

**FACILITATING SOCIAL EMOTIONAL SKILLS  
IN PRESCHOOL CHILDREN**

Dissertation prepared

by

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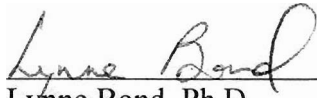
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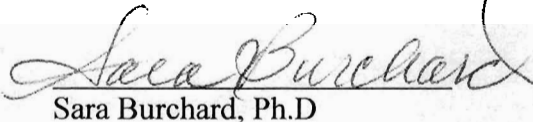
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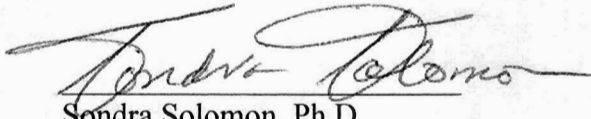


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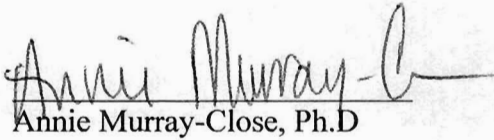
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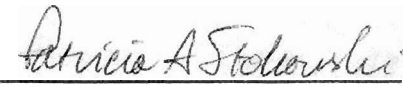


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## ABSTRACT

There are many difficulties associated with problematic social-emotional skills in childhood. These range from poor academic performance (Brinbaum, et al., 2003; Delany-Black et al., 2002; Wallach, 1994), school suspension (Lippincott-Williams & Wilkins, 2004), school drop-out (Farmer & Farmer 1999; Gagnon, Craig, Trombley, Zhou, & Vitaro, 1995), aggression (Cicchetti & Toth, 1995), and poor peer relations (Izard et al., 2001; Schultz, Izard, & Ackerman, 2000; Schultz, Izard, Ackerman, & Youngstrom, 2001). Preschool programming provides an early opportunity to build social-emotional skills and avoid some of these adverse outcomes. The question for many school districts is how to design a preschool program format that is both consistent with best practice and fits within a feasibility framework.

The goal of this research study was to provide information that could be used by school districts to guide preschool program development. The study looked at the differential outcomes on dependent measures of social-emotional functioning for children aged 3 to 5-years who participated in an 8-month preschool program ( $n=74$ ). The children were in 2 treatment groups (i.e., those receiving a classroom-based social skills intervention and those receiving the classroom intervention plus a home-based intervention) and a non-treatment control group. The groups also differed in group membership. The treatment group children met a criterion such as having a diagnosis or low socio-economic status. The control group consisted of children who met these same criteria, but also had members who were invited by teachers or attended based on parent request. Therefore, the control group was more heterogeneous than either treatment group.

The implications of this study for school districts developing a model for preschool programming are discussed. In addition, the limitations of this study as well as potential directions for future research are reviewed.

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Many researchers have discussed the various pathways and trajectories associated with problematic behavior in childhood (e.g., Belsky, Woodworth, & Crnic, 1996; Denham & Weissberg, 2004; Moffitt, Caspi, Dickson, Silva, & Stanton, 1996; Moffitt, Caspi, Harrington, & Milne, 2002; Sanson, Oberklaid, Pedlow, & Prior, 1991). However, the development of problem behavior is an extremely complicated process that defies explanation using a linear model. Rather, there are many variables to consider when exploring challenging behavior in childhood (e.g., Cicchetti & Sroufe, 2000; Rutter, 2000, 2003; Sameroff, 2000). A first step in beginning to build an understanding is to establish a definition of problematic behavior. Problematic behavior in school children is typically categorized into two types – externalizing and internalizing behaviors (Achenbach, 1966). Externalizing behaviors are best described as those behaviors that are most readily observed and may include aggression, hyperactivity, impulsivity, and inattention. These behaviors are often seen in combinations (e.g., aggression and hyperactivity) that result in more potential adversity (Flanagan et al., 2003). Internalizing problems (e.g., anxiety, depression, etc.) are those behaviors that are not as directly observable, but also lead to considerable challenges for children (Daleiden & Vasey, 1997; Gazelle & Ladd, 2003). It should be noted that externalizing and internalizing behaviors can be present separately or they can co-occur.

The potential outcomes associated with childhood externalized and internalized behaviors include: mental health diagnoses, school drop out, drug/alcohol use, criminal prosecution, unemployment, and suicide. For example, with regard to children receiving a mental health diagnosis, several patterns have been borne out in research. Robins and Price (1991) analyzed data gathered in the NIMH Epidemiological Catchment Area Program to examine the longitudinal trajectories of early behavior problems. They found that higher levels of early behavior problems (particularly externalizing behaviors) were positively correlated with the prevalence of 10 adult DSM-III disorders (somatisation, phobia, panic, schizophrenia, obsessive-compulsive disorder, depression, antisocial personality disorder, alcohol use disorder, and drug use disorder). In a longitudinal study of adolescents diagnosed with major depression, Weissman et al., (1999) found 7% of the adolescents had committed suicide by the 10 -15 year follow-up. In addition, Weissman et al. found that the depressed adolescents were five times more likely to have attempted suicide than a control group of nondepressed peers. Depression has been linked to higher levels of stress, having fewer friends and other sources of support to rely on, and missed educational and job opportunities (Klein, Lewinsohn, & Seeley, 1997).

The most common of the disorders of childhood and adolescence are anxiety disorders. These are a group of similar disorders with a combined prevalence rate higher than that of nearly all the other mental disorders of childhood and adolescence (Costello et al., 1996). The DSM-IV manual

(American Psychiatric Association, 2000) states that of the children meeting the criteria for a Generalized Anxiety Disorder, 5% will have lifetime prevalence. Problematic behavior evidenced in childhood, particularly aggression, has been associated with adult personality traits such as alienation, impulsivity, and callousness (Moffitt, et al., 1996), juvenile delinquency (Nagin & Tremblay, 1999), and criminal convictions (Jeglum-Bartusch, Lynam, Moffitt, & Silva 1997; Moffitt et al., 1996, Moffitt, et al., 2002) in later life.

The general population prevalence rate for all problem behaviors in children has been estimated at 10%. This rate increases to 25% when focusing exclusively on children from economically disadvantaged households (Webster-Stratton & Hammond, 1998). A survey of 400 children attending pre-school child care (Kupersmidt, Bryant, & Willoughby, 2000) indicated that each day 40% exhibited at least 1 antisocial behavior, 24% exhibited 3 or more, and 10% exhibited 6 or more antisocial behaviors each day. A review of research focused on particular disorders indicated estimated prevalence rates for children and adolescents of 3% – 7% for Attention Deficit Hyperactivity Disorder, 1% - >10% for Conduct Disorder, 2% – 16% for Oppositional Defiant Disorder, and 4% for Separation Anxiety Disorder (American Psychiatric Association, 2000). These prevalence rates suggest a significant number of children may have the potential to benefit from some form of intervention to decrease the likelihood of amplified and lifelong symptomology, negative social consequences (e.g., alienation or incarceration), and co-morbid conditions.

The specific costs associated with providing education for children displaying problematic behavior are difficult to quantify. However, efforts to examine national spending trends have illuminated strong patterns in our labor to meet the needs of children displaying challenging behavior in school. In a 1999-2000 expenditure analysis, Chambers, Shkolnik, and Perez (2003) indicated that the average per pupil spending for regular education students was \$6556, while the average per pupil spending for special education students was \$12,525. This amounted to a differential of \$5969 in per pupil spending. The authors then broke down spending trends by disability category. They indicated that children served under the categories of Other Health Impaired (including Attention Deficit Hyperactivity) and Emotional Disturbance averaged \$13,229 and \$14,147, respectively. These amounts represent per pupil expenditures greatly exceeding the average per pupil cost. Finally, Chambers et al. (2003) indicated that the most extensive costs were generated by students requiring alternative schools because the severity of their needs exceeded the capacity of their schools. These children averaged \$25,580 per pupil cost. The financial costs associated with problematic behavior reinforce the need to consider early intervention alternatives.

The costs associated with behavior problems are not limited to those individuals who are found eligible for special education services. Early behavior problems may lead to special education, but are also likely to be addressed within regular education settings as part of a Section 504 plan or a classroom accommodation plan. Briefly, the differences between these options are related to

eligibility. Special education includes a number of criteria a student must meet to qualify for services (e.g., a diagnosis that adversely impacts academic functioning and requires specialized services to remediate). There is an established list of diagnoses that fit within the special education umbrella. Section 504 offers services to students who have a diagnosis (that may or may not be accepted in special education), but these children's needs are met within the auspices of regular education. A student may also receive accommodations in the classroom to deal with problem behaviors that do not rise to a level requiring a diagnosis but impair their ability to perform comparably with their peers. It should be noted that the terms externalizing and internalizing behaviors reflect global conceptualizations of problematic behavior that are used in research and clinical work and are not specific mental health diagnoses that necessarily lead to special education or Section 504 supports.

Despite the availability of several intervention options, there is evidence that children are not receiving necessary services. Ford (2003) estimated that emotional and behavioral problems in childhood have more than doubled in the past 25 years, however, only 1 in 4 children receive services to address these issues. In addition to prevalence and intervention trends, the issue of age of onset also becomes an important point related to how problem behaviors are addressed. Gilliam (2005) analyzed data gathered in the National Prekindergarten Study (NPS), which included information from 40 states that offered funded prekindergarten programs. A random sample of 3898 classrooms was used to

analyze expulsion data during a 12 month period in 2001. Gilliam reported that significantly problematic behavior in preschoolers was linked to high numbers of expulsions (6.17 per 1000 enrolled children) from public school settings. According to the author, this represented a rate approximately 3 times the expulsion rate of students attending kindergarten to 12<sup>th</sup> grade. Thus, children displaying early problem behavior are often excluded from the very services that may reduce the continuity and future impact of these behaviors in the future. Furthermore, the author found that the number of expulsions reported for preschoolers was moderated by the availability of classroom-based behavioral consultation. This suggests that the removal of children with behavior problems from important early educational experiences may be reduced if personnel are available who have the means of understanding and developing interventions for challenging behavior.

The specific costs attached to children exhibiting problem behaviors, in addition to the costs that are less quantifiable (disruption of learning environment, perceived safety, future position in the community) underscore the importance of exploring options for prevention and early intervention. Reviews have been conducted to examine the efficacy of school-age interventions for children with a variety of problem behaviors (e.g., Greenberg, Domitrovich, & Bumbarger, 2001), but less analysis has been conducted on interventions for pre-school children (Denham & Burton, 2003; Joseph & Strain, 2003). This is surprising given the sentiment that challenging behaviors become more ingrained with time

and less amenable to intervention. Eron (1990) suggested that children who do not receive interventions for their emotional and behavioral problems before the age of 8 are less susceptible to intervention. In addition, researchers such as Kazdin (1993) and Hinshaw (1994) have suggested that once the problem behavior patterns reach a level of clinical or diagnostic significance, they are more resistant to intervention.

The development of problematic behavior is a complicated process that implicates many factors such as the child's temperament, parent mental health, family stress, and socioeconomic status (e.g., Rutter, 2000, 2003; Sameroff, 1996, 2000). Many researchers have supported early interventions that focus specifically on building social-emotional skills (Denham & Burton, 2003; Denham & Weissberg, 2004) to address the rising tribulations associated with problem behavior. The correlation between problem behavior (in general) and poor social-emotional skills is evidenced in their similar outcomes. Social-emotional deficits have been linked to lower academic performance (Brinbaum, et al., 2003; Delany-Black et al., 2002; Wallach, 1994), school suspension (Lippincott-Williams & Wilkins, 2004), school drop-out (Farmer & Farmer 1999; Gagnon et al., 1995), aggression (Cicchetti & Toth, 1995), and poor peer relations (Izard et al., 2001; Schultz, Izard, & Ackerman, 2000; Schultz et al., 2001). The following quote by Peth-Pierce (p. v, 2000) further underscores the importance of both recognizing the significance of social-emotional skills and developing an early and effective means for building the capacity of children.

What, how, and how much a child learns in school will depend in large part on the social competence they have developed as a preschooler.

Children who do not begin kindergarten socially and emotionally competent are often not successful in the early years of school and can be plagued by behavioral, emotional, academic and social development problems that follow them into adulthood.

There are many reasons to focus early on building social-emotional skills.

One motive is to enhance the interpersonal relationships of preschool children. Social-emotional skills largely determine the extent that children will be able to form meaningful and lasting relationships with peers and adults (Parke, 1994; Saarni, 1990). The impact of early relationships has been found to resonate long into later childhood and adolescence predicting later mental health, learning, and academic success (Denham & Holt, 1993; Parker & Asher, 1987; Robins & Rutter, 1990). Furthermore, research suggests that children who enter kindergarten with more developed social-emotional skills have more positive attitudes toward school, attain higher grades and achievement, and adjust more readily to new experiences (Birch & Ladd, 1997; Ladd, Birch, & Buhs, 1999; Ladd, Kochenderfer, & Coleman, 1996).

Before discussing the options for facilitating social emotional skills it is important to clarify a number of points related to this topic. The following section will define what is meant by social-emotional skills and competence. This is hardly a universally accepted definition or set of skills, but increased clarity

regarding the content of social-emotional skill has a profound effect on intervention choices. In addition, the typical developmental process of acquiring social-emotional skills will be addressed. This will form the vital context through which reasonable expectations can be established and problem areas can be identified. Next, the protective and risk factors associated with the development of social-emotional skills will be covered. However, this information must be shared with the acknowledgement that many of these factors are either outside or only marginally within the ability of schools to influence. Finally, issues related to the actual intervention and facilitation of social-emotional skills will be reported.

#### Developmental Issues in the Attainment of Social-Emotional Skills

##### *A Definition of Social-emotional Skills*

Many researchers have sought to identify and define the skills comprising social-emotional competence (e.g., Denham & Weissberg, 2004; Masten et al., 1995; McClelland, Cameron, Wanless, & Murray, 2007; Payton et al., 2000; Gresham & Reschly, 1987; Waters & Sroufe, 1983; Wittmer, Doll, & Strain, 1996). These accounts have differed in the way they have addressed social and emotional skills (separate or together) and in the semantics they have used to describe and categorize skills. However, there are clearly a number of commonalities across the operational definitions. Most models discuss the interconnectedness of social and emotional competence and the importance of building a solid early foundation on which later skills are added and refined. The following section will discuss the skills most often identified by researchers. The

skills included in social and emotional competence will be separated for the purposes of description and clarity with full knowledge that these skills are intimately connected and interdependent.

As stated previously, social-emotional skills are often divided into two categories: social competence and emotional competence. Social competency skills are those behaviors related to building and sustaining effective interpersonal relationships and the internal processing of social information (and affect) that drive our ability to interact with others. Social competence is further divided into cooperation and prosocial behaviors; initiating and maintaining relationships; and managing aggression and conflict. Emotional competency skills are those related to emotions and the ability to understand and manage the behaviors/reactions that follow from them. Emotional competence is also further divided into emotional regulation/reactivity and self-worth and mastery.

