

Chapter 11: Parenting Programs that Promote School Readiness

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When attempting to understand the multitude of factors that contribute to children's school readiness, the role of family characteristics and parenting behaviors figures prominently. Researchers and practitioners in the fields of education and child development have long been aware of the potential impact of family-related variables on children's development in general, and on child school readiness in particular. School readiness includes cognitive (e.g., academic skills, language development) and social-emotional (e.g., self-control, peer competence) components, which are interrelated and consistently related to the quality of parent-child interactions. In this chapter, we describe developmental research that documents links between parenting and children's cognitive and social-emotional school readiness. We review evidence-based interventions that target parenting behaviors as a means of improving children's school readiness. Finally, we discuss emerging research on parenting interventions to promote school readiness and identify future directions for research and practice.

Overview of Evidence-Based Parenting Programs to Enhance Child School Readiness

Recognizing the consistent relationship between parenting variables and children's school readiness (Chazan-Cohen, Raikes, Brooks-Gunn, Ayoub, & Pan, 2009), many interventions designed to boost school readiness target parents and parenting skills. Although some parenting programs are "universal" and target all parents, a majority of the interventions we review here are "selective" or "indicated" programs, designed to reach parents whose children are at-risk for school readiness delays. Based on robust research that links family socio-economic disadvantage with child school readiness delays (Farkas & Hibel, 2008; Zill & Collins, 1995), many programs target families with low socio-economic status (SES). Poverty often compromises parenting by creating conditions of heightened stress, exposure to violence, and social isolation. Poverty is also associated with elevated levels of parent psychopathology (particularly depression) and low levels of parent education, which are in turn associated with deficits in the development of child self-control and self-regulation (Goldsmith & Rogoff, 1997; Li-Grinning, 2007). The hope is that, by focusing on low-SES families and intervening in ways that

strengthen parenting and improve child school readiness, parenting programs might reduce the disparities in school adjustment and long term academic attainment that are associated with economic disadvantage (McLoyd, 1998). This logic is supported by a number of studies indicating that parenting behaviors, particularly language stimulation and harsh, inconsistent discipline, appear to mediate the impact of economic adversity on child outcomes (Hart & Risley, 1995; McLoyd, 1998). Children with constitutional risks (such as low birth weight) are also often targeted for parenting interventions, based on research identifying parent support as a source of resilience (Landry et al., 2008).

The parenting interventions we review here vary in terms of the developmental period they target (e.g., infancy, toddlerhood, the preschool years, or early elementary years). Some have a broad focus, targeting multiple aspects of parent and child functioning; others target a more specific set of parent and child skills. A majority of the evidence-based school readiness interventions deliver services via home visits, although center-based, group meetings, or combined formats (e.g., some home visiting combined with parent group training) are also utilized.

In selecting intervention programs to highlight in this review, we used several selection criteria, focusing on programs that: 1) are characterized by a strong logic model based on developmental research that helps to guide inferences and hypotheses regarding the relations among variables, 2) specifically targeted and measured child outcomes in school readiness skill domains, and 3) have been evaluated for efficacy with rigorous randomized trials. Although some might argue conceptually that any program that strengthens parenting in the early years should enhance child school readiness, the reality is that parenting interventions that have demonstrated benefits in the area of improved parenting (e.g., increasing parent sensitivity and decreasing harsh discipline) often show only weak or no effects on child school readiness outcomes (Brooks-Gunn, Berlin, & Fuligni, 2000). Several comprehensive reviews suggest that, overall, parenting interventions have significant effects and add to the value of school-based programs (such as Head Start), but the effects are relatively small and

inconsistent across studies (Barnett & Escobar, 2002; Sweet & Applebaum, 2004). A critical assessment of the ways in which various approaches are (or are not) producing consistent effects is important, in order to fuel hypotheses about key mechanisms of action and barriers to success, thereby informing future program development and refinement. In the following sections, we organize the review of programs by their developmental foundations and primary areas of focus.

Programs that Focus on Parent Well-Being and Empowerment

Under conditions of economic disadvantage, parents are often stressed, depressed, and demoralized, suffering from social isolation and distress that impairs their capacity to fully support their children's development (Liaw & Brooks-Gunn, 1994). Poverty, and the factors associated with it, including low levels of maternal education, high levels of maternal depression and social isolation, as well as exposure to violence and stress, is related to impaired parenting practices (Lengua et al., 2007; Goldsmith & Rogoff, 1997). For example, compared to non-depressed parents, depressed parents are often more negative, intrusive, critical, and disengaged in their interactions with their infants and toddlers, as well as more likely to engage in coercive and abusive interactions with their children (Cummings & Davies, 1994). Children of depressed mothers often demonstrate low levels of social-emotional competence and elevated rates insecure attachment, along with externalizing behavioral problems which may interfere with their subsequent school adjustment (Goodman, Brogan, Lynch & Fielding, 1993; Spieker & Booth, 1988). Similarly, Chazan-Cohen and colleagues (2009) found that when mothers reported high rates of parenting stress during the toddler years, children showed low levels of emotion regulation and school readiness when they were 5 years old. When parents report high levels of stressful daily hassles and negative life events, children often exhibit heightened cortisol levels (Brennan et al., 2008; Essex, Klein, Cho, & Kalin, 2002) suggesting a spillover effect of parental stress in ways that may impede child prefrontal cortex development and reduce attention control (Blair, 2002).

Recognizing the relations between parental well-being and mental health and child development, some parenting interventions focus broadly on supporting and empowering parents, in order to promote parental efficacy and problem-solving skills, and thereby enhance the overall quality of parenting. The goals of these programs are often quite broad, and emphasize the importance of helping parents help themselves, by providing them with the information and support they need to access educational and social service resources. Often, these programs begin during pregnancy or infancy and target parenting behaviors that are related to multiple domains of child functioning, including children's physical health and safety, as well as their cognitive and behavioral development.

Nurse-family Partnership Program (NFP). Perhaps the best known and most extensively researched of this parent-focused intervention approach, NFP (Olds et al., 1997) targets young, low-income, first-time mothers. Home visitation by nurses begins during the second trimester of pregnancy and continues across the first two years of the child's life. The emphasis of the program shifts over time, with a preliminary focus on a healthy pregnancy outcome and maternal well-being, followed by an emphasis on child health and safety, positive mother-infant interactions, appropriate cognitive stimulation, and positive child management techniques. Evaluations of this program indicate multiple positive effects for some mothers, with lower resource mothers experiencing more benefits (Kitzman et al., 2010; Olds, 2002). An initial randomized trial of this program that included follow-up through the preschool period found no statistically significant effects on children's cognitive and language development or parent reports of child behavior problems at age 4 (Olds et al., 1994). However, positive effects were evident for children of a subgroup of mothers with the highest levels of need (e.g. young, single, and with limited social support or psychological resources) (Olds et al., 2004). Among this subgroup of mothers, the program promoted more stimulating home environments for children, and these children had statistically significantly higher scores on tests of language development and executive functioning at age four than similar mothers who were randomly assigned to a control group

(Olds et al., 2004). A second randomized trial of NFP with young, single African American mothers in Memphis revealed statistically significant elevations favoring the treatment group in children's intellectual functioning and language skills when children were in first grade (Olds et al., 2004). Among a sub-group of mothers with low psychological resources, nurse visitations also promoted elevated math achievement scores for children in first grade. These findings suggest that the NFP approach has the capacity to improve child outcomes several years after intervention. However, the effects on children's intellectual and language functioning were relatively small (.17 to .25 SD), and somewhat inconsistent across studies, emerging as a main effect in the Memphis study, as a sub-group effect in the Denver study, and not emerging in the Elmira study of NFP.

