Behavioral observation is designed to measure the frequency and intensity of socially positive and aversive behavior. However, infrequent but highly consequential events are less likely to be observed, and it's difficult to use observation in a way that yields reliable scores that are appropriate for their intended interpretation. Peer ratings can also assess socially positive and aversive behavior, and starting in late elementary school, questionnaires can ascertain children's own view of their social-emotional characteristics. But none of these methods is optimal for assessing social behavior. It's both time and labor intensive to get reliable and valid data from observation. Peer ratings are prohibitively complex to administer, score, and interpret. When completing self-report questionnaires, children may indicate a socially desirable response, whether or not it's accurate.

Two methods of assessing behavior are more feasible in schools than the rest. First, teacher rating scales can yield reliable and valid assessments of overall behavioral tendencies, and they're easy to use, score, and interpret. They have limitations, however. For example, different raters might judge the same child's behavior differently. Furthermore, rating scales place a burden on teachers, who may have to rate many students. A second approach, direct behavior ratings, retains the advantages of both direct observation (objectivity and behavior in naturalistic settings) and rating scales (simplicity and consistency). In this approach, a teacher rates the frequency of a small number of clear target behaviors (such as whether a child talks out of turn) over a brief period.[65] Direct behavior ratings have great potential for characterizing child behavior, screening for disruptive behavior problems, and monitoring progress.

Self-control includes specific thinking skills and their behavioral expression. The thinking dimensions of self-control may be measured through direct assessment and, in some cases, self-report. Behaviors that reflect the absence of self-control may be measured through observation, rating scales, or direct behavior ratings. Self-control may also be reflected in beliefs and attitudes about the self. When grit—a component of self-control defined as "perseverance

and passion for long-term goals"—has been measured through self-reporting, researchers have found that the scores are reliable and are associated with important outcomes.[66]

Summary

I've highlighted the prospect of identifying meaningful, measurable, and malleable SEL skills that correspond to state standards, as well as the existing tactics for assessing those skills. But no systems yet exist for large-scale assessment of SEL skills. Thus, SEL assessment is in its early stages. We have sufficient proof of concept to feel confident that we can create feasible, rigorous, and scalable assessment systems, but no systems developed so far meet schools' important and varied needs.

In addition to the SEL skills I've described, readers might see other dimensions of SEL as important. My list omits some often discussed constructs, such as growth mindsets.[67] Based on Carol Dweck's seminal work on children's implicit theories of intelligence, the concept of mindsets focuses on an important belief system—children's beliefs about the nature of intelligence. Mindsets are meaningful, measurable, and malleable, and are important and influential ideas with strong implications for the classroom. In our conception, however, mindsets (and other beliefs and attitudes) are distinct from the mental, behavioral, and self-control skills that make up what we call SEL.

I don't claim that the SEL skills I've reviewed in this article are the only ones that should be included in our shared understanding of SEL. But we must achieve sufficient consensus to guide what we measure; strongly consider matching the method to what is measured; use a developmental perspective to guide measurement; and make certain we're measuring the dimensions of SEL that are meaningful, measurable, and malleable. As we tackle the daunting task of creating assessments with the same rigor and sophistication as achievement tests, these principles will help us make great strides.

What a Serious SEL Assessment Effort Would Require

How much would it cost in money and other resources to develop SEL assessment systems that meet schools' educational needs? Though a precise estimate isn't feasible, our research group's work to develop and validate a web-based system to measure several SEL thinking skills may at least give an idea of the size of the investment that will likely be required.

My colleagues and I recognized that despite SEL's importance to learning, we had few tools to assess children's SEL thinking skills; most social-emotional assessments are designed to measure children's behavior. Yet rigorous assessment of SEL thinking skills is critical, not only because those skills are reflected in standards, but also because understanding children's social-emotional thinking skills can guide educators' instructional decisions. For example, if a child performed poorly on a social problem-solving test, teachers could use evidence-based instructional strategies to help her improve her social problem-solving skills.

Thus, we set out to create a web-based system—called SELweb—to assess SEL thinking skills in children from kindergarten to third grade. SELweb measures children's ability to recognize others' emotions, take others' perspectives, solve social problems,

and practice self-control. All of its modules are illustrated and narrated so that children as young as kindergarten age can complete the assessment independently. We also matched method to what we measure. The modules are direct assessments, where children complete challenging and engaging tasks that require them to demonstrate thinking skills. The case of SELweb illustrates what one SEL assessment system can do. But it also illustrates the tremendous effort required to create scalable, scientifically sound, usable, and feasible SEL systems.

To evaluate how well SELweb measured the target skills, we mounted two field trials with a large and diverse sample of 4,462 kindergarteners through third-graders. SELweb's score reliabilities, which index consistency of measurement, were comparable to well-developed achievement tests. In both field trials, scores on the assessment modules fit a hypothesized model of SEL thinking skills that includes four factors—emotion recognition, perspective-taking, problem-solving, and self-control. Overall, higher scores on SELweb were positively associated with teacher-reported social skill, peer acceptance, and academic competence, and negatively associated with teacher-reported problem behavior. In addition, scores on SELweb's different modules were more strongly associated with alternative measures of the same construct than they were associated with alternate measures of different constructs. These findings support the conclusion that SELweb scores reflect what they were designed to measure.[68] As a final step, we collected SELweb data from 4,419 students in six states to create age-based norms, so that a child's performance on SELweb can be judged in comparison to a national sample of children the same age.