*Social competence.* The skills related to social competence most often include cooperation, interpersonal skills, and conflict management. Cooperation and prosocial skills include behaviors such as helping, giving/sharing, comforting, defending others, negotiation, and empathy (Eisenberg & Mussen, 1989; Honig & Wittmer, 1992, 1996; Howes & Farber, 1987; Jacobson & Wille, 1986; Pines, 1979; Wittmer & Honig, 1994; Yarrow & Zahn-Waxler, 1976). This group of skills also includes explicit and implicit (social) rule following (Kuczynski & Kochanska, 1990; Gresham & Reschly, 1987) and the ability to focus and sustain attention on relevant information (Gresham & Reschly, 1987). Social rule-

following and attention management can be viewed as the foundation from which other prosocial skills are developed and displayed. Another important variable is the ability to read another's emotional communication (verbal and non-verbal) and knowledge regarding the pattern of how (particularly familiar) individuals express their emotions (Cassidy, Parke, Butovsky, & Braungout, 1992; Garner, 1996; Garner, Jones, Miner, 1994). This latter group of related skills is linked to the awareness and expression of emotions and thus also implicated in emotional competence.

The ability to actively initiate and sustain interpersonal relationships is also relevant to social competence. The outcome of these skills is the establishment of friendships in early and later childhood. Although early friendships may be both qualitatively and quantitatively different than those established by older children, the skills implemented in the service of relationships are fairly consistent. These include the ability to appropriately secure and sustain a partner's attention (Eckerman, Davis, & Didow, 1989; Howes, 1987; Howes & Farber, 1987), to sustain an appropriate interaction beyond the initial contact and to end an interaction appropriately (Black & Logan, 1995; Hartup, 1983; Howes, 1987), to balance one's goals with a partner's, and the expression of positive affect (Raver & Zigler, 1997). Thus an individual seeking to engage in a social interaction must possess an awareness of the necessary timing and physical proximity to facilitate an effective overture for attention, the ability to engage in reciprocal play or conversation, and the ability

to display an appropriate proportion of positive versus negative affect during an exchange. Friendships and peer acceptance also involve a degree of interest in the establishment of meaningful interpersonal relationships on the part of the child. The degree of interest in initiating relationships is related to the level of social skill proficiency (Wittmer et al., 1996), emotional (Daleiden & Vasey, 1997) and temperamental factors (Rothbart & Bates, 1998), and early attachment relations between the child and caregiver (Denham & Weissberg, 2004; Tronick, 1989).

Another important variable affecting social competency is an individual's ability to manage aggression and conflict. This entails the ability to resolve conflicts without relying on aggression or non-physical intimidation (Denham & Weissberg, 2004; Hartup, 1989; Parke & Slaby, 1983; Raver, Blackburn, & Bancroft, 1996), appropriately defend one's goals and desires (Walker, Irvin, Noell, & Singer, 1992), identify and evaluate many alternative options for problem-solving (Dodge, et al., 2003; Elias, 1997), and determine the long and short-term consequences of decisions made during conflict (Elias, 1997). Another facet to effective conflict management is the ability to maintain relationships and appropriately re-engage in a task following a conflict (Wittmer et al., 1996).

*Emotional competence.* The understanding and regulation of emotions and pattern of emotional reactivity comprise one set of skills encompassing emotional competence. This group of skills is related to the ability to control and express emotions appropriately, display a diverse and contextually appropriate range of emotions, and respond appropriately in the face of emotionally provocative

situations (Campos, Mumme, Kermoian, & Campos, 1994; Fox, 1994; Speltz, Greenberg, & DeKlyen, 1990). The ability to recognize and understand emotions is important when focusing on one's own affect or that of a partner. When aware of another's affective experience (empathy) an individual is able to make more sensitive and sympathetic social overtures. These overtures are characterized by caring behaviors and statements (including the use of emotional language) that lead adults to evaluate more social proficiency and peers to consider these individuals more likeable (Denham, 1986; Denham McKinley, Couchoud, & Holt, 1990). The ability to regulate emotions (Denham & Burger, 1991) and global emotional patterns an individual exhibits have a profound affect on the ability to form positive relationships (Denham et al., 1990; Lemerise & Dodge, 2000; Park, Lay, & Ramsay, 1993). The balancing of positive and negative affect aids or hinders the ability to form meaningful relationships with adults and peers (Denham et al., 1990; Eisenberg et al., 1996; Rubin & Clark, 1983; Rubin & Daniels-Bierness, 1983; Sroufe, Schork, Motti, Lawroski, & LaFreniere, 1985). It should be noted that positive affect and negative affect (often divided into irritable distress and fearful distress) are temperamental variables and thus are related to transactions between genetic inheritance and environmental factors (Rothbart & Bates, 1998). Thus, environmental context interacts with inherited emotional characteristics to influence emotional competence, behavior, and relationship-building. Appropriate emotional regulation is also related to quantitative factors, for example, an individual can display either too much or too little emotion

(Denham et al., 2003). As an illustration, an overly reactive child may exhibit emotional responses to a level beyond the context of the situation, while an under-reactive child may display little detectable response to an intensely emotive experience.

Another skill related to emotional competence involves self-worth and sense of mastery. Self-worth involves the ability to accurately self-evaluate (Butler, 1990; Doll, Sands, Wehmeyer, & Palmer, 1996) and maintain this self-perception in the face of both supporting and contradictory information. The tendency to see oneself as proficient and competent (sense of mastery) is a strong determinant of persistence on tasks and contributes to potential success (Butler, 1990). The accuracy of self-perceptions is often quite capricious in young children and tends to be an over-estimate of actual proficiency. Several researchers have suggested that this grandiosity serves the purpose of increasing motivation and is based more on the wish to be efficacious rather than actual performance (Butler, 1990; Eccles, Midgeley, & Adler, 1984; Frey & Ruble, 1987). The development of self-worth and mastery has been explored most often in older children. Harter (1986) suggests that self-evaluation is driven by emotions that can either motivate or discourage someone from interacting with partners.

It is important to emphasize that the separation of social and emotional competencies is a rhetorical exercise. In reality, these variables are intimately connected and inseparable. One model that is useful in illustrating the interplay

of many of the skills discussed above in leading to social outcomes has been offered by Crick and Dodge (1994). They contend that social information is processed through a variety of simultaneously occurring steps that culminate in a behavioral enactment. Each individual possesses a knowledge bank of social information that is filled with past experiences and is used as the template to process current situations. Essentially, an individual perceives a social stimulus and encodes/decodes it, processing particular internal and external components of the situation (e.g., visual, auditory, etc). An interpretation of the situation is then generated focusing on attributions of intent and causation, goal assessment, and self-efficacy assessment. Next, the individual determines the goals involved in responding to the social situation and identifies alternatives for attaining this goal. Lastly, before behavioral enactment, the individual must determine the most effective response option based on resource availability, personal efficacy, and ratings of potential success.

The social information processing model of Crick and Dodge (1994) describes the implementation of many of the social competency skills discussed above. However, a more recent expansion of the model (Lemerise & Arsenio, 2000) adds emotional factors in addition to the original cognitive factors. The processing of social information is never detached from emotions. For example, social situations often arouse affective responses such as excitement and joy (when experience is positive) or anger, sadness, and jealousy (when the experience is negative). These reactions to events are driven by individual

emotional style (Eisenberg & Fabes, 1992; Rothbart & Derryberry, 1985) and emotional information (Arsenio & Lover, 1995) that is stored in the social knowledge bank. Social information processing can also be affected by emotional experiences that precede the social situation. For example, a significant emotional experience may occur in the past, but still carry over to a current situation and influence an individual's response. Therefore, emotions can positively and negatively affect all efforts to process social information at each of the steps discussed by Crick and Dodge. The determining factor becomes an individual's ability to monitor and regulate emotions, that is, the skills identified above in the area of emotional competence.

#### Typical Developmental Trajectories of Social-emotional Skills

The skills relevant to social and emotional competence emerge throughout the process of development. They follow a fairly predictable pathway consistent with other developmental domains such as cognition, language, and motor skills. It is also important to note that the exercise of separating developmental domains is primarily in the service of clear conceptualization. In reality social, emotional, cognitive, language, and motor development are intimately connected, and each domain facilitates progress in the others. The development of social-emotional skills begins very early in a child's life and continues to evolve throughout the lifespan. In addition, there are important intrapersonal and interpersonal factors that play an intimate role in the development of an individual's skill level.

Although social-emotional skills are acquired and refined throughout an individual's entire life, the emphasis in this section will be the process from infancy through entry to school.

Researchers such as Spitz (1965) and Emde, Gaensbauer, and Harmon (1976), and Sroufe, Cooper, DeHart, (1996) proposed a number of critical periods to early development. These periods are characterized by central nervous system maturation, rapid progression of skills, and subsequent qualitative reorganization of how an individual processes information and interacts with the environment. The first of these critical periods occurs within the first few months of life. The foundational skills relevant to social-emotional functioning begin very early within the parent-child dyad. They rise from a synchronization of response between caregiver and child (Sroufe, 1996). Trevarthen (1980) discussed the connection that is established between infant and mother within the first 2 – 3 months of life. He described this intense mutual attention as primary intersubjectivity. This early interaction serves as the first introduction to social relations. It is through these frequent exchanges that infants learn to attend to social partners. During this earliest critical period, infants begin to display the social smile, which provides an indication of their basic awareness of the external social world and the power their behavior can exert on it. Infants begin to anticipate familiar faces and events (particularly those that are more routinized). As the next few months proceed, the infant will devote more time and attention to observing others, face to face play, and eye contact with a social partner. Infants

begin to take a more active role in initiating social exchanges. During this period, infants also begin to display their first emotions. They can express pleasure including laughter with the display of a familiar experience (face) and disappointment when the pleasurable event ends.

It is in the early social relationship between caregiver and child that the seeds of emotional regulation are sown. This is done by preventive measures and opportunities to experience and practice regulation in manageable doses. Tronick (1989) discussed the importance of measures that caregivers must take to monitor, screen, and manage the degree of stimulation an infant experiences. This reduces the potential for an infant to become overwhelmed by sensory input. A caregiver also allows for the opportunity to experience and regulate emotions (even at intense levels) with support. The early practice of regulation is accomplished through the face to face games that are played between infant and caregiver (Stern, 1990). These games lead to significant arousal, albeit positive, that can be managed. As a result, the infant learns that intense emotions are controllable and do not inevitably overwhelm.

The second critical period (Emde et al., 1976; Spitz, 1965) occurs toward the final quarter of the first year and into the child's second year of life. According to these researchers, there are several advancements that bring about the second reorganization. Infants/children become more capable of recalling past events and comparing them to current experiences. This allows for the categorization of experiences and, therefore, children can begin to anticipate

events and respond with corresponding affect (e.g., pleasure when expectations are met, and disappointment when expectations are not met). Children must also begin to cope with the affective responses they experience and do so in a fashion consistent with their neophyte status. They struggle to contain emotions and require adult support to effectively regulate intense affect. Furthermore, there is increased capacity to store the past events along with the corresponding affective reactions. During this period, children are capable of recognizing that objects and individuals not visible to them continue to exist (object permanence). This allows for intentional efforts to regain an object/individual that is absent and a corresponding affective response upon the experience of success or failure. The connection between recall, differentiation of important individuals, and recognition of familiar events is illustrated in the rise of stranger anxiety.

Throughout this period of development the caregiver continues to build on past accomplishments and provide the support to obtain and manage new skills. This involves adapting responsiveness to correspond with the new set of social-emotional skills the child has attained. The child becomes more of an active and intentional partner in the social relationship. Furthermore, the relationship between caregiver and child acts as the spring board from which exploration of the outside world can take place. Children who are engaged in a predictable and responsive relationship with their caregivers can begin to use them as a secure base from which to conduct these explorations. This aspect of the relationship is called attachment (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969). The

attachment relationship is formed from the skill level and history of availability of the caregiver to provide protection, comfort, and containment when the child experiences distress and disorganization. A securely attached child has been given opportunity and support to manage emotions and is more likely to engage in social explorations (Denham & Burton, 2003). The attachment relationship also supports the construction of an internal working model (Bowlby, 1969). The actual attachment experience between child and caregiver becomes internalized and forms the system of social beliefs, strategies, and concept of self that will serve as the child's interactive/relational template. Attachment and internal working models begin to develop within the first few months of life, but the behavioral manifestations become more apparent later in development (exploration, concept of self, self-regulation strategies, and social information processing patterns).

In addition and in concert with the factors related to the child-caregiver relationship is the role of temperament in social-emotional development. By the end of the first year of life, a child's temperamental characteristics are stable (Bates, 1989; Rothbart, 1989). A child's level of reactivity, adaptability, and arousal are intimately connected with social behavior and emotional regulation. However, it is the transaction between constitutional factors and the attachment relationship that provide the forum for social-emotional skills (Sroufe, 1996). Temperament may set a trajectory in terms of the social tendencies and emotional responses characteristic of a child, but the early attachment relationship with a

caregiver teaches and primes the behaviors necessary for effective regulation and engagement.

Children continue to build on their affective self-control and social interactions in the second year of life. During this period, children develop a more established sense of self and, therefore, experience a wider range of corresponding emotions regarding their exploits. For example, children encounter the joys of accomplishment, the frustrations associated with failure, and fears of the unfamiliar. In addition, children begin to experience shame as a result of self-evaluations of their behavior. Along with this heightened experience of the environment and affective responses comes a more established ability to control emotions (Emde et al., 1976) and a drive toward increased autonomy (Spitz, 1965). This latter effort can be characterized by spirited assertion and defiance in the service of establishing more independence, and spontaneous expressions of positive affect toward caregivers. Along with the increase in autonomy comes an increase in solitary play, self-initiations of play, and overtures to elicit social interactions. Children in this age group look more to adults as a model, imitate adult routines, and engage in social referencing. Social referencing is the tendency to look to adults (initially the caregivers) to gauge their response to a behavior or event (Gauvin, 2001). Children can use this social information to inform their behavioral and emotional response, while continuing to maintain autonomy. The emotional model a caregiver presents the child has broad implications for future social-emotional skill (Denham & Grout, 1993; Denham, Mitchell-Copeland,

Strandberg, Auerbach, & Blair, 1997; Denham, Zoller, & Couchoud, 1994).

When a caregiver is able to maintain self-control when dealing with the intense emotions of this developmental era, children are more able to experience their own and others emotions, make connections between events and emotions, and view emotions as controllable (Denham & Grout, 1992, 1993; Denham, Renwick, & Holt, 1991; Denham et al., 1994; Parke, Cassidy, Burks, Carson, & Boyum, 1992). Much like earlier development, social-emotional progress is facilitated through the transaction between the caregiver-child attachment relationship and the child's temperament.

