

Social-Emotional Learning Programs for Preschool Children

Karen L. Bierman and Mojdeh Motamedi

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Introduction

Over the past half century, the culture of childhood has changed dramatically, such that early educational experiences play an increasingly important role in children's lives. Whereas preschool was once a part-time experience primarily for middle-class children, now a majority (69%) of four- and five-year-olds in the United States are enrolled in center-based early childhood programs, and 45 of the 50 United States offer state-funded prekindergarten programs (U.S. Department of Education, 2007). Developmental research, combined with the accountability pressures of the No Child Left Behind act, have focused attention on the importance of early learning for later school success (Blair, 2002). Most schools now initiate formal reading and math instruction in kindergarten, and expect that children will enter kindergarten ready for focused academic learning.

Yet, many children enter school under prepared for these demands. Children growing up in poverty are particularly likely to show delays in the social-emotional and self-regulation skills needed for school success, due in part to heightened stress exposure and low levels of early learning support (McClelland, Acock, & Morrison, 2006). An increasing proportion of American children risk school readiness delays, as the changing demographics of the United States have resulted in an increasing proportion of preschool children growing up in poverty (25%) or in low income families (50%) (National Center for Children in Poverty, 2011).

These societal changes and educational expectations amplify the pressures on preschool programs to promote the acquisition of the core social-emotional skills that foster readiness to learn, including the capacity to function effectively in a group context, get along with other children, follow classroom rules and routines, focus attention, and enjoy goal-oriented learning (McClelland et al., 2006; Zaslow, Tout, Halle, Vick, & Lavelle, 2010). These social-emotional

skills predict positive school adjustment over time, enhancing learning engagement, reducing discipline problems, increasing high school graduation rates, and even promoting future employment and adult health (Denham & Burton, 2003). Correspondingly, interest in social-emotional learning [SEL] programs for preschool children has increased in recent years, accompanied by a growing research base on effective programs and practices. This chapter provides a brief review of the history of preschool SEL programs, describes the unique developmental needs of preschool children and their impact on the design and content of SEL programs, and reviews the evidence base for preschool SEL programs.

Definitions and Scope of Preschool SEL Programs

The use of systematic school-based programming to promote children's social-emotional skill development first gained momentum in the 1970's and has sustained the steady interest of educational practitioners and researchers since then (Greenberg, 2006). Initially termed "primary prevention" and later re-conceptualized as a "universal" prevention approach, the basic idea is that well-designed curriculum components and teaching practices can promote positive child development by teaching social-emotional skills, thereby enhancing student well-being, improving school attainment, and preventing later mental health difficulties. In high-risk settings, these competencies might also promote resilience, reducing child risk for later risky behaviors (e.g., substance use, antisocial activity) or emotional distress (Elias et al., 1997).

A considerable evidence base now exists to support the efficacy of SEL programs used in elementary school and at older grade levels. In 2011, Durlak, Weissberg, Dymnicki, Taylor, and Shellinger (2011) conducted a meta-analysis of SEL studies, examining 213 school-based, universal SEL programs involving kindergarten through high school students. Positive effects were documented on social and emotional skills, attitudes, behavior, and academics, including an

overall 11% gain in achievement associated with the use of evidence-based SEL programs. This important review validated the critical role of evidence-based SEL programming in educational practice, and led the authors to recommend its widespread adoption (Durlak et al., 2011).

The positive impact of SEL programming for gradeschool students has increased interest in the potential of developing and evaluating similar programming for preschool children. However, the downward extension of SEL programming into the preschool years requires careful consideration of the unique developmental characteristics of preschool children and preschool contexts. For example, SEL programs for gradeschool children often target multiple skill domains associated with healthy social-emotional functioning, including self-awareness, self-management, social awareness, relationship skills, and responsible decision-making (Durlak et al., 2011; Elias et al., 1997). During the preschool years, children are just beginning to develop many of the cognitive structures and skills that provide a foundation for social- and self-awareness, such as perspective taking and reasoning; hence, the skills targeted by SEL programs for preschoolers need to address the more basic foundational skills that support later social-emotional development. In addition, grade school SEL programs generally attain their goals by providing systematic instruction in social-emotional skills, emphasizing the promotion of self-control, as well as by creating a positive climate that fosters feelings of security and supports the practice of the targeted social-emotional and self-regulation skills (Greenberg, 2006). In preschool children, the neural structures that facilitate self-control are just emerging; so relative to older children, preschool children are less able to “sit, listen, and learn” and they are much more dependent upon external supports and adult management in order to regulate their emotions and behaviors. Hence, relative to instructions and lessons, adult support and positive classroom management play a particularly central role in promoting social-emotional competencies.

Finally, the implementation issues in SEL program delivery require particular attention in the preschool context. Preschool teachers are much less likely to have college degrees than elementary school teachers, and many do not have even a two-year child development associate degree (Zaslow et al., 2010). Hence, the curriculum materials and professional development supports used to foster high-quality program delivery need to take into account the lower level of formal education and training that characterize the preschool teaching force, relative to elementary school teachers. In the next section we discuss progressions in social-emotional and self-regulatory skill development during the preschool years, and the implications for the selection of SEL skill targets, program goals, and program design, before moving on to describe the existing evidence base on preschool SEL effectiveness.