If we want to get serious about assessing SEL, we'll need to invest significant resources.

All this took four years, considerable financial support from the Institute of Education Sciences, and many person-hours. SELweb demonstrates that it's possible to create engaging, scalable, scientifically sound, and useful SEL assessment systems. And yet like any assessment system, SELweb can't do all things. It measures thinking skills but not behavioral skills. Its design and psychometric properties make it appropriate for guiding classroom instruction and evaluating programs to foster SEL skills. It could perhaps be used for low-stakes monitoring of student progress toward some, but not all, SEL standards. Our experience tells us that if we want to get serious about assessing SEL, we'll need to invest significant resources and consider how to sustain and continually improve our assessments—much the same way that standardized achievement tests require large initial investments and continual upkeep.

What would it take, then, to create a developmentally appropriate, multimethod, multirater SEL assessment system for K–12? Consider the assessments developed to measure children's progress toward the Common Core educational standards.

In September 2014, *Education Week* reported that more than $300 million in contracts had been awarded to testing companies to develop assessment systems.[69] Those investments were directed to highly competent organizations with strong track records of rigorous academic assessment development. It seems likely that we would need a comparable commitment of resources to develop SEL assessment systems with the same rigor and utility.

Filling the Void

Promising assessments that measure SEL thinking skills, behavioral skills, and self-control skills exist or are in development. However, we have yet to invest enough resources to produce robust and scalable systems that correspond to state standards and that allow educators to use assessment to foster children's social-emotional development. Some existing and emerging tools are appropriate for formative assessment and program evaluation. However, they cover some dimensions of SEL better than others, and we have few options to achieve other assessment goals, such as monitoring children's progress toward meeting SEL standards.

How can we fill the gaps? First, SEL assessment development efforts should meet the highest ethical and scientific standards.[70] For most SEL assessment goals, that means going well beyond simple survey construction to developing multimethod, multirater systems that have been well constructed and rigorously evaluated. This will require a level of test development effort and rigor that has typically been reserved for achievement tests.

Second, developers should design and build SEL assessment systems specifically for educational use. Many existing tools were developed either for research (such as emotion-recognition tasks) or for clinical applications (such as most rating scales). Thus educators must retrofit these assessments for off-label uses. SEL assessments designed with educators in mind should be feasible to deploy in schools at scale; focus on strengths; use up as little instructional time as possible; and quickly and flexibly report informative results. As much as possible, such assessments should also measure dimensions of SEL that are reflected in state standards and in the best evidence-based SEL programs.

Third, developers should focus on measuring dimensions of SEL that span the three categories of thinking, behavioral, and self-control skills. They should also choose to measure skills that are meaningful, measurable, and malleable—that is, skills that are associated with important outcomes, can be assessed feasibly, and can be influenced by experience. In rare instances, however, we might want to measure a skill that's meaningful and measurable even though it isn't clear that the skill is malleable via instructional strategies. Measuring such skills could encourage researchers to develop curricular and instructional strategies to shape them.

Fourth, assessments methods should be matched to what's being measured. I believe that direct assessment is best for SEL thinking skills; rating scales and direct behavior ratings are best for behavioral skills; and a combination of direct assessment and rating scales is best for self-control skills. But those guidelines are debatable. What's most important is that developers thoughtfully pair their methods to what they're measuring. SEL assessments

covering all three categories of thinking, behavioral, and self-control skills will therefore need more than one method and more than one rater. Such a system would require direct assessment and teacher rating at a minimum, and might also include peer nominations and direct behavior ratings. Multimethod, multirater assessment systems will corroborate students' SEL skill levels, creating a hedge against outlier performance on any one measure.

Fifth, SEL assessments should be developmentally appropriate. SEL skills change with age, and research tells us what changes to expect. Broadly, SEL assessments should account for two kinds of developmental changes. The first involves constructs whose meaning and manifestation remain the same as children's performance improves with age. For example, although facial emotion recognition is the same skill throughout the lifespan, individuals become better at it as they grow older. To measure such skills, assessments should include items with a range of difficulty that corresponds to the variability in the skills of all children in the age range to be tested. The second kind of change involves constructs whose meaning remains the same but whose manifestation changes. For example, as children traverse middle childhood, in addition to recognizing emotions through their behavioral expression, they come to understand that people can have mixed emotions, such as being happy for a friend and sad for oneself, and moral emotions, such as guilt and pride.[71] This new kind of understanding is different from emotional understanding in very young children and therefore requires a different assessment method.

Last, the intended use of any SEL assessment system should be clearly specified from the design stage through the large-scale rollout—and before it's rolled out, the developers must be able to show sufficient evidence that the assessment is appropriate for that purpose. Any other uses should be clearly characterized as "off-label," and potential negative consequences of such uses should be described. The user's goals and practices can't be built into the assessment technology itself; rather, assessment developers must communicate appropriate use in documentation and training.

Excellent assessment is crucial to making progress on social-emotional learning, from policy to practice to research. How else can we know children's strengths and needs, and therefore, how to target instruction to foster character? How else can we know whether a set of practices works? How else can we know to what heights of character development students have risen? How else can we know whether our system of education has met state standards (assuming such standards apply to the education of character)? These are not idle questions. If nature abhors vacuums, educational fads feast on them. All of us—scientists, practitioners, parents, and policymakers—should hope that the best evidence of what works will lead to practices that nurture SEL skills. Assessment is the foundation for collecting such evidence.

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