The third critical period of qualitative restructuring (approximately 18 to 24 months) is characterized by more experiential exploration (social, cognitive, affective) from the secure base. This experience provides the child with opportunities to practice the social and affective skills that were founded in the first year. An important factor in the development of emotional regulation is the reaction of the caregiver to the child's emotions and bids for autonomy (Gottman, Katz, & Hoven, 1997). By responding effectively to a child's intense emotions, the caregiver creates a supportive forum to experience, understand, and contain emotions and the child can use this forum to establish a template for future independent application (Denham, 1993; Denham & Grout, 1993). A caregiver's ability to effectively manage the intense emotions of childhood has been linked to future social competence (Denham & Grout, 1993; Zahn-Waxler, Radke-Yarrow, & King, 1979).

The third year of life is characterized by a stronger and more refined sense of self. Children begin to categorize themselves through self-reflection (good versus bad; strong versus weak). They have an increased awareness of the feelings they experience, but their emotions tend to be labile. Therefore, the task of emotional self-control presents a considerable challenge. Children of this age also have an increased knowledge and understanding of the emotional experiences of others, although this perception is not fully formed as illustrated by the tendency to use their own emotions as the basis of comparison (Thompson, Goodvin, & Meyer, 2006). There is the beginning recognition that an affective response is connected to the intentions and desires of another (Wellman & Woolley, 1990) and expectations regarding the event (Wellman & Banerjee, 1991). An important asset in the effort to manage rapidly shifting emotions is the development of a more robust vocabulary related to affective experiences. With an expanded repertoire of language and communication strategies comes the increased ability of caregivers to converse about and directly teach children important social-emotional skills (Bretherton, Fritz, Zahn-Waxler, & Ridgeway, 1986; Brown & Dunn, 1992). The discussions regarding affective and social experiences can identify important strategies, emphasize areas of importance, support reflection, and build the fund of knowledge regarding social-emotional experiences and problem-solving (Denham & Auerbach, 1995; Denham, Renwick-DeBardi, & Hewes, 1994; Dunn, Brown, Slomkowski, Tesla, &

Youngblade, 1991; Eisenberg, Cumberland, & Spinrad, 1998; Gottman et al., 1997).

Sroufe (1996) proposed a fourth period of qualitative restructuring, which occurs within the child's fourth year. During this developmental period the child works to enhance the previous work on establishment of the self, intentional behavior, and understanding of the experiences and perceptions of others. These advancements are seen in a child's ability to engage in pretend play, role playing, and perspective taking. Also relevant to this period is the general shift in the child's capability to purposely regulate behavior and affect as opposed to reacting automatically to experiences (Schoore, 1994). Children of this age are more interested in their peers and will initiate play, share materials, and take turns with adult support. The quality of pretend play increases with more elaborate and dramatic play themes. The developmental changes that transpire during this period lead to an increase in social interactions. This affords the child with more opportunities to practice the skills that have been modeled, taught, and reinforced by relevant others, predominately the caregivers (Denham, Grant, & Hamada, 2002; Gottman et al., 1997; O'Neil & Parke, 2000; Parke & O'Neil, 1997, 1999).

During the child's fifth year, there is an increase in the recognition of one's individuality. During this period, children can describe personal attributes such as physical characteristics, relational skills, and emotional competencies (e.g., Thompson et al., 2006). Children are more introspective and conduct frequent comparisons between themselves and others. This can lead to negative

reactions in the case of perceived inequity (jealousy). In addition, 4 to 5-year-olds are better equipped to recognize the perspectives of others. They conduct frequent comparisons of their versus other important individuals' perspectives, which can lead to joy in congruity or shame regarding behavior that is believed to be disapproved by others. Children in this period of development establish more stable friendships with preferred peers. Play is characterized by more elaborate themes and greater attention to details. The experiences of play and other social interactions in concert with support from relevant others (e.g., caregivers, childcare providers) continue to feed a child's fund of social knowledge. Another important aspect of this developmental period is entry into the school setting. This setting will provide children many challenges to their existing social-emotional skill sets and subsequent opportunities to build proficiency.

#### Protective and Risk Factors

The discussion above cited several factors that contribute to the development of social-emotional skills. Among these are the individual variables related to temperament and the attachment relationship. As stated previously, it is the interaction between individual variables and attachment that lead the child to develop an internal working model of self and others (Bowlby, 1969). Furthermore, the internal model forms a template for social interactions and the formation of relationships (Crockenberg & Leerkes, 2000; Mills & Rubin, 1993). In addition to individual characteristics of the child, there are several factors that influence the establishment of parent-child attachment and the level of family

support for social-emotional development. These attributes may represent protective or risk factors. When individual variables and family dynamics align to allow for the establishment of a stable and congruent internal working model and solid social-emotional skills this suggests a protective relationship. The opposite (risk) results when there is an interference from the individual or family (or both) domains that adversely affects the development of an internal model and important social-emotional competencies.

Researchers have identified factors that are related to individual contributions in the caregiver-child relationship. For example, the child's contribution related to temperament has already been discussed. The individual contribution a caregiver brings into the relationship plays an equally vital role. These factors affect the formation of the attachment relationship and consequently the child's social-emotional competence. McCollum and Ostrosky (2008) cite parental affect, responsiveness, and modeling as important mediators in the development of the child's social-emotional competencies.

Caregivers' abilities to appropriately exhibit and regulate emotions (their own and their children's) has a profound impact on children's social-emotional competency. Research has established a link between caregivers' behavior during interactions with their children and social proficiency. The influential parent behaviors include the prevalence of positive affect, open expression of affect, and frequency of discussions about emotions. Several researchers have reported that the positive emotions or warmth characteristic of a caregiver/child relationship

has a significant role in influencing peer relationships. Children seemed to imitate this positive affect in their peer relationships and were more highly regarded and skilled in their social interactions (Carson & Parke, 1987; Isley, O'Neil, Catfelter, & Parke, 1999; Isley, O'Neil, & Parke, 1996; Putallaz, 1987). General trends in the expression of affect within caregiver/child interactions are also believed to inform children's social competencies. Higher degrees of emotional expression modeled by their caregivers led to more expression in children, which was correlated with more social competence (Boyum & Parke, 1995). Lastly, caregivers' tendency to openly discuss their emotional experiences has also been found to influence children's behavior and skills. Children who observe their caregivers discussing emotions and issues related to affect are more likely to develop the skills necessary to do so themselves and evidence more social proficiency (Brown, Donelan-McCall, & Dunn, 1996; Laible, 2004; Taumoepeau & Ruffman, 2006).

In addition to the expression and regulation of positive affect, similar issues related to negative affect also make meaningful contributions to social competence. A caregiver's ability to respond to a child's expression of distress and support appropriate problem-solving strategies has been identified as relevant to the child's skill development. The tendency of caregivers to quickly and consistently respond to their child during episodes of distress predicts better regulation of negative affect and higher levels of social competence (Davidov & Grusec, 2006). In addition, when caregivers respond to child conflicts and

negative affect in an accepting, encouraging, and supportive way, children display better problem-solving and prosocial strategies with their peers (Carson & Parke, 1996). Herrera and Dunn (1997) found that a caregiver's tendency to recognize and honor their child's needs during conflicts was correlated with better social problem-solving with peers. This research also suggested that consistent exposure to appropriate problem-solving strategies may lead to a better social outcome for children than no exposure to conflict. The observation of effective social problem-solving presented children with a useful model to implement themselves.

Along with the individual, family, and transactional factors that contribute to higher levels of social-emotional competence there are related factors that represent a risk to adequate development. Many of these represent the same issues that are relevant to competence, but in forms or doses that are insufficient to support skill development. Within-child factors such as temperament and poor regulation of affect (particularly anger), family factors such as poor parent-child relationships, negative discipline strategies (Ladd & Pettit, 2002), low levels of family warmth and nurturance (Campbell, 1990; Greenberg et al., 1993; Moffitt, 1990; Shaw, Bell, & Gilliom, 2000), and poverty and community variables (e.g., violence and crime) combine and lead to a greater likelihood of problematic behavior. These variables become more detrimental when they co-exist with problems in social information processing skills (Dodge, Lochman, Harnish, Bates, & Pettit, 1997). For example, children who consistently encode, decode, and interpret social information incorrectly are more likely to display

inappropriate behavior prompting additional parent-child stress, less effective parent strategies, and negative peer interactions. Furthermore, children without positive peer relations miss out on an important forum to observe and practice prosocial strategies - friendships.

The number and magnitude of the adversities experienced by children and families have a resounding effect on social-emotional competence. Researchers such as Rutter et al., (1975), Sameroff, Seifer, Zax, & Barocas (1987), and Sameroff (1996) have highlighted the additive relationship between child and family factors and environmental context suggesting that the more adversity an individual experiences the more prone he/she will be to displaying problematic patterns of behavior. Sameroff and colleagues (1987) indicated that factors such as SES, history of parental mental illness, maternal anxiety, parental perspectives regarding child development, parental interaction patterns with their infant, parent education, occupation, minority status, marital status, level of stress, and family size were individual risk factors for difficulties in a child's cognitive and mental health outcomes. The authors indicated that negative outcomes increased with the exposure to greater numbers of the adverse risk factors. Rutter (2003) discussed how the interaction between genetic, individual, and family factors and the number and level of adversities can lead to problematic behavior. He stated that there is no one pathway to emotional and behavioral problems, but that many pathways exist. In addition, an individual's biological/genetic make-up plays a

role in how adversity is dealt with and, relatedly, whether and to what degree problems will arise (even in the case of multiple adversities).

Many researchers have focused their attention on the problem behavior trajectories in preschool-aged children. Belsky et al. (1996) found that families marked by parent-child conflict, significant social challenges, and other family adversities had toddlers (boys) who evidenced the highest externalizing problems scores at 18 months.

Campbell, March, Pierce, Ewing, and Szumowski (1991, 1994) discussed a longitudinal project that followed the persistence of problematic behavior in 3-4 year old boys until they reached 9 years of age. They found that children with multiple risk factors (child risk factors: history of in utero and birth complications, history of fussy-difficult temperament, inattention, hyperactivity, non-compliant behavior, lower IQ; family/parenting risk: observed negative maternal control, maternal depression, stressful life events; and sociodemographic risk: low socioeconomic status) had significantly more externalizing behavior problems at ages 6 and 9 than other comparison groups (those with no identified problems in the risk areas or those with a problem in one risk area).

Shaw et al. (1998; 1999) also reviewed patterns of risk factors leading to problematic behavior including: child risk factors – maternal ratings of difficultness, hyperactive behavior, aggressiveness, and oppositional behavior; family risk factors – maternal depression, inadequate maternal nurturing and organization of the home environment, parental reject during a play activity, and

stressful life events; and sociodemographic risk factors –low family income and neighborhood dangerousness. Data including observations of parent-child interactions, checklists of the childrens' behavior, maternal functioning, and family functioning completed by mothers, and checklists focusing on the childrens' behavior completed by teachers were gathered longitudinally on boys at ages 18 months, 2 years, and 6 years old. A multiple risk group (comprised of individuals with elevations in all risk domains) was higher in parent ratings of externalizing and internalizing behavior problems at age 6. Boys with elevations in the child and family risk domains and neighborhood dangerousness were rated by teachers as the highest in externalizing behaviors at 6 years.

In summary, research has identified examples of variables that facilitate or hinder social-emotional competence. Greenberg et al. (2001) suggest three protective domains have been illustrated through research: characteristics of the individual such as cognitive skills, social-cognition/social information processing skills, and temperament (Luthar & Zigler, 1992); the quality of an individual's interactions with the environment, including positive and appropriate relationships with parents, family members, and peers (Hawkins & Catalano, 1992; Morissett, Barnard, Greenberg, Booth, & Spieker, 1990); and the quality of extended supports such as school resources, home-school relationships, and community resources. Many researchers have also identified the role of risk factors, particularly multiple risk factors, in a child's development of social-emotional competence (Rutter et al., 1975; Sameroff, 1996; and Sameroff et al.,

1987). The recognition of factors relevant to protection and risk related to the development of social-emotional competency can serve as a springboard for designing an intervention program to prevent or reduce problematic behaviors and build prosocial skills.

### Interventions for Building Social-emotional Skills

#### *General considerations*

The literature on building social-emotional competence identifies several ways that the psychological and educational fields have approached this task. The specific model of intervention chosen should largely be determined by the setting and population targeted. One important consideration becomes whether the intervention will focus on children who are currently displaying problematic behavior or whether it represents a more global effort to arm children with skills prior to the manifestation of inappropriate behavior. The effort to build social-emotional competence prior to the onset of related difficulties is called primary prevention. However, the term primary prevention is wrought with confusion and different conceptualizations. Gullotta and Bloom (2003, p. 13) offer the following description;

Primary prevention as the promotion of health and the prevention of illness involves actions that help participants (or to facilitate participants helping themselves), (1) to prevent predictable and interrelated problems, (2) to protect existing states of health and healthy functioning, and (3) to promote psychosocial wellness for identified populations of people. These

consist of (a) whole populations in which everyone requires certain basic utilities of life; (b) selected groups of people at risk or with potential; and (c) indicated subgroups at very high risk. Primary prevention may be facilitated by increasing individual, group, organizational, societal, cultural, and physical environmental strengths and resources, while simultaneously reducing the limitations and pressures from these same factors.

This broad definition represents an amalgamation of many of the existing conceptualizations of primary prevention. There is also the sorting out of primary, secondary, and tertiary prevention formats. There is considerable overlap, which lends itself to misinterpretation, disagreement, and confusion among researchers and authors in the field of prevention. Researchers and documents published by a number of agencies (e.g., Greenberget al., 2001; Institute of Medicine, 1994; and U.S. Department of Health and Human Services, 1999) suggest categorizing the levels of intervention by the terms universal, selective, and indicated. Greenberg et al. (2001, pg. 8), offered the following definitions:

*Universal* preventive interventions target the general public or a whole population group that has not been identified on the basis of individual risk. Exemplars include prenatal care, childhood immunization, and school-based competence enhancement programs. Because universal programs are positive, proactive, and provided independent of risk status, their potential for stigmatizing participants is minimized and they may be

more readily accepted and adopted. *Selective* interventions target individuals or subgroups (based on biological or social risk factors) whose risk of developing mental disorders is significantly higher than average. Examples of selective intervention programs include: home visitation and infant day care for low-birth weight children, preschool programs for all children from poor neighborhoods, and support groups for children who have suffered losses/traumas. *Indicated* preventive interventions target individuals who are identified as having prodromal signs or symptoms or biological markers related to mental disorders, but who do not yet meet diagnostic criteria. Providing social skills or parent-child interaction training for children who have early behavioral problems are examples of indicated interventions.