Early Start. Early Start (Fergusson, Grant, Horwood, & Ridder, 2005) is a home visitation program developed in New Zealand to serve high risk families of infants and toddlers. Early Start is similar to NFP in its scope, targeting multiple factors related to child and family well-being, although it begins after birth and home visitors are not nurses. Additionally, Early Start continues throughout the child's preschool years, unlike NFP which ends at age 2, although the average program duration is similar (about 24 months). Families are eligible for Early Start if they have two or more risk factors in areas of parenting and family functioning (e.g., low levels of social support, unplanned pregnancy, parent substance use, family financial difficulties, domestic violence). During an initial set of weekly visits, family support workers strive to develop positive partnerships with parents, and conduct individualized assessment of family needs, issues, challenges, strengths, and resources. In subsequent sessions, family support workers use collaborative problem solving to devise solutions to family challenges, and provide mentoring and advice to help families mobilize their strengths and resources. Additionally, the program targets parent and family outcomes, including improvements in parent mental and physical health, increased workforce participation, and reductions in domestic violence (Fergusson et al., 2005). A randomized, controlled trial of Early Start conducted in New Zealand revealed significant

positive effects on children's outcomes at 6, 12, 24, and 36 months post-baseline. These included better child behavioral adjustment, according to parent report (significantly reduced internalizing and marginally reduced externalizing behaviors), higher rates of well-child medical and dental visits and preschool enrollment, and reductions in hospitalizations associated with accidents. Parent outcomes included reductions in self-reports of abuse and harsh discipline and increases in positive parenting (Ferguson et al., 2005; Fergusson, Grant, Horwood, & Ridder, 2006). No cognitive outcomes for children were assessed in the Early Start evaluation, and follow-up studies of children's subsequent school adjustment have not been conducted.

Summary. These program results suggest that providing a broad scope of intervention support to parents over a two-year period during early childhood has benefits for parents, which sometimes (and for some subgroups) confers school readiness benefits for children. Given the relatively small and inconsistent findings on child school readiness, however, the evidence suggests that this approach to parent intervention, if used alone, will not produce effects on child skill acquisition that are substantial enough to reduce the socio-economic gap in school readiness or school attainment in a meaningful way.

Programs that Focus on Enhancing Parent Sensitivity and Responsiveness

Parent-child interaction patterns established in infancy and toddlerhood are related to the development of cognitive skills and self-regulatory capacities, both of which figure prominently in school readiness. An element of parenting associated with optimal development for infants and toddlers is *sensitive-responsiveness*, which is defined as parents' emotional warmth and availability, as well as appropriate and contingent responses to children's signals (Calkins, & Hill, 2007; Dennis, 2006; Landry, Smith, & Swank, 2006). Sensitive-responsiveness appears to be particularly critical for the development of emotional self-regulation (McCabe, Clark & Barnett, 1999), and has been linked with the development of attention control and executive function development in early childhood as well (Bernier et al., 2011; Hughes, 2011; Hughes & Ensor, 2009).

Conversely, parents who use harsh, coercive, or inconsistent discipline strategies often have children who are less cognitively and behaviorally ready for school than parents who provide positive rule structures and contingent positive support for compliance (McCabe et al., 1999; Kilgore, Snyder & Lentz, 2000). Developmental theorists speculate that exposure to parent anger and dysregulation may both deprive children of positive role models for emotional expression and impair their ability to regulate their own emotions and control impulses, both important aspects of school readiness (Blair, 2002). Bi-directional influences may also operate, such that children who are more impulsive and irritable evoke more negative parental control. Negative transactions between parents and children may cascade over time, increasing rates of parent-child conflict and reducing opportunities for parent-child conversation and joint attention, thereby impeding the development of child oral language and attention skills.

Recognizing the critical role of sensitive-responsive parenting in fostering child social-emotional and cognitive development, a number of parent intervention programs focus on promoting sensitive-responsive parenting as a central goal. Some also aim to reduce restrictive, critical parenting and the use of harsh punishment.

Playing and Learning Strategies (PALS). PALS (Landry, Smith, & Swank 2006) is a home visiting intervention designed to teach low-income parents to interact with their infants in a sensitive-responsive manner. The 10-session program utilizes coaching and videotaped modeling to teach parents techniques for maintaining children's attention, responding contingently, showing warmth, and providing rich verbal input. Randomized trials of PALS using an attention-control condition (where parents were provided with general child development information but no specific coaching in parent-child interaction) resulted in large increases in sensitive-responsiveness in parents who received the intervention (Landry et al., 2006). PALS also had positive effects on infants, increasing their use of words, and tending to increase their levels of social cooperation in play interactions (Landry et al., 2006).

In an attempt to better understand the relations between developmental timing of the intervention and children's outcomes, as well as the longer term effects of this early intervention, a subsequent trial of PALS extended the intervention past infancy into the early preschool period (Landry et al., 2008). Recognizing the challenges associated with remaining sensitive and responsive in the face of young children's increasing demands for autonomy, the PALS-II intervention included a component designed to help parents avoid conflicts and power struggles with their children. Child outcomes included receptive vocabulary, cooperativeness, and coordination of language and joint attention. Interestingly, while the PALS-I (infant) program had its largest effects on children's positive social engagement, the toddler/preschool intervention produced gains in both positive social engagement and children's use of complex language. Although children were not followed through school entry in the PALS studies, the outcomes involving children's receptive vocabulary and communicative and social competence in the preschool period suggest that this intervention may be effective at laying important groundwork for school readiness. In this study, effects were generally greater for parents than for children, especially for some outcomes. For example, strong effects were found for PALS at increasing mothers' use of verbal scaffolding, contingent responsiveness, labeling, and reducing mothers' use of redirection (Landry, Swank & Smith, 2006). Effects on child outcomes were fewer and generally more often in the small-to-moderate range, although strong effects were found for children's increase in word use and decreases in negative affect.

Child and Family Interagency, Resource, Support, and Training (Child FIRST). Child FIRST (Lowell et al., 2011) is a program for high-risk families of children aged 6-36 months. It includes two major components: 1) a system of care designed to boost and coordinate access to social services (e.g., housing assistance, early intervention), and 2) a parent-child relationship enhancement component that seeks to improve children's social-emotional competence through increases in sensitive-responsive parenting. The program is delivered to parents at home by mental health clinicians who provide dyadic

psychotherapeutic intervention, and care coordinators who connect families with community-based services. A randomized controlled trial of this intervention involving 157 families revealed significant positive effects for children whose parents completed 12 months of intervention, including reductions in externalizing behavior and improved language competence. Effect sizes of this intervention were significant and large for reductions in parenting stress and reductions in children's externalizing behavior problems, and moderate for improvements in children's language. However, drop-out rates for this program were quite high, with a 25% attrition by the end of the 1-year program (Lowell et al., 2011).