Preschool Social-Emotional Development and Implications for SEL Program Design

Normatively, the preschool years represent a critical time period for the development of basic social-emotional skills, which lay the foundation for later social-emotional competence (Denham & Burton, 2003). Between the ages of 3-6, most children make the remarkable transition from impulsive and self-focused toddlers to responsible, rule-abiding, and socially-integrated elementary school students. During this period of rapid development, dramatic transformations occur in children's social skills and social reasoning, their emotional understanding and emotion regulation, and their self-awareness and self-control. Developmental increases in children's capacities for mental representation and language create new opportunities for children to gather and organize information about their own and others' emotions, intentions, social roles, and social expectations, thereby expanding their capacity to benefit from SEL instruction and adult supports (Bierman, 1988).

Social-behavioral skills are an important facet of preschool SEL and support the first friendships that typically emerge during these years. Children's social interaction skills typically progress from parallel play at age 3 (e.g., side by side play, imitating each other) to extended collaborative social play by ages 5-6, as they learn how to share, cooperate, take turns, and inhibit aggressive and intrusive behavior (Bierman & Earth, 2006). Through play, preschoolers extend their knowledge about social roles and expectations, and practice communication, emotion regulation, and social problem-solving skills, thereby benefitting emotionally and cognitively. In the domain of emotional understanding, preschoolers begin by making rudimentary distinctions (happy vs. sad/mad by age 3) and acquire more nuanced distinctions (sad vs. scared vs. mad) reliably by age 7 (Bierman, 1988). Whereas 3 year olds focus on basic cues and therefore make simple emotional assessments (e.g. all children are happy at a birthday party), by kindergarten (age 5), most children consider multiple cues and make more sophisticated assessments (e.g., the frowning children are unhappy at the party) (Bierman, 1988).

Underlying and supporting the preschool child's developing ability for more sensitive social interaction and more sophisticated emotional understanding are developmental advances in key areas of language and executive function skills (Blair, 2002; Greenberg, 2006). The prefrontal cortex grows rapidly between the ages of 3-6, accompanied by improvements in core areas of executive function, including working memory, inhibitory control, and attention set-shifting. These executive function skills improve the child's ability to anticipate and plan social interactions, to inhibit reactive impulses, and engage in more flexible social problem-solving. Children begin to recognize cause-and-effect patterns in social interaction and become more able to take more responsibility for setting goals and managing their own behavior.

The implication of this developmental research is that SEL programs might have unique developmental leverage when implemented during the preschool years (Feil, Walker, Severson, Golly, Seeley, & Small, 2009). That is, SEL programming focuses on areas of development that are normatively growing rapidly between the ages of 3-6, at a time when children are dependent upon and generally highly responsive to adult input and support. In addition, SEL programming during the preschool years has the potential to reduce the risk for the negative cascade of academic, behavioral, and peer failures that is often initiated when children enter school with under-developed social and self-regulation skills (Bierman, 2004). Yet, at the same time, preschool SEL programming must take into account the rudimentary nature of children's emerging social-emotional and self-regulation skills, and recognize that children are still heavily reliant on external supports provided by parents and teachers to control their behavior and regulate their social and emotional experiences (Bernier, Carlson, & Whipple, 2010).

Given the developmental characteristics of young children, preschool SEL programs need to be structured and focused in ways that are different from elementary school SEL programs. Content-wise, salient SEL skills for preschoolers include basic friendship and play skills, emotional understanding, intentional self-control, and basic social problem-solving. In terms of structure, instructional strategies to teach skill concepts need to be brief, engaging, experiential, and concrete. Opportunities to practice skills need to be plentiful, so that young children experience repeated, adult-supported, opportunities to use and refine their skill performance, with feedback and positive consequences. Preschool children may also need explicit support to develop the vocabulary, oral language, social perception and reasoning skills that provide a foundation for more mature social-emotional understanding and functioning.

Theoretical Foundations and Intervention Approaches in Preschool SEL Programs

SEL programs have their theoretical roots in approaches that emerged initially as treatment strategies and were then transported into community and classroom settings and adapted to serve as primary prevention strategies to promote competencies, resilience, and general well-being. Prior to the first classroom-based SEL programs in the 1970s, treatment strategies to promote positive behavior in young children relied primarily on behavior management and instrumental conditioning models. For example, a number of studies documented that preschool teachers could reduce aggression and increase positive student behavior by differentially reinforcing desired behaviors (using contingent praise, attention, or concrete reinforcements) and by implementing consequences to decrease problem behaviors (for example, by using time-out or a response-cost, so that children lost points or privileges if they engaged in disallowed behaviors) (see Bierman, 2004 for a review). These behavioral management strategies proved effective at improving classroom behaviors, and remain a core feature of some SEL programs, such as the Incredible Years program (Webster-Stratton, Reid, & Hammond, 2001). However, during the subsequent decades, additional, overlapping mechanisms of change began to inform the design of SEL programs, including an emphasis on social-cognitive variables (in social learning theory and social information processing models), emotional variables (in differential emotion and attachment theories), and self-regulation (featuring executive function skills), as follows.