The advantages of universal programs include reduction of labeling and the pervasiveness of effect given the broad nature of the intervention. With regard to the latter, many problematic behaviors cluster together and have multiple pathways. Therefore, universal prevention programs may address more than one of the co-morbid problems. A disadvantage is the potential cost and maintenance of a program provided to all children. However, researchers such as Durlak (1995) point out that although only small percentages of well-adjusted children receiving universal interventions will develop long-term problems, these numbers are substantial when added to those children more likely to exhibit long-term problems (multiple risk group). It is also relevant to consider the effect that

universal interventions have on children who will not exhibit marked or long-term behavior problems, but would benefit from more support to build social-emotional skills (Domitrovich, Cortes, & Greenberg, 2002; Dubas, Lynch, Galano, Geller, & Hunt, 1998; Grossman et al., 1997; McMahon & Washburn, 2003; Taub, 2001). A select number of the variables influencing intervention choice have been discussed. However, it is important to consider all the advantages and disadvantages of universal interventions versus selective and indicated when making implementation decisions.

Many researchers have suggested using universal prevention as an initial model and implementing selective models with a more limited population as indicated by ongoing assessments of program effectiveness and behavioral patterns. The Teaching Pyramid model developed by Fox, Dunlap, Hemmeter, Joseph, and Strain (2003) is one such option. The Teaching Pyramid suggests a 4 level intervention model predicated on a number of assumptions. First, many behavior problems are a result of inadequate social-emotional skills. Second, school and community personnel will need a diverse range of options to build these skills in young children. This is because although certain intervention modalities may address the needs of a high proportion of the population for some individuals they will be inadequate due to the severity and pervasiveness of difficulties. The Teaching Pyramid proposes a multi-level approach to meet the social-emotional needs of children with differing intensities of need. Levels 1 and 2 are universal designs that involve both developing a supportive environment

and establishing relationships, for example, by building a strong bridge between teacher and student and teacher and care-giver(s). According to the Teaching Pyramid model a supportive environment provides materials, structure, interesting activities, clear directions, and differentiated supports for those who require them. Theoretically speaking, the supportive environment creates a setting that reduces problematic behavior through increased child engagement and clear expectations. The establishment of a solid home-school working relationship is important in the preschool years because it sets the foundation for future collaboration and allows for consistency across settings. Increased family involvement has been associated with more positive outcomes for children (Fantuzzo, McWayne, Perry, & Childs, 2004). Level 3 involves the implementation of a social-emotional skills curriculum in response to data suggesting problems in the areas of social relations, social problem-solving, self-understanding, and so on. This is a selective format and involves the incorporation of a curriculum to build social-emotional competencies in those children exhibiting problems. Level 4 involves the implementation of individualized intervention formats. This stage is indicated by data suggesting earlier stages have not sufficiently reduced the presence and adverse effect of problematic behavior. The interventions implemented in level 4 can take many forms and should be designed in response to the individual characteristics of the child and the setting. The important issue to consider is that this model represents a progressive reduction in the number of children getting

served in each level and children move between levels as they demonstrate a failure to respond to more inclusive interventions.

Once a general systemic model (e.g., the Teaching Pyramid) has been selected for a setting, consideration must turn to the specific intervention programs that will be implemented. This decision is based on the general model (universal or indicated/selected), the feasibility of implementation in a specific setting (e.g., financial, cultural, philosophical, and managerial), and the behavior or constellation of behaviors on which the intervention will focus. Elias, Zins, Graczyk, and Weissberg, (2003) discuss several variables essential to the success of an intervention that are often overlooked by schools and communities during the selection process. These include: the high incidence of staff turnover and the plan for training new staff; consideration of short-term versus long-term programs; the readiness of a system for change and the existence of a commitment for completing a strategic plan; maintaining motivation for implementation; the amount of time available to non-academic intervention efforts; wide-spread community and parental support; and the provision of appropriate initial training and on-going planning/preparation opportunities. All these variables must be considered when an institution is engaged in the intervention selection process.

### *Models of Early Intervention*

The majority of interventions available to intervene with children displaying problematic behavior follow a common origin, social learning theory (Bandura, 1973). This theory emphasizes modeling, behavioral rehearsal, and social reinforcement. Social learning focuses on the direct teaching of deficit skills as a medium of change. Many of the current interventions are psycho-educational and conceive of the child as needing education and skill-building to remediate behavioral problems, which represents a departure from both psychodynamic and behavioral therapies.

The commonalities among available interventions make the decision regarding which one to implement more confusing. However, there is information available to support the decision-making process. If we accept that prevention is an advantageous way to address problematic behavior, one way of intervening optimally is to begin as early as possible. There have been efforts to examine and evaluate the efficacy of interventions being offered for preschool age children. Denham and Burton (2003) and Joseph and Strain (2003) conducted reviews of research-based interventions focusing on prevention of social-emotional problems.

Joseph and Strain (2003) considered factors such as treatment fidelity, social validity of outcomes, generalization of skills, treatment maintenance, acceptability to professionals and others, replication in other research designs, and

cultural/diversity outcomes to determine effectiveness. These criteria represent efforts undertaken by the American Psychological Association to establish methods for identifying efficacious intervention programs (Lonigan, Elbert, & Johnson, 1998; Odom & Strain 2002). Joseph and Strain reviewed structured interventions targeted to children under 6-years-old by conducting literature searches, reviewing government reports, and doing an internet search for websites on social/behavioral curricula.

Denham and Burton (2003) view effective social/emotional learning for preschoolers as addressing emotional (emotional understanding, emotional expressiveness, emotional regulation) and social competencies (social problem-solving). In their review, they examined the extent to which different curricula focusing on 3 to 4 year olds addressed these criteria. The information that follows is a description of the programs that met or exceeded many of the evaluation criteria discussed above by the reviewers. For each highly regarded program, I have also examined and report research post-dating the Denham and Burton (2003) and Joseph and Strain (2003) reviews was also examined with a focus on strengths and weaknesses in each design.

Al's Pals: Kids making Healthy Choices (Dubas et al., 1998) is a substance and violence prevention program for 4 to 5 year olds. According to the authors, the Al's Pals program is based on research supporting the importance of resiliency. Resilience is considered the child's ability to use protective factors to offset life adversity. Examples of possible protective factors include

communication and problem-solving skills, positive coping strategies, independence, self-control, empathy, and relationships with at least one caring and competent adult (Lynch, Geller, & Schmidt, 2004). The program is based upon the notion that the more protective factors that are possessed by children, the more equipped they are to manage adversity. Therefore, the Al's Pals curriculum seeks to emphasize and expand the protective factors of each participating child. It has 43 lessons that introduce specific substance abuse and violence prevention strategies through games, creative play, puppetry, books, color photos, and original songs. The 20 minute lessons introduce concepts that are reinforced naturally throughout the day. Al's Pals focuses on building problem-solving skills, substance abuse knowledge, understanding of issues related to violence, communication, personal decision-making, and prosocial behavior. Teachers participate in structured training sessions to prepare for implementation of the program.

Dubas, Lynch, Galano, and Geller-Hunt (1998) implemented a pretest-posttest design reviewing the impact of a year of Al's Pals on 212 children in 10 Head Start and community classrooms (mean age = 54.9 months). They included a control group of matched children not receiving the intervention. Dubas and colleagues reported that the Al's Pals program lead to increased social skills, problem-solving abilities, and decreased negative coping behaviors. In addition, teachers conducting the program reported increased coping strategies and social interaction skills among the children and less social withdrawal and aggression.

However, there are several limitations to their study including non-randomization of grouping, different education and training in the control and experimental group teachers, the use of teacher reports only, and fact that the teachers both implemented the intervention and completed the evaluation measures. It should also be noted that this design was part of the pilot series conducted for establishing the efficacy of the curriculum. Later research conducted by the authors sought to address the short-comings discussed above.

Lynch, Geller, and Schmidt (2004) reported a study in Michigan (1995–1996) conducted on Head Start students. Lynch et al. used an intervention group (218 children, mean age = 52.3 months) and no-treatment control group (181 children, mean age 52.0 months). Teachers participated in a two day training and completed a pre-test/post-test packet of standardized measures focusing on behavior, social skills, and coping skills. The teachers' responses yielded significant pre/post test differences between the intervention and control groups on the measures of social skills and behavior in favor of the intervention group. The authors went on to discuss several replication studies that were conducted in a number of different states during the years of 1997 and 2000. Lynch et al. indicate that all the designs found positive pre/post test outcome for the participants. However, little information was provided regarding the participants, methodology, control groups, or outcomes. Furthermore, the entirety of information presented by Lynch et al. in support of Al's Pals does very little to address the limitations cited regarding their previous designs. The issues related to

the control groups, teacher training, data collection (teacher-only), and potential evaluator bias remain problematic. Therefore, although AI's Pals appears to have some good support, the design limitations require that the findings be viewed with some caution. It should also be noted that although the Lynch et al. abstract discusses a parent education companion program, no relevant information was found in the study.

PATHS: Promoting Alternative Thinking Strategies (Kusche & Greenberg, 1994) targets first through sixth grade children. The intent of PATHS is to prevent violence, aggression and other behavior problems, and increase critical thinking. The curriculum consists of 30 – 40 lessons that each have specific components: goals, objectives, and materials; special notes regarding important topics; setting the stage section; dialogue; transition from circle time to other activities; teacher reminders regarding what to focus on; extension activities (songs, books, games) and looking ahead to the next week. The model uses methods to increase a child's understanding of physiological changes in their bodies related to emotions, and teaches calming strategies and perspective-taking. It also provides participants with opportunities to practice the new skills outside the actual session. Several research projects (Conduct Problems Prevention Research Group, 1999; Domitrovich et al., 2002) have evaluated the effectiveness of PATHS.

The Conduct Problems Prevention Research Group examined the differences between a randomly assigned intervention group (n=198) and a no-

treatment control group (n=180) consisting of first graders. The participants were obtained from classrooms in 4 different U.S. locales in order to obtain a culturally and socio-economically diverse sample. Each of these locations had crime rates greater than the national average. The authors also disaggregated a sample of high-risk children so that effect size comparisons between this group and the whole sample could be conducted. This allowed for a comparison of information regarding the outcomes for special populations and more universal design populations. The intervention group participated in three years of the PATHS curriculum. The classroom teachers implemented the intervention and, therefore, were provided with a 2.5 day training and weekly consultation from PATHS support personnel. The level of intervention fidelity was measured as part of this design. Outcomes were obtained from standardized teacher reports, a sociometric interview obtaining information regarding general behavior, social behavior, and likeability, and an observation. The study indicated reductions in peer rated measures of aggression and hyperactivity/disruptive behavior and observer ratings of the classroom atmosphere. However, similar improvements were not found in the ratings completed by teachers. It should also be noted that the outcomes were similar regardless of membership in the general participants or high risk groups. In addition, the authors encourage some caution regarding their findings because of two issues. They did not obtain inter-rater reliability for the direct observations and, therefore, cannot eliminate the possibility of rater bias. Secondly, although the intervention outcomes suggest PATHS was effective, the design did not allow

the authors to separate the effect of the intervention from the competence of the teachers. Therefore, the reported outcomes could be attributable to teacher proficiency. Despite these criticisms, this design represented a solid effort to explore the effects of the intervention as a universal curriculum and suggested its validity for use in primary prevention.

More recently a preschool and kindergarten age foundation unit focusing on building self-control was developed within the PATHS program. This unit is conducted only for children who need to build their capacity to understand and control their behavior. Self-control serves as a prerequisite for later units taught in PATHS. The Turtle Technique is one foundation strategy that is used to help children manage intense emotions. It involves teaching the participants a metaphorical story about self-control that includes concrete steps to follow. The teacher then provides consistent reinforcement for using this strategy as an alternative to inappropriate behavior. In addition, PATHS has been used as a universal prevention program for all preschoolers attending certain Head Start programs. Preliminary results indicated improvements in social competence and internalized behaviors; however, no effects were reported for externalized behaviors (Domitrovich, Cortes, & Greenberg, 2002). It should be noted that because the pre-school extension is still quite new, extensive reviews have not been conducted. Nonetheless, reviewers such as Joseph and Strain (2003) consider it to be a very promising intervention.

The Incredible Years: Dinosaur School (Webster-Stratton, 1990) is a program for children ages 4 to 7 displaying conduct problems. It is designed as a small group program delivered outside the classroom (pull out program) for children already displaying problematic behavior. These groups typically meet for 2 hour sessions for 18 to 22 weeks. Dinosaur School is often conducted in community mental health clinics. The program is more recently being applied as a universal intervention and has been used in many Head Start, kindergarten, and first grade settings. Dinosaur School (universal format) entails 60 lessons delivered during 45 minute sessions for 1-3 times per week. Dinosaur School (regardless of format) focuses on emotional literacy, friendship skills, anger management, interpersonal problem-solving, and establishing and reinforcing school rules. Several research projects have examined the outcomes of both the pull-out and universally applied formats. In an analysis of the effects of the pull-out design, Webster-Stratton and Hammond (1997) compared the post-treatment social competencies of 97 4-8-year old children randomly placed in 4 experimental conditions (a parent training treatment group, a child training treatment group, a combined group, and a wait-list control group). They reported significant increases in cognitive problem-solving, conflict management, social competence, and play skills, and reduced conduct problems at home and school in all three treatment groups compared to the control group. Webster-Stratton and Hammond indicated that the combined group displayed the most sustained improvements in a one year follow-up. However, there were a number of

limitations in this research design. The follow-up outcomes and improvements were only found in the home setting, not in teacher reports of school behavior. The authors speculated that this was related to the lower prevalence of difficulties exhibited by their study participants in school even at the onset of the evaluation. In addition, the control group used in this design actually received the intervention after approximately 9 months without treatment. This makes the long-term comparisons between the experimental and control difficult to interpret.

The Incredible Years (Webster-Stratton, 2000) also has a parent component that supplements the children's curriculum. It combines behavior strategies with emotional skills (reading, labeling, awareness, and management of emotions) and social skills. The focus is on reducing coercive parenting strategies. Parents participate in a four day workshop with role-play activities, stories, video vignettes, and homework assignments. There is also on-going weekly supervision. The progress in participating parents is tracked by weekly checklists exploring group process, interest, and participation. Research reported by the authors (Gross et al., 2003; Webster-Stratton & Hammond, 1997) suggested better outcomes when both parent and child components of the program are used rather than one component in isolation.

Webster-Stratton and Hammond (1997) conducted research on 97 children ages 4 - 8 with early onset conduct problems. They randomly assigned participants to 4 groups: a parent training group, child training group, a combination group, and a control group. The pre-test/post-test comparisons were

done via observations of the child's behavior at home and in school and observations of parent-child interactions. Webster-Stratton and Hammond (1997) reported that the group receiving the combined child and parent interventions exhibited greater gains on measures of parental reports of problem behaviors, parent-child interactions at home, childrens' problem solving skills, and conflict resolution strategies with peers. Furthermore, these gains were sustained at one year follow-ups.