Incredible Years. The Incredible Years parenting program (Webster-Stratton, 1998) targets parents of preschool children at risk for poor school adjustment due to externalizing behavior problems. Originally designed as a clinical intervention for parents of children with conduct problems, *Incredible Years* has recently been evaluated as a selective school readiness intervention for low-income parents. Utilizing a weekly, two-hour, group training format, the 12-session program teaches parents to use child-directed play skills, positive and consistent discipline strategies, strategies for coping with stress, and ways to strengthen children's social skills. In the first randomized trial with Head Start parents, *Incredible Years* promoted improved parenting practices and child behavior observed at home. There were also significant treatment effects on Head Start teachers' reports of children's social competence at school (Webster-Stratton, 1998). Because teachers also received the intervention, it's not clear how much the parenting program played a role in promoting improved behavior at school. A second randomized trial of *Incredible Years* with Head Start families found that the intervention promoted significant gains in positive parenting practices, decreases in negative parenting practices, and reductions in children's conduct problems at home and at Head Start (Webster-Stratton, Reid, & Hammond, 2001). A later analysis suggested moderated effects, with the impact on disruptive behavior problems primarily evident for children who had high rates of problem behaviors prior to the intervention – approximately 28% of the Head Start sample (Reid, Webster-Stratton & Baydar, 2004).

Summary. These studies provide evidence that parent sensitivity and responsiveness can be improved and negative parenting can be decreased with focused skill-building interventions. These interventions each provided parents with instructions, videotaped models, practice opportunities, and the provision of feedback, in order to improve the quality of their interactions with their young child. In infancy, sensitive-responsive parenting was the primary goal, whereas for older toddlers and preschool children, an additional goal was to reduce coercive parenting and harsh punishment, as well as to support positive parent-child interactions. In all three studies, improved parenting was associated with improvements in child functioning in areas of relevance for school functioning (e.g., enhanced social competence, reduced behavior problems). However, program impact on children's preschool functioning was not assessed for PALS or Child FIRST, and only teacher ratings of child behavior were collected in the *Incredible Years* trials. Hence, further research is needed in order to estimate the degree of impact these parent programs may have on closing the school readiness gap associated with socio-economic disadvantage.

Programs that Enrich Parent-Child Communication and Increase Parent Support for Learning

School readiness research has identified language competence in the preschool years as a powerful predictor of both academic and behavioral school readiness and later adjustment. In the cognitive realm, early language is closely linked to later reading ability. Children's vocabulary scores at school entry are predictive of later reading comprehension skills (Dickinson & McCabe, 2001). Additionally, language skills are key for the development of self-control and social competence (Mendez, Fantuzzo, & Cicchetti, 2002). As children develop the capacity to label and describe their feelings, they are able to better manage negative emotions and interpersonal conflicts (Cole, Michel & Teti, 1994). Conversely, low language and low levels of emotional understanding are related to poor interpersonal skills with peers and adults (Botting & Conti-Ramsden, 2000.) Because language development is highly dependent on the quality of the linguistic environment to which young children are exposed, it is no

surprise that parent-child verbal interactions during infancy and the preschool years are strongly associated with children's school readiness. Families vary widely in both the quality and quantity of language input provided to young children, and SES is a powerful predictor of this variability. Children in middle and upper-income families are exposed to far more words, more syntactically complex utterances, and more conversational exchanges than children from disadvantaged homes (Hart & Risley, 1995).

Beyond the simple volume of speech, specific conversational strategies are associated with increased linguistic competence in children. First, parents who utilize high rates of *conversational recasting* with their preschoolers have children with higher levels of both expressive and receptive language competence. Recasting involves re-stating children's utterances in a way that maintains the child's topic and focus of interest, but includes a new linguistic challenge unfamiliar to the child (Nelson et al., 2001). Conversational recasting promotes language growth through repeated exposure to both novel words and challenging and complex grammatical structures (e.g., such as the "ing" ending) and also provides motivation for children to engage in conversation with competent speakers (by talking about things that children find interesting) (Nelson et al., 2001). Recasting can be regarded as a form of *verbal scaffolding* which reflects parents' ability to match the content and complexity of their utterances to children's interests and developmental level (Landry et al., 2008).

The content of parents' language to children may contribute significantly to both cognitive and social-emotional aspects of school readiness. *Mind-mindedness* refers to parents' tendency to make ongoing comments on children's emotions and mental states, which offer children the opportunity to reflect upon and verbally mediate their own experiences. Parents' use of these techniques in toddlerhood has been found to predict children's later executive function development (Bernier, Carlson, & Whipple, 2010). Conversely, when parents talk with their children using brief statements, limited vocabulary, and focus primarily on directives and prohibitions, children are more likely to show

low levels of readiness at school entry. Low-income mothers, especially those experiencing multiple risk factors (e.g., depression and low education) are disproportionately likely to engage in these types of linguistic exchanges with their children (Hart & Risley, 1995).

In addition to variations in their language use in the home, parents vary considerably regarding their beliefs about the need and value of structuring learning opportunities for their children and the degree to which they provide learning materials, such as books, puzzles, drawing supplies, and educational toys. Cheadle (2008) found that higher SES families structure more learning opportunities for their children, engage them in more conversations, and have more involvement in schooling, including interactions with teachers and other school personnel, whereas lower SES parents are more likely to endorse a philosophy of “natural development” which involves fewer structured learning experiences and less adult involvement in children’s lives. The pattern of “concerted cultivation” that is more common among higher SES families is associated with higher child reading and math scores in elementary school (Cheadle, 2008). Building upon this developmental research, a number of parent interventions have been developed to improve the quality of parent’s communication and language use with children and increase levels of cognitive stimulation and learning support in the home.

Parent-Child Home Program. Originally developed in 1965 as the Mother-Child Home program (Levenstein & Sunley, 1968), this intensive intervention involves 46 bi-weekly home visits, spread over two years (usually when the child is 2-3 years of age). The program is designed for children at-risk for delayed school readiness due to family risk factors such as poverty, low levels of parental education, isolation, teen parent or single-parent status, and immigrant status. The overall program goal is to improve support for the child’s learning within the home and to empower the parents to feel effective and involved in supporting the child’s development and education, with a particular emphasis on verbal communication. Paraprofessionals conduct home visits, bringing parents new toys and books each visit, and coaching parents in how to use these materials as platforms for language enrichment. Home

visitors are trained to use modeling and reinforcement to encourage positive parent-child interaction, but to avoid didactic instruction. In addition, home visitors facilitate referrals to other social and educational services, as needed.

The program has undergone multiple evaluations over the years, using both quasi-experimental and randomized controlled designs. The initial, quasi-experimental evaluations indicated that children who received the intervention had significantly higher IQ's than the comparison group children (Levenstein, 1970), and these results were sustained at follow-up for children who received the full two year program (Madden, Levenstein & Levenstein, 1976). This original sample was followed for many years, with program effects detectable at 5th grade (Lazar & Darling, 1982) and 7th grade (Royce, Darlington & Murray, 1983). A much more recent study, also employing a quasi-experimental design, compared the outcomes of program participants in rural North Carolina with the state norms for low-income children's school readiness and found similar, positive effects for the intervention, with program recipients scoring significantly better on measures of school readiness in first grade (Levenstein, Levinstein, & Oliver, 2002).