A Focus on Social Cognitions

Social learning theory. Social learning theory expanded behavioral intervention models by positing that children learn social behavior by observing others, imitating, and responding to instruction and verbal feedback. Accordingly, social skill coaching programs used the following steps: 1) teach the target skill concept using a combination of modeling, instruction, and discussion, 2) provide opportunities for behavioral rehearsal, practicing the skill with peer

partners, 3) provide feedback on skill performance to foster refinement, and 4) program for generalization, by including cues and reinforcements to encourage children to use the skill in naturalistic social contexts (Bierman, 2004). Reflecting their social learning-theory roots, most SEL programs designed for young children include lessons in which teachers use modeling stories, puppets, and pictures to illustrate target skill concepts and explain, demonstrate, and discuss the target skills. Lessons also typically include practice activities (role plays; cooperative activities) that allow children to practice the skill. Finally, teachers provide support to help children generalize the use of the skill in their everyday interactions in the classroom.

Social information-processing models. Also reflecting an emphasis on the cognitive processes that influence social behavior, social information processing models emerged in the 1980s and continue to inform preschool SEL programs. These models focus on the covert thinking processes that link social perceptions (encoding and interpreting social cues), social goals, and social problem-solving (generating alternative behavioral solutions to a problem, considering their likely consequences, and selecting a solution) – particularly in situations of social provocation or conflict. A core hypothesis is that deficits, delays, or distortions in social information processing skills lead to inadequate or biased social interpretations and inadequate or biased response generation, which places children at risk for problematic social behavior. One of the earliest SEL programs developed for preschool children, *I Can Problem Solve* (Shure, 1992; Shure & Spivack, 1982) focused centrally on improving children’s abilities to assess and interpret social problem scenarios and to generate multiple solutions. Similarly, as described in more detail below, training in social problem-solving skills appears as a core component of several preschool SEL programs, based on the hypothesis that children’s abilities to accurately

identify social problems, set prosocial goals, generate and evaluate multiple potential responses, and select prosocial options provides a core foundation for adaptive social behavior.

A Focus on Emotions

More recent developmental research has emphasized emotional and motivational processes that influence social-emotional functioning and the role that stress exposure, emotional reactivity, and emotion regulation play in social-emotional development and adaptation. Several theoretical models have influenced the inclusion of emotional and motivational factors in preschool SEL programs, including differential emotions theory (Izard, 2002), attachment theory (Denham & Burton, 2003), and developmental models of self-regulatory processes (Bierman, Nix, Greenberg, Blair & Domitrovich, 2008; Greenberg, 2006).

Differential emotions theory. Differential emotional theory posits that emotional experiences involve a dynamic interaction between neurobiological arousal, cognitive inference, and verbal labeling processes (Izard, 2002). Within this framework, socialization experiences enhance socio-emotional competence when they increase children's capacities to recognize the internal and external cues associated with differentiated emotions and promote their abilities to talk about their feelings. Hence, several preschool SEL programs focus lessons on identifying and labeling emotions. In addition, learning to regulate emotional arousal is a critical social-emotional skill, which is highly dependent upon the development of connections between emotional arousal and linguistic and cognitive control systems (Izard, 2002). Many preschool SEL programs include lessons designed to enhance emotion regulation by strengthening these connections. For example, the "turtle technique" is used to teach children how to use language intentionally to regulate strong feelings and direct themselves in appropriate behavioral responding (Robin, Schneider, & Dolnick, 1976). In the original application of this technique,

disruptive children were instructed to withdraw into an imaginary shell and tell themselves to relax when they felt that they were about to become disruptive. The goal was to calm down to prepare for a problem-solving discussion. Although initially conceptualized as a cognitive-behavioral intervention (e.g., self-instruction to guide alternative responding), since then theorists have suggested that the “turtle technique” may enhance emotion regulation capacity, by building stronger connections between developing neurocognitive control structures (language and executive function skills) and the emotional arousal system (Greenberg, 2006; Izard, 2002).

Attachment models and the teacher-student relationship. Many preschool SEL programs also place a central emphasis on promoting positive teacher-student relationships which, theoretically, play a central role in the development of children’s self-regulatory capacities. Attachment theory posits that young children are inherently motivated to form attachments with caregiving adults; when these relationships are reliable, warm, and caring, they foster a sense of well-being in children, which promotes feelings of security (reduced anxiety and stress) and enhances children’s capacity to initiate social interactions and effectively manage affective arousal (anger or distress) (Denham & Burton, 2003). Through such relationships, children also learn empathy and become more aware and caring toward others. In addition, a general tenet of most SEL programs is that social-emotional development is facilitated when teachers provide a safe and caring learning environment, characterized by positive management skills and low levels of aggressive-disruptive behavior (Denham & Burton, 2003).

A Focus on Self-regulation

Most recently, SEL programs for preschool children have focused on promoting self-regulation. Conceptually, promoting emotional knowledge, social interaction skills, and social problem-solving skills should all enhance the capacity of the preschool child to inhibit

aggressive and intrusive behaviors, and become more sensitive and responsive to social feedback from teachers and peers (Bierman, 2004). However, recent research in the area of developmental neuroscience has increased interest in developing preschool language and executive function skills as mechanisms associated with the improved capacity to regulate emotional arousal and strategically control and shift attention, thereby enhancing social competence and learning engagement in school (Blair, 2002; Greenberg, 2006). Correspondingly, theoretical models are increasingly focused on the way that experiences that promote the development of executive functions and self-regulation can be built into preschool SEL interventions (Bierman & Torres, in press; Ursache, Blair, & Raver, 2012). Only recently have researchers begun to include executive function measures routinely as SEL program outcomes, so empirical evidence regarding “what works” to enhance them during preschool is just beginning to accumulate. Prevailing models suggest that several different intervention strategies might enhance executive function skill development, including those that promote a positive and well-ordered classroom climate; those that enhance children’s emotional understanding and emotion management; and those that emphasize problem-solving skills and socio-dramatic play (Ursache et al., 2012).