Gross et al. (2003) examined 208 parents and 77 teachers of children (ages 2-3) attending 12 different day care centers. Unlike prior research that focused largely on European-American populations, this study included 57% were African-American, 29% Latino, and 3% European-American. Participants were randomly placed in 4 groups: parent training, teacher training, combined, and a control group. Pre-test, post-test (following the 12 week intervention), and follow-up data (obtained at 6 and 12 months after the conclusion of the intervention) included standardized measures that rely on parent and teacher reports (parenting self-efficacy, child behavior problems, discipline strategies, parent stress, parent depression, teacher reported child behavior problems, parent-child interactions, teacher self-efficacy, teacher classroom behavior, and the quality of the day care environment), classroom observations, and parent-child observations. The authors reported that the parents in the parent training only or combination of parent and teacher training groups indicated significantly more self-efficacy and less coercive discipline. These parents were also observed to have more positive

exchanges with their children. Limitations in the Gross et al. design include a high parent attrition rate (with little analysis of differences between those who dropped out and those who remained) and high teacher turnover during the intervention period. In addition, the authors indicated that a significant number of parents eligible for this intervention (and study) chose not to participate. The study lacked data that would permit distinctions between parent participants versus those that declined.

Taylor, Schmidt, Pepler, and Hodgins (1998) examined the impact of the Incredible Years intervention on 108 children ages 3 to 8 referred to a community mental health setting. Participants were randomly assigned to an Incredible Years treatment group, an eclectic intervention group (the typical intervention at the community mental health center), and a wait list control group. After 15 weeks of intervention, the Incredible Years and eclectic intervention groups displayed reductions in parent reports of behavior problems and more parent satisfaction. However, when directly compared, the reductions in negative behavior and satisfaction reported by the Incredible Years group were greater than that of the eclectic group. There were no reported improvements based on measures completed by teachers. The authors indicated several limitations to the obtained outcomes. The outcome data relied on parent and teacher feedback via standardized measures and did not include any direct observation of the participants' actual behavior. The outcomes reported were based on a short-term design and did not explore the treatment effects after a more substantial time

period. Therefore, information regarding generalization and retention of treatment was unavailable. In addition to the limitations identified by the authors, there were other issues of note. The authors indicated using random placement of children into treatment and control groups. However, upon review this is not entirely the case. The participants displaying the most urgent need were placed in the treatment group. It should be noted that the authors indicate these participants were excluded from the statistical comparison of the treatment and control conditions. This means that the participants exhibiting the most acute need were not included in the reported results. In addition, the Incredible Years treatment therapists were provided with support for implementing the intervention that the authors described as beyond the intensity typical of the intervention. This increased magnitude of support makes comparison with previous efficacy studies of the Incredible Years curriculum difficult.

Another highly regarded intervention to build social-emotional competence is Second Step (Moore & Beland, 1992). Second Step focuses on preschool - ninth grade and is centered on violence reduction. It draws from social learning theory and is intended to be implemented as a universal intervention. Because it has a specific curriculum for each grade level, Second Step can be implemented for several years without lapse. Second Step includes lessons on empathy, self-control/impulsivity, and anger management that serve the dual goal of reducing social, emotional, and behavior problems and facilitating the development of core competencies. The Second Step curriculum is divided into

30 lessons that are taught during 35 minute sessions. Skills are addressed through the telling of stories regarding other children experiencing relevant social situations. Steps to complete a particular skill are illustrated and discussed, and participants are given the opportunity to practice in role-plays. The teachers then reinforce the participant's use of each skill outside the instruction session.

There have been a number of efforts to explore the effectiveness of the Second Step curriculum. Outcomes reported in these research projects included decreased aggression and in hostile and aggressive comments and increases in prosocial behavior (Grossman et al., 1997; McMahon & Washburn, 2003; Taub, 2001). Grossman et al. (1997) conducted research on 2<sup>nd</sup> and 3<sup>rd</sup> graders following one year of intervention. The authors worked with 12 schools that were placed into 6 matched pairs. One member of each pair was randomly placed into either the treatment or no-treatment group. Teachers in the treatment group received two days of formalized training in implementing the Second Step curriculum. Assessments included parent behavioral ratings, teacher behavioral ratings, and student observations. Observations of classroom, playground, and lunchroom behavior were conducted by trained individuals blind to group assignment. These measures were obtained prior to intervention, two weeks after the intervention concluded, and 6 months later. Observation measures revealed a decrease in physical aggression and an increase in prosocial behavior for the treatment versus the control group at the two week post-intervention data point. These differences were particularly prevalent in the playground and lunchroom data sets. At the 6

month data point, the difference between the treatment and control groups in physical aggression was maintained. In contrast, the behavioral ratings completed by parents and teachers did not reveal any significant differences between the intervention and control groups at any data point. The authors discussed some limitations to the design that included selection criteria and attrition rates. Specifically, the participating schools were selected based on several criteria established by the authors. One criterion in particular, “their perceived willingness to deliver the curriculum and facilitate the evaluation” (p. 1606) appears to introduce the potential for subjectivity and bias. Secondly, the authors indicate a 66% participation rate, but do not provide specific information on the differences between those remaining in the study and those who dropped out. Thus selective attrition may reflect confounding variables.

Taub (2001) completed research on 72 students in the third to fifth grades that were randomly assigned to a Second Step treatment or control group. The author gathered information from teacher ratings of social competence and observations at three intervals: pre-treatment, the end of the school year, and one year following initial implementation. Taub reported significant improvements in social competence and display of antisocial behaviors (teacher ratings) in the intervention group compared to the control group. Observational data revealed improvements in appropriate peer engagement, but not antisocial behaviors. The author indicated that some of the short-comings of this study were the lack of

treatment fidelity measures, the naturalistic setting in which the design took place (quasi-experimental), and the absence of blindness to the experimental conditions.

Second Step has recently expanded its curriculum to address social development in preschool age children (rather than only school age children). The format of this younger version is very similar to elementary and secondary intervention formats. It offers lessons on empathy, problem-solving, and anger management. However, the lesson content is designed to be developmentally appropriate for this younger audience, and the suggested time segments are reduced to 20 minutes each. This form of Second Step is still relatively new, so effectiveness data are currently being compiled. McMahon, Washburn, Felix, Yakin, and Childrey (2000) conducted a pre-test/post-test analysis of 109 children ages 3-7 years. The authors gathered interview information regarding social competence from the participating children and conducted coded observations during unstructured times during the school day. McMahon et al. (2000) reported decreases in disruptive and aggressive behavior and increases in the participants' ability to identify emotional information in themselves and others. However, the authors did not include a comparison control group in their design.

The Second Step program also includes the extension of school-based intervention to the home setting. Its intention is to provide a link between the school intervention and home by communicating critical information regarding the overall content and specific skills being addressed in the classroom. Thus the home component is used to build generalization of the skills developed in school.

Parents are encouraged to review the materials and come into school to observe a session. Regular updates, suggestions for home activities, books, and song lyrics are sent home. Parents are encouraged to use the same language and social skill steps being taught at school. A family overview video provides additional information regarding the school program and carry-over.

The Committee for Children (a nonprofit organization develops and publishes programs and curricula for children from preschool through middle school about social skills, bullying, and sexual abuse, in addition to an emergent literacy program for young children) is in the process of extending the home program to include actual lessons in which parents can practice empathy, emotional management, and problem-solving strategies with their children. Therefore, there is no existing research to support the use of this component of Second Step. However, given the research supporting the importance of addressing social emotional learning across settings and the evidence that Second Step contributes greatly to social-emotional skill development in its school curriculum, the parenting component could be viewed as a promising supplement.

#### Programming for Special Populations

There is considerable evidence suggesting the value of programs that include children with disabilities together with typically developing children. These inclusive settings have been shown to enhance social-emotional competencies through a variety of pathways (Buysse, Goldman, & Skinner, 2002; Guralnick, Connor, Hammond, Gottman, & Kinnish, 1996; Guralnick, Gottman,

& Hammond, 1996; Strain, 1983). In a 2004 review of the effects of inclusion on children with disabilities, Odom et al. discuss a number of positive outcomes related to social interactions and play that have been revealed in research comparing inclusionary to segregated classroom settings. Hauser-Cram, Bronson, and Upshur (1993), Guralnick, Connor, Hammond, Gottman, and Kinnish (1996), and Stoneham (2001) found that compared to children in segregated special education settings, children with disabilities receiving services with typically developing peers displayed more social interactions. However, these authors also reported that children with disabilities interacted socially less frequently than non-disabled peers. Erwin (1993) and Stoneham (2001) reported that children with disabilities in mainstream classrooms spent more time playing with peers and exhibited fewer problem behaviors than children with disabilities served in special educational classrooms. Other researchers (Levine & Antia, 1997; Stoneham, 2001) observed more advanced levels of play in children with disabilities reported attending classrooms with typically developing peers. Buysse, Goldman, and Skinner (2000) that children in inclusive settings were more likely to have friends, and these friendships were more likely to be with typically developing peers compared to children with disabilities in special education classrooms.

On the other hand, there is also evidence on the risks of inclusion such as peer rejection and (Gertner, 1994; Guralnick & Neville, 1997; Hadley & Rice, 1991; Rice, 1991). These authors suggest that adult guided supports to build understanding and acceptance of disabilities, increase tolerance, and encourage

positive interactions should be employed. This reduces the likelihood of bullying and increases the possibility that the gains in social interactions and play skills cited above will occur.

Despite the research supporting inclusion, the form a preschool program takes is often determined by factors beyond best practice. The model of early intervention provided in schools is informed by guidelines established by the federal government. Specifically, the federal guidelines do not require a State to offer preschool programming. This determination is left to each individual State that, in turn, defers to the Local Educational Agency (LEA). Therefore, preschool programming can differ greatly from LEA to LEA even within the same State. Some school districts will offer an inclusive program that is open to all children, while others will have no formal classroom program at all, instead intervening in existing childcare facilities. Therefore, although there are several indicators that suggest providing inclusive, well supported programming is a best practice, the availability of such programs is inconsistent. Ultimately, it comes down to a locality's ability to finance a comprehensive and expensive inclusionary preschool program. For some local educational agencies the expense might represent a long-range goal, while for other agencies similar programs are not feasible due to budget limitations. The important question for districts that cannot provide inclusive preschool becomes, are there any alternatives that allow for better practice within the existing programmatic structure? The present study was

designed to shed light on this as well as several other questions regarding the facilitation of social-emotional competency among preschool-aged children.

### The Present Study

The present study was designed to explore the levels of social-emotional change resulting from several models of preschool intervention: (a) heterogeneous classroom groups of children who either had a diagnosed disability, met a specific at-risk criteria (poverty level), or did not meet either of the above criteria but parents sought preschool experience for their child; (b) relatively homogeneous classroom groups of only those children who had a diagnosed disability or met specific at-risk criteria (poverty level) and received a structured social skills instruction program in their classroom and (c) a group identical to (b)—relatively homogeneous, all of whom had a diagnosed disability or specific at-risk criteria (poverty level) and receiving the same structured social skills instruction program in their classroom—but unlike group (b) their families received monthly teacher home-visits for parent support. It should be noted that although the two social skills training treatment groups are distinguished for the purposes of this research design, the participating children were grouped together in their classrooms, as described subsequently in the Methods section. Measures of social and behavioral functioning were used to chart the different trajectories of children receiving these various preschool program options. The intent was to gather information regarding the role of homogenous versus heterogeneous grouping, home outreach, and universal intervention on the development of social-emotional competencies

of preschoolers. The ultimate goal was to identify best practice options for facilitating social-emotional skills for school districts that are unable to commit the resources necessary to implement a universal preschool model.

### Research Questions

Although research regarding inclusionary education practices has identified many social-emotional benefits, not all school districts are able to implement this model. Therefore, this study sought to explore the options available to school districts that are unable to provide inclusive preschool programs due to various constraints but still wish to enhance the social-emotional skills of all participating children. In order to explore this issue, several research questions were posed: Do children, in general, display social and behavioral gains over the course of an 8-month preschool education program? Does the effect on the development of participants' social and behavioral skills vary as a function of the sophistication of the skills with which the children begin the program? Does the addition of the Second Step social skills training intervention lead to improvements in behavior and social skills beyond those resulting from a more standard preschool curriculum? Does the addition of a home visit component to the Second Step social skills intervention lead to greater gains in social and behavioral functioning?

### Hypotheses

*Hypothesis I.* All participants (with and without the Second Step social skills training) will exhibit gains over the academic year on two Social Skills

Rating System (SSRS) measures (Total Score and Problem Behavior Score) and two Devereux Early Childhood Assessment (DECA) measures (Total Protective Factors and Problem Behavior Score) and on the two measures completed by independent observers: observed positive behaviors and observed negative behaviors.

There is substantial research that lends support to the effectiveness of preschool programming in building children's' social and emotional functioning (Chambers, Cheung, & Slavin, 2006; Domitrovich, Cortes, & Greenberg, 2002; Dubas, Lynch, Galano, Geller, & Hunt, 1998; Grossman et al., 1997; McMahon & Washburn, 2003; Taub, 2001). Given this strong research base, the first hypothesis was that preschool experience would lead to improvement in social-emotional functioning in all participating children.

*Hypothesis II.* The most significant gains on the Social Skills Rating System (SSRS) measures (Total Score and Problem Behavior Score), Devereux Early Childhood Assessment (DECA) measures (Total Protective Factors and Problem Behavior Score), and the two measures completed by independent observers: observed positive behaviors and observed negative behaviors will be obtained by those who begin the academic year with the lowest social skills scores across all participant groups and greatest problem behaviors.

The research on programming for children with disabilities (e.g., Odom et al., 2004; Reynolds, Temple, Robertson, & Mann, 2001; Webster-Stratton & Reid, 2008) suggests that children with the most significant social and emotional

delays can benefit greatly from early intervention. However, it is not agreed upon whether children who enter preschool programs with poorer social and emotional skills will acquire more gains than those entering with higher skill levels (Halpern, 2000). Thus, Hypothesis II explored the differential impact of treatment based on pre-intervention skill levels and tentatively predicted that children with lower skill levels demonstrate the greatest social and emotional gains.

*Hypothesis III.* The social skills classroom intervention only and social skills classroom intervention plus home visit intervention treatment groups will show significantly greater improvement from pre- to post-intervention on the SSRS (Total Score and Problem Behavior Score), DECA (Total Protective Factors and Problem Behavior Score), and on the two observations of positive and negative behaviors compared with the control group (i.e., the more heterogeneous classrooms with a standard preschool curriculum).

There is a significant amount of research that has indicated the positive effects of social-emotional curricula on school-aged children. However, there is relatively less research indicating the efficacy of similar curricula designed for use with preschool populations. The Second Step Curriculum (Moore & Beland, 1992) is a school-aged intervention that has been demonstrated to be efficacious in several research designs (Grossman et al., 1997; McMahon & Washburn, 2003; Taub, 2001). The curriculum has been recently extended downward to be used with preschool and kindergarten populations, but its efficacy with this younger

age group has not been established. Hypothesis III predicted that the Second Step preschool curriculum would be more effective in building social-emotional skills in preschoolers as compared to a less structured preschool program. This finding would provide a novel contribution to the research literature. In addition, this comparison was made to provide some insight into whether the introduction of a structured social skills curriculum could offset the limitations of implementing a preschool program without the inclusion of more typically developing students (Hauser-Cram, Bronson, & Upshur, 1993; Guralnick, Connor, Hammond, Gottman, & Kinnish, 1996; Stoneham, 2001).