However, more rigorous designs have resulted in less consistent findings. An early evaluation conducted not long after the original trial utilized a randomized, controlled design and found robust impacts on parenting behavior, but much smaller effects on child IQ, achievement, and social adjustment, and no child effects were detectable at the first-grade follow up. Interestingly, this study also found that parenting behaviors and child outcomes were uncorrelated, suggesting that treatment effects were not mediated by parenting (Madden, O'Hara, & Levenstein, 1984). Similarly, an RCT conducted in Bermuda found no program effects of this program (Scarr & McCartney, 1988). On the other hand, a longitudinal follow-up of students randomly assigned to intervention and control conditions found a small but positive effect for high school completion among program participants (Levenstein et al., 1998). The lack of findings in these trials might highlight problems in the comparison

samples of the quasi-experimental evaluations. They also might reflect socioeconomic and cultural differences in the populations studied or the more common use of child care in the more recent studies, which may have washed out the effects of improved parental involvement seen in the initial studies. For example, in the Bermuda study, all children in both conditions were enrolled in preschool, which may have washed out the effects of the parent program.

Home Instruction Program for Preschool Youngsters (HIPPY: Lombard, 1981). HIPPY is a home visitation program for parents of low-income four-year-olds that includes the transition to kindergarten. It was developed in Israel in 1969 and has been broadly disseminated to other countries, including the U.S. and Canada. Guided by a curriculum, trained paraprofessionals meet bimonthly with parents over a two-year period, providing books and activities designed to promote language, motor, sensory, perceptual and problem-solving skills. Parents receive coaching in the use of these materials with their children, including instruction, modeling, role play practice with feedback. They are asked to work with children on the activities for 15-20 minutes per day. Like the Parent-Child Home program, much of the research on its effects is qualitative or quasi-experimental. Two quasi-experimental evaluations suggested that family participation in this home visiting program enhanced child academic performance in grade-school, promoting higher grades, improved achievement scores, more favorable teacher ratings of social adjustment (Bradley & Gilkey, 2002; Nievar, Jacobson, Chen, Johnson, Dier, 2011). However, these studies were subject to selection biases, in which the parents who participated in the program were not directly comparable to parents who did not. The only randomized control trial of the HIPPY program showed equivocal results, with meaningful effects for children in one cohort at the end of kindergarten and first grade, but no effects for children in a second cohort (Baker, Piotrkowski, & Brooks-Gunn, 1998). For children in the first cohort, intervention was associated with higher scores on a test of general cognitive ability and more positive teacher ratings of classroom adaptation – gains that

were sustained at one-year follow-up. However, no differences emerged between intervention and control group children in cohort two (Baker et al., 1998).

Get Ready. Get Ready (Sheridan et al., 2008) is a recent program for Head Start children that spans the transition to kindergarten and has the goal of improving school readiness. The intervention involves a series of approximately eight, one-hour home visits between the parent and the child's Head Start teacher that occur over a two-year period. Specific targets of the intervention include 1) increasing parental warmth and sensitivity, 2) increasing parents' support for children's autonomy, and 3) boosting parents' participation in children's learning, both through greater engagement in home learning activities and through a more active home-school partnership. Teachers receive extensive training in engaging parents in conversations about children's strengths and needs, their goals and expectations for their child, and brainstorming any developmental issues (Sheridan et al., 2011). Additionally, teachers implement some of the strategies taught to parents in the classroom. Finally, the program is designed to strengthen the parent-teacher relationship and to promote more active parent participation in children's schooling. A recent randomized controlled trial of the Get Ready program included 217 three-year-olds from diverse backgrounds enrolled in Head Start. Because the intervention targeted teachers, randomization was done at the level of the school building. Teacher ratings collected over the course of the 18-month intervention revealed that children who received the Get Ready intervention relative to controls showed accelerated growth in teacher-rated oral language use, reading, and writing, as well as improvements in teacher-reported social-emotional competencies such as attachment to adults and reductions in anxiety and withdrawal (Sheridan et al., 2010). However, no significant impacts were noted on children's aggression or self-control (Sheridan et al., 2010). When the impact of potential moderators was examined, children for whom there were developmental concerns at the outset of the study, and those who did not speak English, showed significantly greater intervention related gains, while those whose parents had low education or high rates of health problems experienced significantly fewer

benefits (Sheridan et al., 2011). Although this study had a strong, randomized control group design and suggests that the Get Ready intervention accelerated children's development during the Head Start years, its effects on elementary school adjustment are not yet known. Additionally, the evaluation sample had a very high attrition rate, although the attrition affected control and intervention groups equally and was largely related to families' departure from Head Start rather than from the Get Ready program itself, with nearly half of the families discontinuing, which compromises the strength of the findings. Further research on the effects of Get Ready on children's school readiness is clearly warranted.

Parents As Teachers Program (PAT). PAT (Pfannenstiel & Seltzer, 1989) utilizes a curriculum, Born to Learn, to provide parents with child development knowledge and parenting support during the early years of parenting (primarily ages 0-3). The PAT model includes one-on-one home visits, monthly group meetings, developmental screenings, and a resource network for families. In the first randomized-controlled trial of the Born to Learn curriculum delivered in the PAT model, Drotar, Robinson, Jeavons, and Kirchner (2009) randomly assigned 532 eligible families to receive PAT or to a control experience that involved access to informational handouts and groups. The PAT Born to Learn model included 2 home visits in the first month with monthly visits thereafter, delivered by trained parent educators who provided handouts and videos to review key developmental principles. Parents also attended group meetings. Using a conservative analytic approach that retained participants in their assigned groups whether or not they actually completed the intervention or withdrew from the study, no overall group differences emerged on child cognitive or language development or adaptive behavior at 12, 24, or 36 months. However, moderation analyses showed that the low SES families showed some benefits, with children from low-SES families showing higher cognitive development scores and higher motivational approach at 24 months than comparable families in the control group. Two additional randomized trials evaluated the impact of PAT on Latino parents and teen parents, respectively, producing small and

inconsistent positive effects on parent knowledge, attitudes, and behavior, but no overall gains in child development (Wagner & Clayton, 1999). However, additional analyses suggested significant gains for children in some subgroups (for example, children in primarily Spanish speaking Latino families) and under some circumstances (for example, when families received more intensive services.)

Dialogic Reading Programs for Parents. Dialogic reading programs focus specifically on promoting parent reading practices and high-quality language use (Lonigan & Whitehurst, 1998; Whitehurst & Lonigan, 1998; Arnold & Whitehurst, 1994; Whitehurst et al., 1994). Dialogic reading is a form of joint book reading that involves conversational engagement, modeling of novel vocabulary, and the use of complex questions (Arnold & Whitehurst, 1994). When utilized by preschool teachers, this technique results in improved vocabulary, comprehension, and oral language skills (Wasik & Bond, 2001; Arnold & Whitehurst, 1994; Whitehurst et al., 1994).