Specific Interventions that Promote Social-Emotional School Readiness

In general, preschool SEL programs are characterized by multi-faceted conceptual frameworks, as described in the prior section, but they vary in the degree of emphasis placed on social-behavioral, cognitive, emotional, and self-regulatory skills and processes. Each program attempts, to some degree, to promote adaptive social cognitions, to foster children’s emotional understanding and empathy, and to support the development of self-regulation skills. Similarly, each program emphasizes the critical role that supportive and responsive adults play in fostering social-emotional growth. In this way, the programs overlap and reflect an integration of ideas

drawn from different conceptual foundations. Yet, the programs are also distinct in terms of the specific “logic models” that inform the organization and *relative* emphasis of the intervention and guide the selection and design of intervention activities. Examples of effective programs that reflect different logic models are reviewed in the following sections. First, we describe programs that work. In this category, we place programs with evidence of effectiveness based on at least two randomized trials, including an independent evaluation conducted by researchers other than the developers and including measures that extend beyond ratings provided by the teachers who implemented the program. Then, we describe programs that are promising. In this category, we place programs with evidence of effectiveness based on a randomized trial by the developers. We consider these programs promising because they have a solid theoretical foundation, well-developed curriculum guides and implementation procedures, and empirical evidence of efficacy. However, in each case, the evidence base remains limited to a single randomized trial. Within each category, we distinguish between intervention approaches that are implicit vs. explicit in terms of the SEL focus. Programs that rely primarily on changing the quality of teacher-student interactions, modifying classroom management strategies, and/or introducing new ways of structuring peer interactions have an *implicit* focus on SEL, as these programs expect gains in social-emotional skills to occur as a function of improved classroom processes. In contrast, programs that place a central emphasis on an SEL curriculum, with target skills and instructional practices designed to teach those skills represent an *explicit* approach to coaching in SEL skills.

Programs that Work

The development and evaluation of SEL programs for preschool children is a relatively new development and many of the existing empirical trials were published within the past

decade. At this point in time, only two programs have evidence of effectiveness in multiple, rigorous randomized trials, including at least one trial undertaken by independent researchers.

Incredible Years Teacher Training Program. The Incredible Years (IY) series includes distinct programs for parents, teachers, and children, originally developed as treatment components for children ages 4-8 who were diagnosed with oppositional defiant or conduct disorder. These programs are heavily rooted in social learning theory and designed to address the risk and protective factors associated with the development of antisocial behavior (Webster-Stratton & Herman, 2010). In this chapter, we focus only on the more recent applications of IY as a universal school-based intervention for preschool children, using the teacher training and child SEL curriculum.

The *Incredible Years Teacher Training Program* takes an *implicit* approach to SEL designed to help teachers improve their positive classroom management skills and thereby promote child prosocial behavior and aggression control (Webster-Stratton & Herman, 2010). The approach is systematic, targeting five teaching skills: 1) use of specific, contingent attention and praise to support positive behavior, 2) use of incentives to motivate learning effort, 3) structuring the classroom effectively to prevent behavior problems, 4) use of non-punitive consequences to decrease inappropriate behavior, and 5) strengthening positive teacher-student relationships. The intervention involves monthly workshops for teachers, during which certified trainers present skill concepts, review modeling videotapes, moderate group discussions, review practice assignments, and provide consultation in program implementation.

Two studies have evaluated the IY teacher training program as a universal preschool prevention strategy. In the first, 34 Head Start classrooms in low income, ethnically mixed areas were randomly assigned to receive the intervention (which included IY teacher training plus IY

parent training) or to serve as a “usual practice” control group (Webster-Stratton, Reid, & Hammond, 2001). All parents were invited to attend 12 weekly training groups, 2.5 hours each, co-led by Head Start family service workers and research team members. Outcome measures included composites of observations and teacher (or parent) ratings. In the intervention classrooms, relative to “usual practice” control classrooms, teachers exhibited significantly more positive and fewer negative behaviors and children exhibited significantly lower rates of problem behavior. Positive parent-teacher involvement increased significantly at the end of Head Start, but then declined significantly below the control group in kindergarten (Webster-Stratton et al., 2001). In a second study, the IY Teacher Training program was implemented in Head Start as part of the Chicago School Readiness Project (Raver et al., 2008). In this project, 18 Head Start centers (35 classrooms; 94 teachers) were randomly assigned to the intervention condition or to a “usual practice” control group. The intervention included the IY Teacher Training program, delivered in five one-day workshops spread over the course of the year. Mental health consultants made weekly visits to intervention classrooms, met with teachers to enhance their classroom management skills and provide emotional support, and developed individualized management plans for highly disruptive children. When observed at the end of the year, relative to teachers in the control group, intervention teachers exhibited higher levels of positive climate, teacher sensitivity, and positive behavior management (Raver et al., 2008). Observations also documented lower levels of child aggressive-disruptive behavior and tests revealed greater growth in vocabulary, letter knowledge, math and attention control among children in the intervention classrooms compared to those in the control classrooms (Raver et al., 2009; Raver et al., 2011). The investigators postulate that improvements in teacher classroom management skills led to increases in instructional time and child learning engagement, thereby promoting

gains in academic as well as social-emotional skills. These studies suggest that the IY Teacher Training program, which is designed to improve children's SEL *implicitly*, via the provision of more positive behavioral support and improved teacher-student interactions, is effective in improving child social-emotional behavior. It is worth noting, however, that neither of these studies evaluated the IY Teacher Training program used alone (the first study also included the IY parent training program, and the second included mental health consultant services).