*Hypothesis IV.* Treatment gains on the SSRS (Total Score and Problem Behavior Score), DECA (Total Protective Factors and Problem Behavior Score), and on the two observations of positive and negative behaviors will be greater for the social skills intervention group that receives both classroom intervention and home visits rather than social skills classroom intervention alone.

Researchers have established the effectiveness of an in-home parent intervention component in building children's social emotional functioning (Gross et al., 2003; Havighurst, Harley, Littlefield, Prior, & Gavidia-Payne, 2002; Havighurst, Harley, & Prior, 2004; Webster-Stratton & Hammond, 1997). Thus it was expected that adding the in-home parent intervention to the Second Step program would lead to more positive effects on the child's socio-emotional development. This study also expanded upon previous research in exploring the impact of a relatively unstructured home-visit model. The content of the home

visits in previous research designs involved the continuation of a structured intervention program into the home environment. In the current study the home visits were not directly connected to the social-emotional curriculum, but rather addressed building parents' capacity to support social-emotional development in more informal ways.

In sum, the confirmation of hypothesis III would support the use of Second Step as an intervention to promote social skills development in children between the ages of 3 and 5 years old. The conformation of hypothesis IV would support the importance of including a home-based parent intervention component in preschool programs.

## Method

### *Participants and Recruitment*

The three school districts that participated in this study were similar in their rural location, community socioeconomic profile, district size, and the general design of the preschool program. According to the Vermont Census of 2000 (United States Census Bureau, 2000) the population of the communities was approximately 97% white; 80% of the community adults attained at least a high school diploma; and the mean individual income was approximately \$17,000 per year. With regard to the preschool program design, each of the preschool programs offered a similar student-teacher ratio (5:1), weekly schedule (2 or 3 half day class periods), daily schedule (mix of child and adult-directed activities), and specialized support services (speech and language therapy, physical therapy,

occupational therapy). All the children attending the preschool programs ranged in age from 3 to 5 years old.

There were also a number of relevant discrepancies between the three programs. The programs that comprised the treatment groups (and were drawn from two school districts; see Table 1) were predominately attended by children who had been diagnosed with a federal and state defined disability (Developmental Delay) or had been identified as at-risk for developing a disability due to family poverty level or extenuating circumstances (history of family problems, presence of diagnosis in immediate family, presence of problems that did not reach level of federal or state defined disability). The treatment group was further subdivided into two different intervention variations, as summarized in Table 1. One sub-group received a classroom-based social skills intervention and a monthly home-visit (CHV), while the other treatment group received only the classroom-based intervention (CO). This level of support was determined by program personnel and the intensity of needs within the home. The home visits were conducted by a classroom teacher and involved setting regular parent goals focusing on behavior management and parenting strategies, securing and maintaining medical needs, and improving self-advocacy skills. These goals were reviewed during each meeting to determine progress and the need for additional education or supports.

In contrast, the programs that comprised the control group (and were drawn from two school districts; see Table 1) were made up of a much more

heterogeneous group of children. The control program also had children attend by virtue of a disability diagnosis (same criteria as the treatment settings) or at-risk variable (also consistent with the other districts). However, the teachers in the control setting also selected children from a list of families that had come to the school in search of preschool programming for their children. These children did not meet the criteria for a diagnosis or at-risk distinction and were selected either randomly or based on the teachers' subjective belief that there could be an at-risk potential. The classroom sizes in the treatment schools tended to be moderately smaller (7-8 students) than the control classrooms (8-11 students), but the teacher-student ratios were consistent.

This study took place over a two year time span. The procedure for recruitment was the same in both years and followed the typical enrollment process of the three participating programs. All children who were enrolled in the participating preschool programs were eligible for the study pending written parent consent. The only exclusionary criterion was lack of written parental consent.

The classroom teachers had an initial contact with all students' parents prior to the beginning of the school year to introduce the study. As part of this initial meeting, parents received a written description of the study and an informed consent form. Parents' additional questions about the study were answered by the classroom teachers or parents were referred to the principal investigator. Parents were given until the first day of data collection to return

signed consent forms. If consent forms were returned after the data collection began, the classroom observations were not conducted on that participant.

However, the remaining data (standardized measures) were collected and included in the study. Parents of participants were also allowed to terminate their child's participation at any time in the research study period. Throughout the course of the study three children (in the control group) dropped out because their families had moved out of the area.

### *Procedure and Design*

This study used a quasi-experimental design, examining changes in performance from pre- to post-intervention (an 8-month-period) among treatment and comparison control groups. It took place over the course of each of two academic years; data for year one were archival. Table 1 shows the number of participants by year, school district, classroom, and treatment, however, given the very small numbers of students in the individual classrooms who were in each treatment group, effects of school district, classroom, teacher, and year could not be considered. Instead, the program design collapsed across district, classroom and year to address intervention treatment effects only. The treatment groups (social skills training) had 41 participants (34 in the CO/class room-only intervention and 7 in the CHV/classroom-and-home-visit); the control group (standard preschool curriculum) had 33. Given the very small number of children in the home visit (CHV) treatment group, most analyses collapsed across CO and

CHV intervention groups to compare simply two groups: social skills treatment versus control.

As Table 1 illustrates, School District A provided both year one and year two CO and CHV treatment participants. The same teacher taught four of the five treatment classrooms in school district A. None of the students overlapped from one year to the next. School District B provided a control group classroom in year 1 and a treatment classroom (all CO) in year 2. Some of the same students participated in both of these classes. School District C provided four control classrooms during year 2 only. All participating children were assigned to the separate treatment or control groups in a non-random fashion based upon their year of attendance in preschool, community of residence, meeting program eligibility criteria, and the discretion of program personnel as described above.

When written parental consent was received by the principal investigator, parent and teacher packets of pre-intervention measures (described below) were distributed for each participant. These packets needed to be returned to the principal investigator via the classroom teachers no later than the end of the sixth week of school. The principal investigator maintained a master record of those children who were and were not participating in the study to ensure packets were sent only to participants during the pre-and post-intervention data collection periods. All data collected were confidential, known only to the principal investigator, and reported to parents and school personnel only in aggregated form. The data included on the protocols were transferred to a group sheet, and

participants were assigned a numeric code to replace personally identifying information. All data collected in this study were stored by the principal investigator in a locked cabinet.

During the final five weeks of the school year, a post-intervention packet was sent to the parents and teachers of each participant. These packets were sent only for those participants who had both written parental consent and completed pre-treatment packets. Parents and teachers were to complete and return all post-interventions packets within two weeks.

### *Intervention*

The Second Step intervention (Moore & Beland, 1992) served as the treatment in this research. In particular, this study used the pre-school version of Second Step, a relatively recent expansion of the curriculum to address social development in younger children. The preschool version closely follows the Second Step elementary and secondary school intervention formats. For example, there are story cards with a specific skill, related stories and activities, and suggestions for generalizing the skill outside the Second Step lesson. However, adjustments have been made to meet the developmental needs of younger children. For example, the visual story cards focus on preschool rather than school-aged children, the language has been simplified, and a fewer number of emotions are addressed. There are lessons on empathy, problem-solving, and anger management. The content for each lesson is included on a large photo card that depicts a social scenario and includes guidelines for introducing and

discussing the topic. The lesson content is designed to be developmentally appropriate for this younger audience and, therefore, incorporates puppets, books, stories, and music. The suggested time period for each lesson is reduced from 35 to 20 minutes for the preschool version, but the time frame can be determined by the needs and abilities of each particular group.

Teacher participation in the study was on a voluntary basis. Prior to their agreement to participate, information regarding the research design and the Second Step intervention was provided by the principal investigator. After expressing interest in participating, each teacher was provided with a condensed training on the philosophy, objectives, and implementation of the Second Step curriculum. The training session, which typically lasted 2 hours, was done individually in each teacher's classroom and took place during the summer prior to the start of the intervention. Teachers were also provided with access to the curriculum over the summer to review and practice. The principal investigator was available for technical assistance prior to and during the school year. During the school year, a fidelity measure was conducted by undergraduate research assistants to gauge implementation of the treatment. The fidelity measure was conducted at approximately the midpoint of the school year and consisted of 60 minute observations of each classroom setting on two separate occasions (each classroom was observed once by each of two independent observers). The intent of the observations was to explore the differences in the treatment and control groups teachers' use of terminology directly related to the Second Step

curriculum. The fidelity measure was conducted by two observers blind to treatment/control group assignments. The observers were provided with a checklist of terminology taken directly from the Second Step lessons that had been covered in the treatment classrooms prior to the school year midpoint. For example, the observers recorded the frequency with which the teachers used skills such as identification of emotions and the corresponding language contained in the curriculum. The observers recorded each use of the terminology by classroom teachers or aides.

### *Measures*

The measures used in this research included an assessment packet completed pre- and post-intervention by parents and teachers and a series of classroom observations conducted by undergraduate research assistants. The pre- and post-intervention assessment packets were identical and consisted of the Social Skills Rating System - SSRS (Gresham & Elliott, 1990) and the Devereux Early Childhood Assessment - DECA (LeBuffe & Naglieri, 1999).

*Social Skills Rating System (SSRS).* The SSRS (Gresham & Elliott, 1990) is a multi-rater index of the possession of social skills vital to relationship-building and adaptation in a variety of settings. It is normed for children in preschool to secondary school settings and provides subtest scores related to Cooperation, Assertion, Responsibility, and Self-control. The SSRS also provides a summary score called the Total Scale. Gresham and Elliot (1990) report that internal reliability for the subtests comprising the SSRS range from .75 to .91.

They reported internal reliability for the Total Scale was .90 for the parent form and .94 for the teacher form. The test-retest (4 week delay) reliability for the Total Scale was .87 for the parent form and .85 for the teacher form. Gresham and Elliot reported the SSRS Total Score exhibited significant criterion-based validity (-.58 to -.70) with several established measures such as the Social Behavior Assessment Total Score (Stephens, 1978), Child Behavior Checklist/Teacher Report Form Total Behavior Problems (Achenbach & Edelbrock, 1981), and Harter Teacher Rating Scale Total Scale (Harter, 1985). This study used the preschool (ages 3-5) version that requires approximately 25 minutes for an adult to complete. The SSRS allows for a comparison of raters across the home and school settings. See Appendix A for SSRS protocol.

*Devereux Early Childhood Assessment (DECA)*. The DECA ( LeBuffe & Naglieri, 1999) is a multi-rater measure that examines a 2-5 year old's possession of within-child protective factors (initiative, attachment, and self-control) and behavioral concerns (see Appendix B for DECA protocol). The DECA protective factors were derived from resiliency factors identified by Masten and Garmezy (1985). LeBuffe and Naglieri (1999) report that internal reliability for the subtests comprising the DECA range from .71 to .90. They reported internal reliability for the Total Protective Factors Score was .91 for the parent form and .94 for the teacher form. The test-retest (24-72 hour delay) reliability for the Total Protective Factors Score was .74 for the parent form and .94 for the teacher form. LeBuffe and Naglieri reported the DECA Total Protective Factors Score exhibited

significant criterion-based validity (.89) in discriminating between preschool children with and without emotional and behavioral challenges. The DECA focuses on the frequency with which parents and teachers observe certain behaviors and requires approximately 10 minutes for an adult to complete.

*Classroom observations.* During the second year of the study four classroom observations of each participant were completed. The observations were designed to record frequency of both prosocial behaviors (e.g., effective conflict resolution and positive interactions) and negative social interactions (e.g., verbal and physical aggression or peer provocation; see Appendix C for observation form).

Two different observations of each child were conducted in the first six weeks of school and two observations took place in the final six weeks of school. Each observation period was approximately 10 minutes, so every participant was directly observed in the preschool environment for a total of 40 minutes. The observations were conducted during the regular class day and routine, and the child was not aware that s/he was the specific target of observation. Therefore, the observations did not present any disruption to the school day. The observations were conducted across several days to ensure a more representative sample of behavior. The principal investigator coordinated the schedule for observations and made adjustments in response to requests from the teachers or research assistants.

The specific procedure for each observation session was as follows: The principal investigator created a folder for each school program containing information on each of the participants. In these folders, every participant had an observation sheet that was used for all four observation sessions. The 10 minute observation sessions were broken down into ten 60-second intervals per participant. The participant observation sheets were placed in the folder in random order so that the sequence in which children were observed was randomized. Each participant was observed continuously for one 60 second interval using the folder to determine order. During the intervals observers marked any display of four targeted prosocial behaviors (i.e., follows directions, positive problem-solve/conflict resolution, positive peer interactions, and positive adult interaction) and five targeted negative social behaviors (i.e., negative interaction, negative problem-solve, aggression, verbal aggression, and provocation). These observational data were used to calculate ultimately the proportion of 60 second intervals within the observation periods that prosocial and negative social behaviors were demonstrated by the children in the study. The prosocial and negative social observation data were considered separately in the study analyses. When each participant had been observed for the first 60 second interval, the observer returned to the first participant in the folder and repeated the process. The observation session was concluded when each participant had been observed for ten 60-second intervals. The observation form was created specifically for this research project by the principal investigator.

The observations were conducted by undergraduate student research assistants who were trained by the principal investigator. The trainings consisted of three sessions over the course of the year totaling eight hours. During these sessions the student observers were trained regarding the discrete identification of the target behaviors via instruction, discussion, and practice observations from videotaped classrooms. The practice observations were conducted using the observation form. An initial analysis of inter-rater reliability was conducted that examined the agreement between the observers and the principal investigator. Agreement, defined as unanimous identification of a target behavior within a time interval, was 91%. A second inter-rater reliability check was conducted prior to the post-intervention data collection period using the same criterion. This analysis revealed 87% agreement. Because no additional training regarding the observation format and target behaviors was conducted after the initial one, this level of agreement was taken to indicate minimal observation drift from the pre-test to post-test data collection periods. The student observers were not given any additional information regarding the research design and, therefore, were blind to both treatment and the specific hypotheses of this study.

## Results

### *Overview of Analytical Approach*

Each of the four hypotheses concerned changes in student performance on the behavioral and social measures from pre- to post-intervention by three distinct experimental groups: a control group, a treatment group receiving the classroom intervention only (CO), and a treatment group receiving the classroom intervention and a home visit intervention (CHV). Students' scores on the social skills measures and the problem behavior measures were coded so that a low score reflected poorer performance than a high score (this required flipping the direction of the problem behavior scores). Then each student's change scores were calculated on each measure by subtracting their pre-intervention score from their post-intervention score. Thus a larger change score reflected more improvement from pre- to post-intervention than a smaller change score. Table 2 summarizes participants' pre-test and post-test mean scores and standard deviations by experimental group, dependent measure, and informant (teacher versus parent versus classroom observer).