Utilizing a group training format, Whitehurst and colleagues (Arnold & Whitehurst, 1994; Whitehurst et al., 1994) adapted this technique for parents. During two one-hour training sessions (an initial training session and a later “booster” session), the trainer teaches dialogic reading techniques by showing a modeling videotape and engaging parents in role-playing. Parents are taught to ask thought-provoking questions, engage in active listening, elaborate on child utterances, and reinforce children’s attention and participation (Lonigan & Whitehurst, 1998). Parents are then expected to read to their child 10–15 minutes a day, three to five times a week. Home interventions vary in length from four to eight weeks, while school and home combination interventions may last up to 30 weeks.

Parents’ consistent ability to use dialogic reading at home has been shown to significantly improve language skills in preschool children from both middle- and low-income backgrounds (Arnold et al., 1994). Additionally, this intervention has improved emergent literacy skills in preschoolers who performed significantly below average on tests of expressive and receptive vocabulary (Lonigan & Whitehurst, 1998). What has yet to be evaluated is whether dialogic reading programs facilitate

behavioral or emotional aspects of school readiness through their impact on language and cognitive capacities.

Parents as Tutors. Some interventions have used parents as tutors, setting them up with curriculum materials and support in order to allow them to offer children instruction in specific academic skills. An additional goal is to facilitate parents' engagement in their children's schooling. Parents have been successfully taught to implement remedial reading tutoring programs, resulting in significant improvements in kindergarten children's reading skills (Mehran & White, 1988). In this study, children who had been identified as at risk for reading difficulties were randomly assigned to receive "usual services" (Title 1 tutoring at school) or Title 1 plus parent tutoring. Parents of children in the intervention were successfully trained to tutor their children at home using the *Reading Made Easy* curriculum, and were assisted and supervised by teachers and classroom aides who had been trained by the researchers. Children in the intervention group showed improvements on direct assessments of reading proficiency compared to controls, and the effects were moderated by dosage of tutoring, with children whose parents reported more sessions showing the strongest benefits. This study was somewhat atypical, as it required parents to be trained to a specific criterion; this may have strengthened its impact relative to similar programs

In addition, several meta-analyses of parent tutoring interventions have indicated that overall these interventions are effective at increasing children's academic skills. Erion (2006) reviewed 37 studies examining the impact of parent tutoring programs, and found moderate effect sizes across a number of content areas, including reading, math, spelling, and writing. A second meta-analysis also examined multiple academic outcomes (math, reading, science) as well as multiple parent teaching strategies (direct instruction & practice, use of positive rewards) and found a significant, positive effect for parent involvement in children's reading, but not math (Nye, Turner, & Schwartz, 2006).

Interestingly, in this meta-analysis, parents' use of positive rewards was more strongly associated with children's academic outcomes than other aspects of involvement.

Summary. On the basis of the positive findings from initial quasi-experimental evaluations, several of these home visiting programs have been widely disseminated (e.g. Parent-Child Home Program, PAT). Yet, the results from the randomized trials of those programs are disappointing, and suggest that the programs are under-performing (see Gomby, 2005). More research is critically needed, in order to better understand the circumstances under which these types of parenting interventions have significant effects on child school readiness outcomes. Based upon the available evidence, programs that focus on coaching parents in specific behaviors linked closely with their children's academic progress (such as the dialogic reading and parents as tutor programs) appear more consistent in promoting gains in child cognitive skills than programs that have broader goals and are more focused on educating parents about developmental issues. However, social-emotional outcomes and motivational aspects of school readiness have not been well-studied for either kind of program. In addition, without more direct comparisons, one cannot tell whether the differences in the findings among programs reflect differences in the populations being served, the quality of the implementation, or the intervention approach itself. As research moves forward, it will be most useful if study designs are expanded to more clearly compare the effects of different intervention components and/or test hypothesized mechanisms of action. In the next section, we consider critical issues for future research and program development. One factor that remains unclear from the research reviewed is the level of intensity and dosage of intervention required to meaningfully impact school readiness. While some programs advocate brief, "light touch" interventions (e.g., Triple P, Family Check-up), others argue in favor of more intensive and sustained programs (e.g., Nurse-Family partnerships, Parent-Child Home Program). Because this is an important issue with significant implications for education and child development, it should be the explicit focus of future studies of school readiness.

Future Considerations for Research and Practice

Enriching intervention approaches with recent developmental research. Many of the parenting programs included in this chapter were not designed specifically to enhance child school readiness, but rather targeted multiple needs of the parents. Although this approach may produce programs that are beneficial to parents and children in important ways (e.g., such as improving parent well-being, reducing child abuse), it appears unlikely to provide sufficient targeted support to reduce the socio-economic gap in child school readiness to a meaningful extent. If improvements in child school readiness are a central goal of an early childhood parenting intervention, the approach likely needs to be more focused on building the specific child competencies that are important to school readiness. For example, skills developed during the toddler and preschool years that contribute to directly to children's learning capacity when they enter school include: phonological sensitivity (ability to discriminate sounds), narrative understanding (ability to recognize beginning, middle, and end in stories and events; understanding of cause and effect), and emotion knowledge (being able to recognize and label one's own and others' feelings), as well as oral language skills. This may be why parenting programs that utilize parents as tutors and provide specific learning activities and materials for parents to build these foundational skills (e.g., dialogic reading) have shown stronger effects on child academic readiness than programs with more diffuse goals (e.g., Parent-Child Home Program, HIPPI, PAT). In addition, recent developmental research points to the critical importance of the development of the pre-frontal cortex and executive functions during early childhood, along with language skills, as neural foundations for effective learning (Blair & Diamond, 2008). Because so many of the children who lag in the acquisition of language skills and executive functioning skills also have problems with emotional and behavioral regulation, it is critical to consider academic and behavioral school readiness in tandem (Blair, 2002).

Some parenting processes appear to play a central role in promoting several of these foundational skills, contributing to multiple aspects of child school readiness. For example, sensitive-

responsive parent-child interactions that scaffold child attention and support sustained problem-solving efforts simultaneously may promote attachment security, language learning, attention control, and child social cooperation and competence (Dickinson & McCabe, 2001; Landry, Smith, Swank, & Miller-Loncar, 2000; Nelson et al., 2001). This may be why parenting programs that target sensitive-responsive parenting in an intensive and focused way also show promise for promoting school readiness (e.g., PALS). Conceptually, enriching some of the current parent intervention approaches focused on improving parent-child interaction quality with more specific learning activities designed to promote child acquisition of EF and emergent literacy and math skills may be effective in strengthening program impact.

Engaging parents in intervention. A common struggle for parent interventions involves eliciting and sustaining high-quality engagement from parents (Kaminski, Stormshak, Good, & Goodman, 2002; see also Nix, Bierman, McMahon, & CPPRG, 2009). For example, several of the programs reviewed in this chapter struggled to engage and retain parents in the intervention. Both the Incredible Years and Getting Ready programs showed positive effects, but also had high attrition rates -- 20-24% in the Head Start evaluation of Incredible Years and nearly half the families in the Getting Ready program (Reid, Webster-Stratton & Baydar, 2004; Sheridan et al., 2008). It may be difficult to engage parents for several reasons, including both the burden of intervention, and parent's perception that the services are not needed, or instability in the living situation or preschool placement of the children. Indeed, given the frequency with which moderated effects emerge for parent interventions, with only sub-groups benefitting, it may be the case that parents need more differentiated or flexible intervention options. Two programs warrant mention as examples of service delivery systems that offer parents more autonomy and choice in navigating the services – possibly enhancing program engagement and impact.