More recently, the IY child-focused SEL curriculum, the *Dinosaur School Social Skills and Problem Solving Program*, has been adapted for use as a prevention curriculum providing *explicit* instruction in social-emotional skills. This program element adds explicit SEL lessons to the Incredible Years intervention approach. Originally, Dinosaur School was developed as a social skills training program for small groups of children with conduct disorders. Central to Dinosaur School are modeling DVDs that illustrate positive classroom behaviors, problem-solving strategies, social skills, feelings literacy, and self-regulation skills. One study found that the combination of the Dinosaur School with the IY Teacher Training program promoted more positive classroom management strategies (relative to a "usual practice" control group), and produced higher levels of social-emotional competence, better social problem-solving skills, and fewer conduct problems among students (Webster-Stratton, Reid, & Stoolmiller, 2008).

However, this trial also included older children (kindergarten and first-grade classrooms) as well as prekindergarten classrooms, and used research staff to lead classroom lessons with the teachers. Hence, future research is needed to determine whether Dinosaur School is effective specifically in preschool classrooms when delivered by preschool teachers.

Preschool PATHS (Promoting Alternative Thinking Strategies). Developed during the 1990s, the *Preschool PATHS Curriculum* (Domitrovich, Greenberg, Cortes, & Kusche, 1999)

was designed as a developmentally-appropriate downward extension of the elementary school version of the PATHS Curriculum (see Rimm-Kaufman & Hulleman, in press, in this volume). Preschool PATHS focuses on basic social-emotional skills in four domains: 1) friendship skills and prosocial behaviors (e.g., helping, sharing, taking turns), 2) emotional knowledge (e.g., recognizing and labeling core feelings), 3) self-control (e.g., using the “Turtle Technique”), and 4) social problem-solving. A particular goal is to improve the capacity of young children to use language effectively to support emotion regulation, inhibitory control, and social problem-solving. There are 33 brief (15-20 minute) lessons with stories, pictures, and puppets that provide skill instruction, designed for use during circle time, 1-2 times per week. In addition, teachers are trained in interaction strategies to help children generalize their skill performance throughout the day, including emotion coaching (e.g. using feeling words, helping children notice their own and others’ feelings), reminding children to use turtle when excited or upset, and using problem-solving dialogue to help children manage frustration and resolve conflicts.

Preschool PATHS has been evaluated in three randomized trials. In the first study, 20 Head Start classrooms were randomized to the intervention (Preschool PATHS) or a “usual practice” control group; 287 children were followed for 1 year, with skills assessed at the start and end of the year. At post-test, children in Preschool PATHS classrooms, relative to the control classrooms, showed significantly greater gains in emotion knowledge and emotion recognition skills, and more improvement on teacher and parent ratings of social competence, but no differences in aggression (Domitrovich, Cortes, & Greenberg, 2007). In the second study, children in 44 Head Start classrooms were randomly assigned to receive the Head Start REDI program, which included the Preschool PATHS Curriculum along with a literacy intervention, or to “usual practice” Head Start. Four-year-old children were assessed at the start and end of the

year. In addition to positive effects on the vocabulary and emergent literacy skills that were targeted by the literacy intervention, children in the intervention condition showed significantly higher levels of emotional understanding, social problem-solving skills, and observed learning engagement than children in the control classrooms, as well as significantly lower levels of teacher-rated aggression. Additional, marginally significant effects for the intervention included higher teacher-rated and observed social competence, improved executive function task performance, and lower parent-rated aggression and attention problems (Bierman, Domitrovich et al., 2008; Bierman, Nix et al., 2008). One year later, follow-up assessments were collected after these children had transitioned into kindergarten, revealing sustained effects for the intervention on measures of learning engagement, social competence, reduced aggressive-disruptive behavior, and for the subgroup attending schools characterized by low achievement, reduced attention problems (Bierman et al., 2013). These positive social-emotional effects likely reflect the impact of Preschool PATHS, although it is possible that the added literacy intervention components amplified the effects of SEL (for example, see Nix, Bierman, Domitrovich, & Gill, 2013).

In a third study, Preschool PATHS was combined with a Web-based professional development program, MyTeachingPartner (MTP, Hamre, Pianta, Mashburn, & Downer, 2012). In this study, 233 prekindergarten teachers from school districts throughout the state were randomly assigned to one of three conditions: 1) PATHS-High, which included the Preschool PATHS curriculum, access to Web-based videos, and the MTP consultancy, 2) PATHS-Low, which included the Preschool PATHS curriculum and access to Web-based videos, but not the MTP consultancy, and 3) “Usual practice” control, which did not include PATHS or the MTP resources or consultancy. As described in more detail later in this chapter, the MTP consultancy

provided teachers with individualized coaching. Teachers videotaped themselves in their classrooms, reviewed their videotapes with their on-line coach, and received feedback and suggestions designed to help them improve their classroom organization, instructional management, and emotional support. Implementation measures revealed that PATHS lessons were implemented at the same frequency (average once per week) and with the same quality (average 7.9 on a 10-point scale) in both the High and Low conditions. Analyses of the results revealed that, relative to the “usual practice” control group, children in both of these Preschool PATHS conditions showed significantly greater improvements in teacher-rated social competencies (frustration tolerance, assertiveness skills, task orientation, social skills), but no differences on behavior problems. In general, teachers in the PATHS-High condition utilized the Web-based resources more frequently than did teachers in the PATHS-Low condition, and teachers who conducted more PATHS lessons and spent more time using the MTP Web-based resources also reported greater increases in children’s social competence, suggesting that both the curriculum and the Web-based resources facilitated positive student outcomes.