Prior to conducting analyses of change scores, I compared completion rates on each dependent measure by experimental group (combined treatment groups vs. control) and informant (teacher, parent, and observer). Table 3 summarizes the data. The percent of completed dependent measures was higher for the teacher compared to the parent informants. This was the case regardless of whether the parents were in the combined treatment ( $X^2 = 45.38$ ;  $p < .001$ ) or control groups ( $X^2 = 8.73$ ;  $p < .01$ ). As table 3 indicates, although a substantial number of parent measures were not completed in both the treatment and control

groups, the percentage of completion of dependent measures was lowest in the combined treatment group (24-27%). Due to the extent of missing parent measures, data provided by teachers was used exclusively to explore hypothesis II, namely, the question of whether the most significant improvement on social and behavioral skills were obtained by those who scored lowest on pre-intervention measures. It should also be stressed that the absence of a more robust data set makes interpretation of some components of this study cautionary.

### *Hypothesis Testing*

The first hypothesis was that all participants regardless of treatment would exhibit improvement on behavioral and social measures over the 8-month intervention period. Two paired samples *t*-tests, one on the treatment and one on the control group, were conducted comparing pre- versus post-intervention performance on the two Social Skills Rating System (SSRS) measures (Total Score and Problem Behavior Score) and two Devereux Early Childhood Assessment (DECA) measures (Total Protective Factors and Problem Behavior Score) and on the two measures completed by independent observers: observed prosocial behaviors and observed negative behaviors. Table 4 summarizes the findings. As predicted participants exhibited gains on certain of the measures completed by teachers, parents, and observers. The participants in the treatment groups (combined) showed significant gains on teachers' reports of SSRS Total Score,  $t(1, 40) = 9.50, p < .001$  and DECA Total Protective Factors,  $t(1, 38) = 8.02, p < .001$ ; on parents' reports of SSRS Problem Behavior,  $t(1, 9) = -2.73, p,$

= .023; and on observers' reports of negative behavior,  $t(1, 25) = 2.20, p = .037$ .

The participants in the control group showed significant improvement on teachers' reports of SSRS Total Score,  $t(1, 32) = 2.25, p = .031$  and DECA Total Protective Factors,  $t(1, 31) = 2.38, p = .023$ ; and parents' reports of DECA Total Protective Factors,  $t(1, 20) = 2.33, p = .03$ .

Each of the remaining three hypotheses was analyzed using an independent samples *t*-test on the relevant pre- to post-intervention change scores on the two Social Skills Rating System (SSRS) measures (Total Score and Problem Behavior Score) and two Devereux Early Childhood Assessment (DECA) measures (Total Protective Factors and Problem Behavior Score) and on the two measures completed by independent observers: observed prosocial behaviors and observed negative behaviors. For each of these analyses, Levene's Test for Equality of Variances was used to determine the presence or absence of equality of variances across the respective comparison groups. When a significant Levene's Test identified an absence of equality of variances, a *t*-test approximation (which does not assume equality of variances) was used for the comparison of change scores.

The second hypothesis in this study was that the greatest gains from pre- to post-intervention would be achieved by those who scored lowest on the pre-intervention measures. This analysis was restricted to teacher measures due to the large amount of missing parent data. The hypothesis was addressed by calculating a median score on each of the four pretest teacher measures: two

Social Skills Rating System (SSRS) measures (Total Score and Problem Behavior Score) and two Devereux Early Childhood Assessment (DECA) measures (Total Protective Factors and Problem Behavior Score) and dividing the participants into two groups using a median split. A series of independent samples *t*-tests than compared the pre-post gains of those below versus above the mean at pre-intervention. Table 5 summarizes the results. Significant effects were obtained on three of the four measures: SSRS Total Score,  $t(2, 68) = 2.30, p = .024$ , SSRS Problem Behavior Scale,  $t(2, 56) = 3.16, p < .003$ , and DECA Problem Behavior Scale,  $t(2, 53) = 3.02, p = .004$ . Thus children who entered the program scoring relatively low on measures of social skills displayed greater increases than those who began with higher pre-intervention skills. In addition, participants who entered the programs displaying higher levels of problem behaviors demonstrated greater decreases in these behaviors as compared to initially lower scorers.

The third hypothesis predicted that the classroom intervention only (CO) and classroom intervention plus home visit intervention (CHV) treatment groups would show greater pre- to post-intervention improvement on the dependent measures (SSRS, DECA, observations) compared with the control group. Prior to conducting the analysis on hypothesis three, the measure of intervention fidelity was examined to explore differences between the treatment versus control groups in teachers' use of the Second Step intervention terminology with participants. The fidelity measure consisted of observations of the teachers' use of language and terminology that was taken directly from the Second Step curriculum. The

observers were blind to whether a group was treatment or control. Observers reported a mean of 8.75 per classroom of uses of Second Step related language in the treatment classrooms compared to 2.5 average uses in the control classrooms. Thus compared to teachers in the control group, teachers in the treatment condition were 3.5 times more likely to use terminology taken directly from the Second Step curriculum.

Next, independent samples *t*-tests examining differences between the change scores of the Treatment groups (combined classroom-only and classroom-plus-home-visit groups) versus the Control group were conducted on the two Social Skills Rating System (SSRS) measures (Total Score and Problem Behavior Score), the two Devereux Early Childhood Assessment (DECA) measures (Total Protective Factors and Problem Behavior Score) and the two classroom observation measures (prosocial and negative social behavior). As table 6 reveals, the gains of the treatment versus the control groups differed on half of the teacher and parent reports. According to teacher reports, the intervention participants showed greater gains than controls in overall social skills SSRS Total Score,  $t(2, 74) = 5.23, p < .001$ , and in DECA Total Protective Factors,  $t(2, 64) = 5.28, p < .001$ . Teacher ratings of change in the SSRS Problem Behaviors Scale and DECA Problem Behaviors did not vary by intervention. According to parent reports, participants in the treatment group displayed less change over the intervention period than the control group on the SSRS Problem Behaviors Score,  $t(2, 29) = -2.05, p < .05$  and DECA Total Protective Factors,  $t(2, 30) = -2.34, p <$

.05. See Table 2 for the relevant pre- and post-intervention mean scores. The independent samples *t*-test revealed no differences in pre- to post-intervention change between treatment versus control participants on the two observation measures (prosocial behaviors and negative behaviors).

Hypothesis four predicted that gains on the dependent measures (SSRS, DECA, and classroom observations) would be greater in the treatment group receiving the classroom-plus-home-visit intervention (CHV) than in the treatment group receiving the classroom-only intervention (CO). An independent samples *t*-test examined the differences between the pre- post-intervention change scores of these two intervention groups on the two Social Skills Rating System (SSRS) measures (Total Score and Problem Behavior Score), two Devereux Early Childhood Assessment (DECA) measures (Total Protective Factors and Problem Behavior Score) and two classroom observation measures (prosocial and negative social behavior). The results are summarized in Table 7. Note that only seven children participated in the CHV intervention (and 34 in the CO intervention), therefore limiting the ability to interpret the statistical comparison.

The analysis of teachers' reports revealed different degrees of change by intervention group on the SSRS Total Score,  $t(2, 27) = -3.09, p < .005$ . However, in contrast to the hypothesized effect, teachers reported that the CHV children displayed less growth in social skills (from  $M = 96$  to  $M = 105$ ) than those in the CO intervention (from  $M = 94$  to  $M = 112$ ), as Table 2 illustrates. In contrast to the hypothesis, parents' reports of pre- to post-intervention change did not vary as

a function of whether home visitation was part of the intervention (see Table 7). The independent samples *t*-test on each of the two observation measures (prosocial behaviors and negative behaviors) revealed one significant difference on the observation of prosocial social behavior,  $t(2, 23) = -2.12, p < 0.05$ . Contrary to the fourth hypothesis, the participants in the classroom-only intervention exhibited a greater increase in positive behaviors than those in the classroom-plus-home-visit intervention. Thus although few differences in outcomes emerged between the two intervention groups, those that did appear suggested that participants who received the classroom intervention only fared better.

Due to the lack of evidence that the additional home visit intervention enhanced the intervention effect, a brief analysis of the content of the home visits was conducted. The home visit write-ups submitted monthly by the teachers conducting the home visits were examined to identify the trends related to goal development and progress. Seven families received the home visit intervention and they had an average of ten 90-minute home visits per family over the school year. For the seven home visit families a total of 29 goals were established. The mean number of goals per family was 4 with a range of 3 to 6 goals. According to the home visit write-ups, 38% of the goals (11) were either attained or were moving toward attainment during the 8 month intervention period. However, the rate of goal attainment or progress varied considerably from family to family

ranging from 20% to 75%. Potential implications of this trend and the possible effect on study outcomes are addressed in the Discussion section.

## Discussion

Literature has documented that poor social-emotional skills in childhood predict and very well may lead to adverse effects for the children and their families, peers, schools, and communities. Preschool intervention affords the opportunity to influence this cycle. Literature indicates the benefits of early interventions for young children (Denham & Burton, 2003; Joseph & Strain, 2003). However, the challenge for many institutions in a position to provide early intervention is allocating sufficient resources (e.g., personnel, training, space, and program design) to provide a responsible and effective program. Many schools have opted to provide universal preschool programs for children 3 – 5-years-old; that is, programs that are open to all children rather than being limited to those meeting an established criteria (e.g., presence of a disability or meeting a socio-economic cutoff). However, such programs are not a viable option for all districts given the resources they demand. Therefore, the question becomes whether there are alternatives for schools that are unable to implement universal preschool but are committed to providing effective and quality programs. The main purpose of this research was to explore certain programming options available to public schools that are unable to implement universal programs. This study explored intervention within the school setting with and without the implementation of a home visit. It should be noted that due to the small number of research

participants in the home visit component of the study, the results and conclusions must be viewed as preliminary.

The exploration of interventions within the school setting yielded findings that are consistent with previous research on early intervention. Overall, children generally exhibited social and behavioral gains over the course of their one-year preschool program. However, it is important to note that the absence of a control group that was not receiving any preschool programming limits our ability to attribute the children's gains to the preschool experience itself. The gains we observed may have been a function of maturation and growth that would have emerged even in the absence of preschool attendance.

The children who displayed the most social and behavioral gains over the course of their preschool year were those who entered the programs with the poorest social and behavioral skills. This is a promising finding from the perspective of supporting early childhood development in general. Moreover it suggests that the preschool experience might be preventing existing difficulties in social-emotional and behavioral functioning from increasing and eventually leading to some of the adverse outcomes cited in the literature. However, a possible explanation for at least some of the gains within the lowest performers is a statistical regression to the mean. Future research should focus on whether the behavioral gains these children demonstrated were sustained beyond the end of the academic year. A follow-up design would provide information regarding whether children continued to access and implement the skills they learned in the

preschool program after transitioning to primary school. It would also be interesting to explore more detailed patterns in moderating variables such as gender, socio-economics, and parent demographics. Previous research has cited the influences of gender (Green & Cillessen, 2008; Liang, Tracy, Kenny, & Brogan, 2008), poverty (Webster-Stratton & Hammond, 1998), and parent-child relationship variables (Denham, Workman, Cole, Weissbrod, Kendziora, & Zahn-Waxler, 2000; Kane & Garber, 2004) on children's social and behavioral functioning. Extending the information gathered in this study to include these variables could inform additional practices and intervention models for strengthening preschool programming. However, this would necessitate a much larger participant sample.

This study went beyond previous research in exploring whether the inclusion of a structured social skills curriculum could compensate for some of the previously identified limitations of homogeneous preschool groupings. Recall that the treatment group was comprised of children meeting a specific criterion (i.e., a formal diagnosis or socio-economic disadvantage), while the control group was comprised of children meeting the same criterion plus children who did not necessarily meet any of the above criteria but were invited to participate because of their parents' interest and/or teacher concerns about potential risk factors. On the one hand the lack of comparability of children entering the treatment versus control group constrains our ability to draw any clear conclusions about the relative effects of the specific treatments. However,

this study did provide limited support for the notion that children in a homogeneous preschool setting who receive structured social skills instruction would display more social and behavioral gains than children in a more heterogeneous preschool setting that lacks formal social skills training (the control group). Teachers reported that children in the social skills treatment conditions (classroom-only intervention and classroom-plus-home-visit intervention) displayed greater increases in social skills than those in the control group.

In contrast, parents reported that the treatment group displayed fewer gains on social skill measures than the children in the control group. Moreover, the treatment group did not differ from the control groups on teacher or parent reports of changes in problem behavior nor on observers' reports of changes in children's prosocial and negative social behaviors in the classroom.

These findings are inconsistent with the outcomes of many previous studies of the efficacy of social skills curricula. Several studies reported no significant changes on standardized dependent measures of social and behavioral functioning, but found significant differences on observations of prosocial and negative social behavior (e.g., Grossman et al., 1997; McMahon, Washburn, Felix, Yakin, & Childrey, 2000). Furthermore, a number of previous studies reported either an increase or no change in problem behaviors in control groups relative to treatment groups (Aber, Jones, Brown, Chaudry, & Samples, 1998; Dryfoos, 1990; Farrell & Meyer, 1997; Grossman et al., 1997; Orpinas et al., 2000). There are at least two alternative explanations for the contradictory pattern

that arose in this study: (1) the social skills intervention might have led to a greater increase in social skills in the treatment (versus control) group that was displayed in the school setting but not generalized to home; or (2) factors related to the specific informants or methodology influenced the data obtained in the dependent measures. A similar set of explanations were posed by Greenbaum, Decrick, Prange, and Friedman (1994) in their analysis of the information derived when using multiple raters to examine behavior across different time periods.

Explanation 1 (that gains differed by school vs. home context) would mean that the information provided by treatment group informants in different settings was accurate and reflected gains in school that were not generalized to the home setting. Since the classroom observational data did not reveal gains in the treatment group from pre- to post-intervention, it may be that the social skills learned also were not fully generalized in the school setting either. This later issue suggests that future research should explore how the skills targeted in the Second Step curriculum are being reinforced outside the intervention sessions. For example, the study could be expanded to include observations of fidelity outside the classroom. This would afford the opportunity to explore whether all members of the school community were aware of the skills being addressed and were enlisted to support/reinforce implementing them. However, extending the intervention and research design outside the classroom would necessitate including all school personnel in a Second Step curriculum training. Researchers have identified systematic differences in the ways that teachers and parents

typically rate school children's behaviors. In a meta-analysis of child intervention outcomes, Cai, Kaiser, and Lipsey (2004) reported that many studies found low correlations between teacher and parent raters, and parents most often rated children as having more problems. This pattern may be related to the different opportunities at home versus at school to observe a child's social skills in action (Grossman et al., 1997). Interestingly, parents reported more social and behavioral gains in the control group than social skills treatment group. This finding supports previous research that demonstrates benefits for all children attending more heterogeneous preschool intervention (Odom et al., 2004) although it is unclear why the general preschool experience would promote more gains than the social skills preschool intervention. Thus this study perhaps provides potential support for both the idea of providing preschool programming within a heterogeneous grouping and the benefit of including a structured social skills curriculum when heterogeneous formats are not an option. Nevertheless, as noted earlier, the absence of no-preschool comparison groups limits our ability to fully interpret these findings. It is unclear how much of the children's gains observed by parents or by teachers is attributable developmental progression that would have occurred even without a preschool experience.