In the *Family Check Up* program (FCU: Dishion & Stormshak, 2007), parents participate in an initial three-session ecological assessment of the child and family's strengths and weaknesses, receive

feedback with a focus on the parents' own goals and priorities; and then are presented with options that allow them to make choices about any additional services they receive. FCU also provides annual check-ups, providing families with long-term follow-up as they navigate key developmental transitions. A recent randomized-controlled evaluation of FCU implemented with high-risk families of 2-year-old children revealed that the program had significant impacts on positive parenting, including parental involvement, use of positive reinforcement, parent-child engagement, and scaffolding problems (Gardner, Shaw, Dishion, Burton & Supplee, 2007; Dishion et al., 2008). A follow-up assessment when children were 4 found a marginally-significant effect on children's inhibitory control but no significant effect on language skills (Lunkenheimer et al., 2008). Although these are not strong effects on school readiness skills, the approach warrants ongoing exploration, given its potential to reduce intervention cost and burden on parents, while promoting positive parenting change.

A second example of a more flexible and adaptive intervention delivery system is seen in the organization of the *Triple P: Positive Parenting Program* design (Sanders, 1999). Triple P utilizes tiered interventions designed to provide a graduated set of services that differ in intensity depending upon parental need. The level 1 triple P programs are typically low-intensity and universal, and include suggestions and information regarding positive management of behaviors that many children demonstrate (e.g., bed time issues), while the higher-level interventions are more intensive and selectively target families experiencing more serious problems (e.g., effective management of aggressive-disruptive behavior problems). Triple P is wide ranging, with different versions of the program available for parents of children with disabilities, those at risk for child maltreatment, and those experiencing significant family dysfunction (e.g., marital conflict). School readiness components have been developed for Triple P, but not yet subjected to a randomized trial.

Stronger research designs. Finally, it is important to strengthen the research designs used to evaluate parent interventions in early childhood, to provide a stronger basis for bootstrapping and

improving program impact. Currently, the research supporting many of the parent-focused programs, particularly home visiting, can be criticized for weak research designs that lack robust controls for selection effects. Without a randomized control group, there is a significant danger that sub-groups of parents who are highly motivated to invest in their children's education participate in the intervention – an effect of parent investment that is not controlled in many of the quasi-experimental control groups that have been employed. Hence, it becomes difficult to know whether the positive effects are due to the characteristics of the parents who decided to participate or due to the program itself. For this reason, the use of more rigorous, randomized trials is important.

In addition, research designs should examine different facets of the program, in order to better understand factors underlying success (or failure) to make an impact. Assessing the process of program implementation is important, in order to understand barriers to implementation and in order to determine how well the intervention was implemented and what features of the program created implementation challenges. Assessing proximal variables, such as changes in parenting skills targeted by the program, and their impact as mediators of improvements in child school readiness skills will help strengthen theoretical models of critical change processes. Factors that may serve as predictors of intervention impact also deserve further study, such as the impact of the experience, credentials, and training of home visitors. In addition, ongoing exploration of factors that might moderate program effectiveness is important. For example, programs might vary in impact depending upon the age or developmental status of the child (Landry et al., 2008), the ethnicity or cultural beliefs of the parents (Brooks-Gunn & Markman, 2005), or the risk status of the parents (Olds, Robinson et al., 2004).

Summary. Early childhood interventions appear critical in order to reduce the delays in school readiness associated with poverty, and in order to prevent the growing gap in achievement that results in life-long educational, economic, and health disparities for children growing up in adverse circumstances. Early childhood parenting interventions have considerable potential to reduce this gap,

given research documenting the important role that parents play in the development of school readiness skills. The current findings from parent interventions might best be viewed as a promissory note – evidence of “proof of concept” that parenting can be improved with benefits for children. On the other hand, when evaluated in the context of rigorous randomized-controlled trials, the effects of early parenting interventions on school readiness outcomes are small and inconsistent. In the coming years, the challenge for researchers and practitioners is to strengthen and refine parenting interventions, in order to increase their impact on child school readiness and academic attainment.

References

- Arnold, D. S., & Whitehurst, G. J. (1994). Accelerating language development through picture book reading: A summary of dialogic reading and its effect. In D. Dickinson (Ed.). *Bridges to literacy: Children, families, and schools*, pp. 103-128. Malden: Blackwell Publishing.
- Baker, A.J., Piotrkowski, C.S., & Brooks-Gunn, J. (1998). The effects of the Home Instruction Program for Preschool Youngsters (HIPPY) on children's school performance at the end of the program and one year later. *Early Childhood Research Quarterly*, 13, 571-588.
- Barnett, W. S., & Escobar, C.M. (2002). Research on the cost effectiveness of early educational intervention: Implications for research and policy. In T.A. Revenson, A.R. D'Augelli, S.E. French, D.L. Hughes, D. Livert, E. Seidman, M. Shinn, & H. Yoshikawa (Eds.) *Ecological research to promote social change: Methodological advances from community psychology*, pp. 63-92. New York: Kluwer Academic/Plenum Publishers.
- Bernier, A., Carlson, S.M., Deschenes, M., & Matte-Gagne, C. (2011). Social factors in the development of early executive functioning: a closer look at the caregiving environment. *Developmental Science*, 1-13.
- Bernier, A., Carlson, S. M., & Whipple, N. (2010). From external regulation to self-regulation: Early parenting precursors of young children's executive functioning. *Child Development*, 81, 326-339.
- Blair, C. (2002). School readiness: Integrating cognition and emotion in a neurobiological conceptualization of children's functioning at school entry. *American Psychologist*, 57, 111-127.
- Blair, C., & Diamond, A. (2008). Biological processes in prevention and intervention: The promotion of self-regulation as a means of preventing school failure. *Development and Psychopathology*, 20, 899-911.

- Botting, N. & Conti-Ramsden, G. (2000). Social and behavioural difficulties in children with language impairment. *Child Language Teaching and Therapy* 16, 105-120
- Bradley, R. H. & Gilkey, B. (2002). The impact of the Home Instructional Program for preschool youngsters (HIPPY) on school performance in 3rd and 6th grades. *Early Education and Development*, 13, 301-311.
- Brennan, P.A., Pargas, R., Walker, E.F., Green, P., & Newport, D.J.(2008). Maternal depression and infant cortisol: Influences of timing, comorbidity and treatment. *Journal of Child Psychology and Psychiatry*, 49, 1099-1107.
- Brody, G.H.& Flor, D.L. (1998). Maternal Resources, Parenting Practices, and Child Competence in Rural, Single-Parent African American Families. *Child Development*, 69, 803-816.
- Brooks-Gunn, J., Berlin, L.J., & Fuligni, A.S. (2002). Early childhood intervention programs: What about the family? In J.P. Shonkoff & S.J. Meisels, (Eds.) *Handbook of early childhood intervention (2nd ed.)*, pp. 549-588. New York, NY, US:Cambridge University Press, 2000.
- Brooks-Gunn, J., & Markman, L.B. (2005). The contribution of parenting to ethnic and racial gaps in school readiness. *The Future of Children*, 15, 139-168.
- Calkins, S.D., & Hill, A. (2007). Caregiver Influences on Emerging Emotion Regulation: Biological and Environmental Transactions in Early Development. In J.J. Gross, (Ed.), *Handbook of emotion regulation*, pp. 229-248. New York: Guilford Press.
- Chazan-Cohen, R., Raikes, H., Brooks-Gunn, J., Ayoub, C., & Pan, B.A. (2009). Low-income children's school readiness: Parent contributions over the first five years. *Early Education and Development*, 20, 958-977.
- Cheadle, J.E. (2008). Educational investment, family context, and children's math and reading growth from kindergarten through the third grade. *Sociology of Education*, 81, 1-31.