Promising Programs

Tools of the Mind. The *Tools of the Mind* program [Tools] (Bodrova & Leong, 2007) approaches the promotion of social-emotional skills using *implicit* strategies. Tools is based on Vygotsky’s model in which self-regulation develops in the context of social interactions, particularly pretend socio-dramatic play (Bodrova & Leong, 2007). Tools includes a daily 50-minute make-believe play session, during which teachers support and enhance sustained and complex socio-dramatic play, emphasizing planning skills, character development, and interpersonal negotiation skills in the context of that play. In addition, the program includes games that involve the practice of self-regulation (controlling the speed of movement,

remembering directions over time). The program also pairs children into dyads for many learning activities, in order to provide opportunities for more active engagement.

In the first randomized-controlled trial to evaluate Tools, a sample of 210, 3- and 4-year old preschoolers who were primarily Latino (93%) were assigned to classrooms in which teachers used Tools or a curriculum developed by the school district (Barnett et al., 2008). At the end of the year, observations documented a significant impact of Tools on the specific teaching practices targeted by the program, including classroom structure and time use, the use of scaffolding techniques by teachers in their interactions with children, and the quality of the literacy environment and instruction (Barnett et al., 2008). However, no effects were observed on a more general measure of the quality of student-teacher interaction. At the end of the year, children in the intervention classrooms were rated by teachers as having fewer behavior problems relative to children in the control group, and they also showed gains on a vocabulary test, but not on tests of emergent literacy or math skills (Barnett et al., 2008).

One year after the Barnett et al. (2008) evaluation, Diamond, Barnett, Thomas and Munro (2007) followed up the children in the original sample who were still in prekindergarten, and administered executive functioning tests. One school was dropped from this second study because the whole school had adopted Tools, and six new classes were added that had not participated in the original study. In this evaluation, children in the Tools classrooms outperformed those in the control classrooms on tests of executive function skills (Diamond et al, 2007). However, given the changes in the study sample, and the lack of pretests to show equivalence in the intervention and control samples, these findings should be considered preliminary. Since then, two additional randomized trials have evaluated Tools. In one, Tools was compared with “usual practice” preschool in six school districts, and produced no significant

effects on child literacy, math, or executive function skills, or on teacher ratings of child social and behavioral competence (Wilson & Farran, 2012). In the other randomized trial, Clements, Sarama, Unlu, and Layzer (2012) compared “usual practice” preschool with two intervention conditions: one that included a preschool mathematics curriculum (Building Blocks), and the other that paired Building Blocks with a modified version of Tools. No group differences emerged for one executive function task (pencil tapping). Children in the Building Blocks condition out-performed those in the control group on two other tasks (Head-Toes-Knees-Shoulders and backward digit span), but children in the Building Blocks plus Tools condition did no better than the “usual practice” control group on these tasks. Implementation challenges and/or adaptations made to the Tools program may have reduced program impact in these latter two trials, but at this point, evidence for its impact on social-emotional school readiness and self-regulation skills requires further documentation. It is worth noting that, relative to other preschool SEL programs, Tools is more complex and may be more difficult for preschool teachers to master. Hence, it is possible that teachers require more than one year to fully implement this intervention approach as intended, and that randomized-controlled trials that evaluate impact after the first year of teacher implementation underestimate program effects.

Whereas Tools takes an *implicit* approach to SEL, each of the promising programs described next in this section include *explicit* lessons on the targeted social-emotional skills, along with professional development supports designed to help teachers provide a positive classroom environment that supports SEL.

I Can Problem Solve. The *I Can Problem Solve* program [ICPS] was one of the first explicit SEL programs developed for preschool children (Shure, 1992; Shure & Spivack, 1982). The logic model for this intervention emphasizes the importance of developing the covert

thinking skills that allow children to respond thoughtfully and flexibly to a variety of social problems. The overall goal of the program is to improve children's ability to navigate social challenges, by improving their capacity to flexibly generate solutions to challenging interpersonal situations, and anticipate the consequences of different behavioral choices. The ICPS curriculum includes 46 short (20-30 minute) lessons. It starts with instruction in the basic cognitive skills that provide a foundation for problem-solving, including concepts such as "same-different" and "if-then" and the ability to identify basic emotions (happy, angry, and sad). Then it presents a series of interpersonal problem situations that children discuss by identifying multiple solutions, and then considering the consequences of different solutions. Teacher demonstration and puppet play are used to illustrate the training concepts, and whenever possible the problem-solving methods are applied to actual classroom problems.

In a randomized trial of the program involving 113 African American, inner city children (aged 4- to 5-years-old), the children in intervention classrooms improved relative to children in "usual practice" classrooms on measures of alternative and consequential thinking as well as teacher ratings of frustration tolerance, impulsivity, and task engagement. Improvements were maintained at follow-up one year later, when children were rated by new teachers, blind to experimental condition (Shure & Spivack, 1982).