- Cole, P.M., Michel, M.K., & Teti, L.O. (1994). The development of emotion regulation and dysregulation: A clinical perspective. *Monographs of the Society for Research in Child Development*, 59, 250-283.
- Cummings, E.M., & Davies, P.T. (1994). Maternal depression and child development. *Journal of Child Psychology & Psychiatry*, 35, 73-112.
- Dickinson, D. K., & McCabe, A. (2001). Bringing it all together: The multiple skills, origins, and environmental supports of early literacy. *Learning Disabilities Research and Practice*, 16, 186-202.
- Dishion, T.J., Shaw, D.S., Connell, A., Gardner, F., Weaver, C., & Wilson, M. (2008). The Family Check Up with high risk indigent families: Preventing problem behavior by increasing parents' positive behavior support in early childhood. *Child Development*, 79, 1395-1414.
- Dishion, T.J., & Stormshak, E. (2007). *Intervening in children's lives: An ecological, family centered approach to mental health care*. Washington, DC: American Psychological Association.
- Drotar, D., Robinson, J., Jeavons, L., & Kirchner, L. (2009). A randomized, controlled evaluation of early intervention: The Born to Learn curriculum. *Child Care, Health & Development*, 35, 643-649.
- Erion, J. (2006). Parent tutoring: A meta-analysis. *Education & Treatment of Children*, 29, 79-106.
- Essex, M. J., Klein, M.H., Cho, E., & Kalin, N.H., (2002). Maternal stress beginning in infancy may sensitize children to later stress exposure: Effects on cortisol and behavior. *Biological Psychiatry*, 52, 776-784.
- Farkas, G., & Hibel, J. (2008). Being unready for school: Factors affecting risk and resilience. In A. Booth & A. Crouter (Eds.). *Symposium on Family Issues*. New York: Erlbaum, pp. 3-30.
- Fergusson, D.M., Grant, H., Horwood, L.J., & Ridder, E.M. (2006). Randomized trial of the Early Start Program of home Visitation: Parent and family outcomes. *Pediatrics*, 117, p. 781-786.
- Gardner, F., Shaw, D.S., Dishion, T.J., Burton, J., & Supplee, L. (2007). Randomized trial of a family

- centered approach to preventing conduct problems: Linking changes in proactive parenting to boys' disruptive behavior in early childhood. *Journal of Family Psychology*, 21, 398-406.
- Goldsmith, D.F., & Rogoff, B. (1997). Mothers' and toddlers' coordinated joint focus of attention: Variations with maternal dysphoric symptoms. *Developmental Psychology*, 33, 113-119.
- Gomby, D. (2005). *Home visitation in 2005: Outcomes for children and parents*. Committee for Economic Development: Invest in Kids Working Group: www.ced.org/projects/kids.shtml. October 15, 2005.
- Goodman, S.H., Brogan, D., Lynch, M.E., & Fielding, B. (1993). Social and emotional competence in children of depressed mothers. *Child Development*, 64, 516-531.
- Hart, B. & Risley, T.R. (1995). *Meaningful differences in the everyday experience of young American Children*. Baltimore: Brookes Publishing.
- Hughes, C. (2011). Social understanding and social lives: From toddlerhood through to the transition to school. New York, NY: Psychology Press.
- Hughes, C. & Ensor, R. (2009). Independence and interplay between maternal and child risk factors for preschool problem behaviors? *International Journal of Behavioral Development*, 33, 312-322.
- Kaminski, R. A., Stormshak, E.A., Good, R.H., & Goodman, M.R. (2002). Prevention of substance abuse with rural head start children and families: Results of project STAR. *Psychology of Addictive Behaviors*, 16, S11-S26.
- Kilgore, K., Snyder, J., & Lentz, C. (2000). The contribution of parental discipline: Parental monitoring and school risk to early onset conduct problems in African-American boys and girls. *Developmental Psychology*, 36, 835-845.
- Kitzman, H., Olds, D.L., Cole, R., Hanks, C., Anson, E., Sidora-Arcoleo, K.,... & Holmberg, J. (2010). Enduring effects of prenatal and infancy home visiting by nurses on children: Age-12 follow-up of a randomized trial. *Archives of Pediatric & Adolescent Medicine*, 164, 412-418.

- Landry, S., Smith, K.E., Swank, P.R., & Guttentag, C. (2008). A responsive parenting intervention: The optimal timing across early childhood for impacting maternal behaviors and child outcomes. *Developmental Psychology, 44*, 1333-1353.
- Landry, S. H., Smith, K. E., & Swank, P. R. (2006). Responsive parenting: Establishing early foundations for social, communication, and independent problem-solving skills. *Developmental Psychology, 42*, 627–642.
- Landry, S.H., Smith, K.E., Swank, P.R., & Miller-Loncar, C.L. (2000). Early maternal and child influences on children's later independent cognitive and social functioning. *Child Development, 71*, 358-375.
- Lengua, L.J., Honorado, E., & Bush, N.R. (2007). Contextual risk and parenting as predictors of effortful control and social competence in preschool children. *Journal of Applied Developmental Psychology, 28*, 40-55.
- Levenstein, P., Levenstein, S., & Oliver, D. (2002). First grade school readiness of former child participants in a South Carolina replication of the Parent-Child Home Program. *Journal of Applied Developmental Psychology, 23*, 331-353.
- Levenstein, P., Levenstein, S., Shiminski, J.A., & Stolzberg, J.E. (1998). Long-term impact of a verbal interaction program for at-risk toddlers: An exploratory study of high school outcomes in a replication of the mother-child home program. *Journal of Applied Developmental Psychology, 19*, 267-286.
- Liaw, F., & Brooks-Gunn, J. (1994) Cumulative familial risks and low-birthweight children's cognitive and behavioral development. *Journal of Clinical Child Psychology, 23*, 360-372.
- Li-Grining, C.P. (2007). Effortful control among low income preschoolers in three cities: Stability, change and individual differences. *Developmental Psychology, 43*, 208-221.
- Lombard, A. (1981). *Success Begins at Home*. Lexington, MS: Lexington Books.