AI's Pals: Kids Making Healthy Choices. *AI's Pals* is a comprehensive SEL program for preschool, kindergarten, and first-grade children (Lynch, Geller & Schmidt, 2004), designed to promote social-emotional competence and build the coping skills and resilience of young children growing up in impoverished, high-risk environments. It is informed by social learning theory, and includes activities designed to coach children in the acquisition of communication skills, emotional expression, positive social interaction, self-control, anger management, and

social problem-solving skills. In addition, the program is designed to inspire hope in children who are growing up in highly-disadvantaged urban settings and exposed to community violence, and to teach them “survival skills” such as monitoring the environment for safety and making healthy choices regarding substance use. The program is designed for implementation by classroom teachers, who present two brief (15-20 minute) lessons per week over a 23- week period. The manual provides scripts for each session, additional notes, and activity guides for teachers. A two-day introductory workshop is designed to promote a positive classroom climate and support for skill generalization. Professional development topics in this teacher workshop include: active listening, non-judgmental responding to children’s disclosure of sensitive topics, and techniques to guide children in problem-solving and healthy decision-making.

Al’s Pals was developed and refined through a series of quasi-experimental studies (Lynch et al., 2004). One randomized-controlled trial has been undertaken with 33 Head Start classrooms (17 intervention, 16 “usual practice” control). A total of 399 children of mixed ethnicity participated. Teacher ratings of child behavior revealed significantly higher mean levels of social skills and lower mean levels of problem behaviors (internalizing and externalizing problems combined) for children in the intervention group compared with the control group (Lynch et al., 2004). *Al’s Pals* also produced non-significant trends favoring the intervention group on teacher ratings of positive coping and "distract/avoid" methods of coping, but had no effect on negative coping behaviors (venting and aggression), cooperation skills, or interaction skills. Although the results of this study were positive and several other quasi-experimental studies also show promising effects (as reviewed in Lynch et al., 2004), the findings are limited by the reliance on teacher-ratings as the only measure of program impact. Because teachers implemented the program, their ratings of change in child skills and behavior may be subject to

bias. Hence, additional rigorous, randomized comparisons are needed, using multi-informant measures to confirm the program's impact.

Other programs that use explicit SEL. Small pilot studies suggest that additional SEL programs may have benefits for preschool children. However, none of these programs has yet been tested with preschool children in the context of a large, rigorous, randomized-controlled trial. These include the Second Step Program, preschool level (McMahon, Washburn, Felix, Yakin, & Childrey, 2000), the Emotions-Based Prevention Program (Izard et al., 2008), and the Strong Start Pre-K program, preschool level (Gunter, Caldarella, Korth, & Young, 2012), which all share some common core concepts with the above mentioned programs.

Programs That Do Not Work

There are no programs that fit this category because of a lack of evidence, that is, multiple evaluations have not been conducted on specific programs to document that they do not achieve their intended impact.

Critical Issues in Preschool SEL Programming

Professional Development Support

As noted earlier, the provision of sufficient professional development support to enable preschool teachers to implement SEL programs with high-fidelity is a critical issue affecting program impact on children. In contrast to elementary school teachers, many preschool teachers do not have four-year college degrees, and some have only a high school degree (Zaslow et al., 2010). Preschool teachers vary substantially in the amount of on-the-job training and supervision they receive, and few receive any systematic training in how to support social-emotional development and enhance children's self-regulation skills in the preschool context. Even when SEL programs provide a detailed manual for program delivery, professional development

support is necessary to foster optimal implementation. In addition, professional development support is needed to promote emotionally supportive teaching practices, and the use of positive classroom management strategies that support the generalization of SEL skills. Most evidence-based SEL programs use a combination of workshop training and on-site coaching to foster high-fidelity implementation and positive teaching practices. Research is needed to identify the most effective and efficient strategies for providing this professional development support.

A particular challenge is how to scale-up coaching models for preschool teachers, in order to increase the accessibility of professional development support for teachers using SEL programs. One promising strategy involves the use of technology to improve the accessibility of high-quality coaching. For example, Pianta and colleagues (Pianta, Mashburn, Downer, Hamre, & Justice, 2008) developed a web-based platform, MyTeachingPartner, to deliver professional development support. As noted above, a first study of MyTeachingPartner involved coaching prekindergarten teachers in the implementation of Preschool PATHS, comparing two levels of support – the provision of web-based models with (or without) additional on-line coaching and consultation. The findings from this randomized trial suggested that the on-line coaching in combination with the access to web resources facilitated more positive gains in teaching practices than the provision of a workshop alone (Pianta et al., 2008). Additional research is needed in this important area.

Involving Parents

Another issue that is particularly important during the preschool years is the involvement of parents, because children's social-emotional development is so heavily dependent upon the quality of parent-child relationships during early childhood (Bernier et al., 2010). In addition, many preschool programs are only half-day, potentially limiting the impact of an SEL program

that is delivered only in the school context. Preschool PATHS and AI's Pals both include information sheets and suggestions for parent-child activities that are sent home regularly during the school year to increase synchronous home and school support for children's SEL. In addition, a few studies have examined the utility of offering more intensive parent training interventions as universal supports to help parents get positively involved with their child's school, to reduce the use of punitive discipline practices, and to increase the use of positive management strategies at home. A few randomized trials suggest that these universal programs can improve parenting practices, but engaging parents is difficult, and thus far, the impact on child behavior is typically small.