- Lonigan, C. J. & Whitehurst, G. J., (1998). Relative efficacy of parent and teacher involvement in shared-reading intervention for preschool children from low-income backgrounds. *Early Childhood Research Quarterly, 13*, 263-290.
- Lowell, D.I., Carter, A.S., Godoy, L., Paulicin, B., & Briggs-Gowan, M.J. (2011). A randomized controlled trial of Child FIRST: A comprehensive home-based intervention translating research into early childhood practice. *Child Development, 82*, 193-208.
- Lunkenheimer, E.S., Dishion, T.J., Shaw, D.S., Connell, A.M., Gardner, F., Wilson, M.N., & Skuban, E.M. (2008). Collateral benefits of the Family Check Up on early childhood school readiness: Indirect effects of parents' positive behavior support. *Developmental Psychology, 44*, 1737-1752.
- Madden, J., Levenstein, P., & Levenstein, S. (1976). Longitudinal IQ outcomes of the Mother-Child Home Program. *Child Development, 47*, 1015-1025.
- Madden, J., O'Hara, J., & Levenstein, P. (1984). Home again: Effects of the mother-child home program on mother and child. *Child Development, 55*, 636-647.
- McCabe, K.M., Clark, R., & Barnett, D. (1999). Family protective factors among urban African American youth. *Journal of Clinical Child Psychology, 28*, 137-150.
- McLoyd, V.C. (1998). Socioeconomic disadvantage and child development. *American Psychologist, 53*, 185-204
- McLoyd, V. & Smith, J. (2002). Physical Discipline and Behavior Problems in African American, European American, and Hispanic Children: Emotional Support as a Moderator," *Journal of Marriage and Family, 64*, 40.
- Mehran, M., & White, K. R. (1988). Parent tutoring as a supplement to compensatory education for first-grade children. *Remedial & Special Education, 9*, 35-41.
- Mendez, J. L., Fantuzzo, J., & Cicchetti, D. (2002). Profiles of social competence among low-income African American preschool children. *Child Development, 73*, 1085-1100.

- Nelson, K.E., Welsh, J.A., Camarata, S.M., Tjus, T., & Heimann, M. (2001). A rare event transactional model of tricky mix conditions contributing to language acquisition and varied communicative delays. In K.E. Nelson, A. Aksu-Koc, & C. Johnson, (Eds.). *International Congress of the International Association for the Study of Child Language (IASCL)*, pp. 165-195. Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.
- Nievar, M.A., Jacobson, A., Chen, O., Johnson, U., & Dier, S. (2011). Impact of HIPPY on home learning environments of Latino families. *Early Childhood Research Quarterly*, 26, 268-277.
- Nix, R.L., Bierman, K.L., McMahon, R., & CPMRG (2009). How attendance and quality of participation affect treatment response in parent behavior management training. *Journal of Consulting and Clinical Psychology*, 77, 429-438.
- Nye, C., Turner, H., & Schwartz, J. (2006) Approaches to parent involvement for improving the academic performance of elementary school age children. *Campbell Systematic Reviews*: Campbell Corporation.
- Olds, D.L., Kitzman, H., Cole, R. & Robinson, J. (1997). Theoretical foundations of a program of home visitation for pregnant women and parents of young children. *Journal of Community Psychology* 25, 9-25.
- Olds, D.L. (2002) Prenatal and infancy home visiting by nurses: From randomized trials to community replication. *Prevention Science*, 3, 153-172.
- Olds, D.L, Robinson, J., Pettitt, L., Luckey, D.W., Holmberg, J., Ng, R.K., Isacks, K., & Sheff, K. (2004). Effects of home visits by paraprofessionals and by nurses: age-four follow-up of a randomized trial. *Pediatrics*, 114, 1560-1568.
- Pfannenstiel, J. & Seltzer, D.A. (1989). New parents as teachers: Evaluation of an early parent education program. *Early Childhood Research Quarterly*, 4, 1-18.

- Reid, M. J., Webster-Stratton, C., & Baydar, N. (2004). Halting the development of conduct problems in Head Start children: The effects of parent training. *Journal of Clinical Child and Adolescent Psychology*, 33, 279-291.
- Sanders, M.R. (1999). Triple P-Positive Parenting Program: Towards an empirically validated multilevel parenting and family support strategy for the prevention of behavior and emotional problems in children. *Clinical Child and Family Psychology Review*, 2, 71-90.
- Scarr, & McCartney, (1988). Far from home: An experimental evaluation of the Mother-Child Home Program in Bermuda. *Child Development*, 59, 531-543.
- Sheridan, S. M., Knoche, L. L., Edwards, C. P., Bovaird, J. A., & Kupzyk, K. A. (2010). Parent engagement and school readiness: Effects of the Getting Ready intervention on preschool children's social-emotional competencies. *Early Education and Development*, 21, 125-156.
- Sheridan, S. M., Knoche, L. L., Kupzyk, K. A., Edwards, C. P., & Marvin, C. A. (2011). A randomized trial examining the effects of parent engagement on early language and literacy: the Getting Ready intervention. *Journal of School Psychology*, 49, 361-383.
- Spieker, S.J., & Booth, C. (1988). Family risk typologies and patterns of insecure attachment. In J. Belsky & T. Nezworski, (Eds.) *Clinical implications of attachment*. Hillsdale, NJ: Erlbaum, pp. 95-135.
- Supplee, L.H., Shaw, D.S., Hailstone, K., & Hartman, K. (2004). Family and child influences on early academic and emotion regulatory behavior. *Journal of School Psychology*, 42, 221-242.
- Sweet, M. & Appelbaum, M. (2004). Is home visiting an effective strategy? A meta-analysis of home visiting programs for families with young children. *Child Development*, 74, 1435-1456.
- Van IJzendoorn, M., Juffer, F., & Dyvesteyn, M. (1995). Breaking the intergenerational cycle of insecure attachment: A review of the effects of attachment based interventions on maternal sensitivity and infant security. *Journal of Child Psychology and Psychiatry and Allied Disciplines* 36, 225-

- Wagner, M. M. & Clayton, S. L. (1999). The Parents as Teachers Program: Results from two demonstrations. *The Future of Children, 9*, 91-115.
- Wasik, B. A. & Bond, M. A. (2001). Beyond the pages of a book: Interactive book reading and language development in preschool classrooms. *Journal of Educational Psychology, 93*, 243-250.
- Webster-Stratton, C. (1998). Preventing conduct problems in Head Start children: Strengthening parenting competencies. *Journal of Consulting and Clinical Psychology, 66*, 715-730.
- Webster-Stratton, C., Reid, M. J., & Hammond, M. (2001). Preventing conduct problems, promoting social competence: A parent and teacher training partnership in Head Start. *Journal of Clinical Child Psychology, 30*, 283-302.
- Whitehurst, G. J., Arnold, D.S., Epstein, J. N., Angell, A. L., & Smith, M. A picture book reading intervention in day care and home for children from low-income families. *Developmental Psychology, 30*, 679-689.
- Whitehurst, G. J. & Lonigan, C. J. (1998) Child Development and Emergent Literacy. *Child Development, 69*, 848-872.
- Zigler, E., Pfannenstiel, J.C., & Seitz, V. (2008). The Parents As Teachers Program and school success: A replication and extension.
- Zill, N., & Collins, M. (1995). Approaching kindergarten: a look at preschoolers in the United States. (Statistical Analysis Report NCES 95-280). Washington, DC: US Department of Education