For example, two randomized studies have offered the IY Parent Training Program to the parents of children attending Head Start, to extend and complement a classroom SEL program. In the first of these, Webster-Stratton et al. (2001) evaluated a combined intervention approach (IY teacher training plus IY parent training) in a randomized trial involving 14 Head Start centers. In that study, only 50% of the eligible parent population enrolled in the study and remained at Head Start through the end-of-year post-test. Of those, 63% of the parents assigned to the intervention group attended at least one of the parent intervention sessions, and the average parent level of attendance was only 5.73 of the 12 parenting sessions. At post-treatment, parents in the intervention condition demonstrated significantly lower levels of negative parenting and higher levels of positive parenting than parents in the control condition; however, child problem behavior at home decreased significantly only for a sub-set of children with elevated problems at pre-treatment assessments. In a second study, Project Star (Kaminski, Stormshak, Good, & Goodman, 2002), 14 Head Start centers were randomly assigned to three conditions, including a classroom SEL program, a combined intervention (classroom SEL lessons and the IY parent

training program), or a “usual practice” control group. The parenting program also included home visits the following year, when children were in kindergarten. In this study, even though free transportation and child care was provided, only 36% of the families assigned to the parent training condition attended more than four parent group sessions. The intervention produced significant improvements (relative to the control group) in caregiver involvement and school bonding, as well as child social competence. (However, child competence was also improved with the SEL classroom program alone.)

A third study that warrants mention here used a randomized-controlled design to evaluate the impact of a universal parenting and child-focused program (ParentCorps) offered to the children and parents attending public prekindergarten in four elementary schools (compared to 4 “usual practice” schools) (Brotman-Miller et al., 2011). Covering a similar set of parenting skills as the IY program, the ParentCorps parenting program was adapted culturally to meet the needs of immigrant parents, and administered at schools during early evening hours, along with a parallel program for children. In this study, only 30% of the prekindergarten parents enrolled in the study. Of those who enrolled, 70% of the eligible parents attended at least one session, and the average attendance was only 5.93 of 13 sessions. At post-intervention assessments, significant improvements were evident on measures of parenting practices and on teacher ratings of child behavior problems in school.

Taken together, these studies suggest that interventions designed to support the parents of preschool children can improve the parenting practices associated with positive child social-emotional development, and, in some cases, also promote positive changes in child social-emotional competence. However, these studies also illustrate the significant challenge of engaging parents of preschool children in universal parenting programs, particularly low-income

parents who are often multiply-stressed. Even with substantial efforts to reduce the barriers to engagement, the studies noted above were typically able to recruit only 30% to 50% of the eligible parent sample into their study, and of those who signed up, the average rate of participation was fewer than half of the parenting sessions. These findings raise questions about the cost-effectiveness of universal parent groups as a strategy for promoting SEL in preschool children, and call for additional research regarding approaches that might have equivalent impact but place less burden on parents.

Summary

From a developmental perspective, the preschool years represent a unique period of leverage for SEL programming (Feil et al., 2009), when effective interventions may reduce the school readiness gap associated with socioeconomic disadvantage and provide children with skills that promote resilience and success at school entry. The efficacy trials reviewed in this chapter demonstrate the potential of evidence-based SEL programs to promote positive social behavior, emotional understanding, and self-regulation skills, and to reduce off-task and aggressive behaviors during the preschool years. Effective SEL interventions for preschool children share some common features, but vary in the degree to which they target behavioral, cognitive, and/or emotional skills. Each of the effective models described here included efforts to systematically alter the preschool classroom context in order to provide more support for social-emotional skill development; however, they varied in the degree to which they included explicit lessons or relied primarily on changes in teaching quality and classroom organization to promote change. At this point in time, the two preschool SEL programs with the strongest evidence of efficacy are each supported by at least two randomized trials including one conducted by independent investigators rather than the program developers – the *Incredible*

Years Teacher Training Program, which emphasizes positive classroom management skills with an implicit focus on social-emotional skills, and the *Preschool PATHS Curriculum*, which includes explicit lessons teaching social-emotional skills. Comparative studies have not yet been completed to determine whether one approach is more effective than another. In addition, longitudinal studies are needed to determine whether one approach promotes greater resilience in the years following preschool, when children move into elementary school. It is possible that a more explicit emphasis on the development of emotional understanding, self-control, and social problem-solving skills (as in PATHS) provides a stronger foundation for coping with the demands of elementary school than a program that focuses primarily on effective external control during preschool (as in IY), because the explicit instruction approach may more effectively promote children's internal capacities to monitor and cope with social challenges. However, no study has yet compared the long-term value of an explicit SEL curriculum in preschool with an effective classroom management program.

More research is also needed to determine whether, and under what conditions preschool SEL programs can promote children's later academic outcomes. Some studies reviewed here showed "cross-over" impact, with the social-emotional intervention promoting vocabulary (Barnett et al., 2008) or emergent literacy and math skills (Raver et al., 2011), and one study found direct evidence of synergistic gains when both social-emotional and language/emergent literacy skills were targeted together in preschool (Nix et al., 2013).

Finally, additional research is needed to identify optimal professional development models for supporting high-fidelity implementation of preschool SEL programs, as well as to determine the cost-benefit value of including parents with varying levels of intensity in universal programs designed to enhance the social emotional competencies of preschool children.

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