Recall that an alternative explanation for the differences between teachers' and parents' report of children's gains referred to methodological factors, including informant beliefs and characteristics. In other words, rather than reflecting real change in child behavior, general attitudes and characteristics of the

teacher and parent informants may have influenced the data they report. One such factor is an expectation bias or the belief that participation in a treatment program should result in positive gains. Expectation bias creates a pattern of preconception that may lead to significant differences beyond those that are actually obtained and demonstrated. In this study, informant reports, particularly those completed by treatment group teachers, could have reflected the belief that the 8-month social skills intervention would lead to more gains. This is a plausible explanation given the lower reports of social and behavioral gains on other measures (treatment group parent reports and researchers' classroom observations of prosocial and negative behavior). Another informant characteristic that may have been influential is parents' mental health status; for example, parent depression has been shown to increase their likelihood of reporting higher levels of problem behavior in children (Fergusson & Horwood, 1987; Forehand, Furey, & McMahon, 1984). As stated earlier, in-depth information regarding informant characteristics was not gathered for this study. It will be important to include and analyze such information in future studies to permit more conclusive interpretations of the findings.

Finally, methodological issues such as the structure of the classroom observation schedule in this study may have led to contradictory findings. For example, previous studies on the efficacy of social skills curricula found positive effects in observational data emerged from observations that ranged from 2 to 4 hours across all collection periods (e.g., Grossman et al 1997; McMahon,

Washburn, Felix, Yakin, & Childrey, 2000). The fact that this study used observations of considerably shorter duration may have reduced the opportunities to directly witness participants' gains in social skills. Although not statistically significant, the decreasing trend of the treatment group versus the control group on the observations of negative behavior suggests that extending the observation period may have increased the possibility of obtaining a statistically meaningful difference.

The large amount of missing parent data may have affected the statistical results of this study in a variety of ways because relatively small portion of parents who returned the dependent measures may or may not have been representative of the group as a whole. For example, the parent informants who provided the data could have been those with the children who displayed greater initial social and behavioral skills (motivating parents to sustain involvement in the project) or those with mental health variables that may negatively affect behavioral ratings (e.g., parental depression). Several other studies reviewing social skill curriculum efficacy indicated percentages of attrition and data loss from parent informants ranging from 12 – 21% (Gross et al., 2003; Grossman et al., 1997). However, the percentage of missing parent data in this study was much more substantial ranging from 36% of the control group to 74%-76% of the treatment groups. This significantly hindered the ability to examine parent reports in the analyses. The absence of information about parent demographics prevented an analysis of parent characteristics related to attrition. However, based on the

chi-square conducted to analyze data return trends, the treatment group parents had a significantly lower rate of return than the control group parents. This is somewhat counterintuitive insofar as the Social Skills treatment group with Home Visits is concerned. One might have expected that the home visit portion would have helped to sustain those parents' involvement. On the other hand, those in the Home Visit group are likely to have begun the project with a higher at-risk status (the basis for their assignment to the Home Visit group), which in turn may have diminished their tendency or ability to submit completed surveys. Future research should explore these issues more comprehensively by including family demographic information in the design.

It is also important to consider the methodology used in this study for data collection. The solution to low data returns may be to analyze and restructure the methods for disseminating and collecting parent data. Perhaps transferring the responsibility for disseminating and collecting data from school personnel to an independent researcher would increase return rates because more follow-up reminders could be implemented. Also, the addition of an incentive for returned data could increase the parent return rate. It is interesting to point out that many of the research designs used to examine the effects of social skills programming did not include parent reports and relied exclusively on teacher ratings and/or observations (e.g., Conduct Problems Prevention Research Group, 1999; Dubas et al., 1998; Lynch et al., 2004). This may be an indication of the challenging nature of obtaining parent data. Although eliminating parent informants from future

designs is a possible consideration, this would seriously limit the comprehensiveness of the research data and neglect an essential context in children's lives. The parent perspective on social and behavioral skills provides an indication of whether the skills that are being taught in the school setting are being generalized to other settings. This is an essential aspect of intervention efficacy. A skill that is demonstrated only within limited contexts is not fully attained unless that skill is truly applicable only to the limited context. The future directions for addressing generalization to the home setting are addressed below.

A third possible explanation for the differences between parents' and teachers' reports and those of previous research is that a combination of real change and systematic error led to the mixed findings of gains in the treatment versus control group comparison. However, as other researchers have noted (Greenbaum, Dedrick, Prange, & Friedman, 1994), determining whether the results are best explained by real change or error has proven to be a substantial challenge. Despite this lack of clarity and the differences between the findings in the present study and those conducted in the past, the present study suggests that Second Step can at least moderately influence a preschool child's demonstration of useful social-emotional skills in comparison to a universal preschool program control group. This suggests that the inclusion of Second Step may represent a viable option for public schools that are unable to provide a universal preschool program, but wish to provide effective programming for a more homogeneous group of children. The structured social skills intervention could also represent a

transitional step for schools that want to transition eventually from homogeneous groups to more heterogeneous preschool group programming.

At the same time, this study does not impart the final word on the efficacy of heterogeneous versus homogeneous child grouping in preschool or the efficacy of Second Step Social Skills intervention on different types of groups. For example, this study did not examine the effect of Second Step on a more heterogeneous classroom group. Such a comparison would clarify whether the inclusion of Second Step could lead to social and behavioral benefits beyond those accrued by including heterogeneous peers with various diagnostic and socio-economic dynamics. Furthermore, this study did not allow for a comparison of how children in the homogeneous treatment group would have fared without the Second Step curriculum. This further limits the broad conclusions that can be made regarding the efficacy of the Second Step curriculum.

This study did go beyond previous research in piloting whether the addition of home visits to a social skills preschool intervention would lead to enhanced social and behavioral skills. The goal was to establish whether a home visit could also serve as an intermediary step for schools seeking to move from existing homogeneous to heterogeneous preschool programming. The data collected in this study did not indicate that home visits lead to additional social or behavioral gains in the participating children. However, there are a number of limitations to this study that have a bearing on the results. The small number of

families receiving the home visit intervention requires that the results be considered preliminary. It will be important to explore the effects of home visits and increased parent-school collaboration on a much larger scale. In addition, the social skills intervention groups (with and without home visits) were not randomly assigned and, therefore, the children and families in the home visit group could have presented with more challenging and chronic difficulties at the onset of the intervention. In fact, this is likely given that families were selected for home visits in part based upon teachers' concerns that certain families had particular need. Of course, such study limitations are common in research conducted in a natural setting where complete control over all study variables is not possible. So rather than use these limitations as a basis for disregarding the study findings or the home visit intervention, it is important to review the options for strengthening future versions of both the intervention and the methodology used to examine its efficacy.

Because previous research has demonstrated that the inclusion of a home/parent component is an effective method for increasing children's social-emotional skills (e.g., Gross et al., 2003; Havighurst, Harley, Littlefield, Prior, & Gavidia-Payne, 2002; Havighurst, Harley & Prior, 2004; Webster-Stratton & Hammond, 1997), the results of the present study are most likely attributable to systematic error (e.g., small number of participants or differences in group affiliation at onset) or an ineffective home visit component in this study in particular. Given that the classroom-only intervention produced greater gains

among intervention than controls according to teacher reports, it would seem that the latter explanation requires serious consideration. The finding that only 38% of the goals established for the 8-month home intervention documented progress or attainment further supports the possibility that this study's home visit component was weak. Although the present study design did not permit a detailed analysis of the home visit component, future research should include an analysis of the home visit methodology to reveal the degree to which goal progress/attainment is a product of the quality of goal identification by the home visit teachers (e.g., whether the goals were quantifiable and realistic), the nature of the home visit format itself (e.g., the specificity or generality of the content), and the complexity and level of difficulties of participating families at the onset of the intervention.

Young children attend preschool for a relatively short part of their waking hours. Much of the remainder of their time is spent with their parents and families and in alternative child care settings. Parents and other child care providers monitor and control the majority of opportunities for social skill learning and application. It is therefore essential that parents and other child care providers are enlisted in the efforts to improve social and behavioral skills (Guralnick, 1999; 2001; Gutkin & Conoley, 1990; Sheridan & Gutkin, 2000). Previous research exploring the effects of linking school-based social and behavioral skill programming to the home setting has yielded positive results (e.g., Webster-Stratton & Hammond, 1997). Therefore, in the current study the

beneficial effects of the social skills training plus home visit may have been improved if the home visit content was more directly linked to the Second Step curriculum. By linking the skills taught in school to those emphasized in the home setting, parents could have served as collaborators in modeling, encouraging, and reinforcing social and behavioral skills. Such cross setting consistency may have increased child learning and generalization. However, simply introducing the Second Step curriculum at home will not be sufficient to enhance the social and behavioral performance of the children receiving treatment. In a recent meta-analysis of the components of effective parent training programs, Kaminski, Valle, Filene, and Boyle (2008) found that improving parent-child interactions and emotional communication skills, teaching use of time out, education regarding the importance of parental consistency, and providing the opportunity for parents to practice the new skills with their children led to the largest treatment effects. These effects were obtained after controlling for differences attributable to research design. Therefore, the home intervention must extend beyond the school-based curriculum to include parent-child relationship building, behavior management, understanding of child development, and supported skill practice. Moreover, the individual culture of the family must be considered to optimize the effects of an intervention using school-home collaboration (Epps & Jackson, 2000; Garcia Coll & Magnuson, 2000). A family's culture serves as the environment in which social and behavioral skills will be enacted. If there is incompatibility between what is being taught in a

school-based program and the home culture, the skills are less likely to be generalized. A careful dialogue between school personnel and parents can build understanding and guide modification to the skills so that carry-over is more likely.

This study sought to explore certain preschool intervention alternatives for public schools that are unable to offer universal programming. The outcomes suggest that a structured social skills curriculum can be used as an intermediary step. However, considerable work is necessary to ensure that the social and behavioral skills the children learn extend beyond the instructional period and instructional setting. Generalization to the entire school day and the home setting requires clear treatment planning and collaboration, but is worth the effort if increased social and behavioral success is the ultimate product.

## References

- Aber, J., Jones, S., Brown, J., Chaudry, N., & Samples, F. (1998). Resolving conflict creatively: Evaluating the developmental effects of a school-based violence prevention program in neighborhood and classroom context. *Development and Psychopathology*. 10(2), 187-213.
- Achenbach, T.M. (1966). The classification of children's psychiatric symptoms: A factor-analytic study. *Psychological Monographs: General & Applied*. 80(7), 37.
- Achenbach, T. & Edelbrock, C. (1981). Behavioral problems and competencies reported by parents of normal and disturbed children aged four through sixteen. *Monographs of the Society for Research in Child Development*. 46(1), pp. 82.
- Ainsworth, M.S., Blehar, M.C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Oxford, England: Lawrence Erlbaum.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual for mental disorders (4<sup>th</sup> ed. – text revision)*. Washington, DC.
- Arsenio, W. & Lover, A. (1995). Children's conceptions of sociomoral affect: Happy victimizers, mixed emotions, and other expectancies. In Killen & Hart (Eds.). *Morality in everyday life: Developmental perspectives*. Cambridge studies in social and emotional development. (pp. 87-128). New York, NY, US: Cambridge University Press. xiv, pp. 423.
- Bandura, A. (1973). *Aggression: A social learning analysis*. Oxford, England: Prentice-Hall.

- Bates, J. (1989). Concepts and measures of temperament. In G. Kohnstamm, J. Bates, & M. Rothbart (Eds.). *Temperament in childhood*. (pp. 3-26). Oxford, England: John Wiley & Sons. xvii, pp. 641.
- Belsky, J., Woodworth, S., & Crnic, K. (1996). Trouble in the second year: Three questions about family interaction. *Child Development*, 67, 556-578.
- Birch, S. & Ladd, G. (1997). The teacher-child relationship and children's early school adjustment. *Journal of School Psychology*. 35(1), 61-79.
- Black, B. & Logan, A. (1995) Links between the communication patterns in mother-child, father-child and child-peer Interactions and childrens' social status. *Child Development*, 66, 55-71.
- Bowlby, J. (1969). Disruption of affectional bonds and its effects on behavior. *Canada's Mental Health Supplement*. No 59, 12.
- Boyum, L. & Parke, R. (1995). The role of family emotional expressiveness in the development of children's social competence. *Journal of Marriage & the Family*. 57(3), 593-608
- Bretherton, I. Fritz, J., Zahn-Waxler, C., & Ridgeway, D. (1986). Learning to talk about emotions: A functionalist perspective. *Child Development*, 56, 529-548.
- Brinbaum, A.S., Lytle, L.A., Hannan, P.J., Murray, D.M., Perry, C.L., & Forester, J.L. (2003). School Functioning and Violent Behavior Among Young Adolescents: A contextual analysis. *Health Education Report*. 18, 389-404.

- Brown, J.R., Donelan-McCall, N., & Dunn, J. (1996). Why talk about mental states? The significance of children's conversations with friends, siblings, and mothers. *Child Development, 67*, 836-849.
- Brown, J.R., & Dunn, J. (1992). Talk with your mother or sibling? Developmental changes in early family conversations about feelings. *Child Development, 63*, 336-339.
- Butler, R. (1990). The effects of mastery and competitive conditions on self-assessment at different ages. *Child Development, 61*(1), 201-210.
- Buyse, V., Goldman, B., & Skinner, M. (2002). Setting effects on friendship formation among young children with and without disabilities. *Exceptional Children, 68*(4), 503-517.
- Cai, Kaiser, & Lipsey. (2004). Parent and teacher reports of problem behaviors in children: Cross-informant agreement, correlates, and information integration. Unpublished manuscript, Department of Special Education, Peabody College of Vanderbilt University, TN, 37203.
- Campbell, S.B. (1990). Behavior problems in preschool children: Clinical and developmental issues. New York: Guilford Press.
- Campbell, S.B., March, C., Pierce, E. W., Ewing, L.J., & Szumowski, E.K. (1991). Hard-to-manage preschool boys: Family context and the stability of externalizing behavior. *Journal of Abnormal Child Psychology, 19*, 301-318.

- Campbell, S.B., Pierce, E.W., March, C.L., Ewing, L.J., & Szumowski, E.K. (1994). Hard-to-manage preschool boys: Symptomatic behavior across contexts and time. *Child Development*, 65, 836-851.
- Campos, J., Mumme, D., Kermoian, R., & Campos, R. A functionalist perspective on the nature of emotion. *Monographs of the Society for Research in Child Development*, 59(2-3), 284-303.
- Cassidy, J. Parke, R., Butovsky, L., Braungart, J. (1992). Family-peer Connections: The roles of emotional expressiveness within the family and children's understanding of emotions. *Child Development*, 63, 603-618.
- Chambers, B., Cheung, A., & Slavin, R. (2006). Effective preschool programs for children at risk of school failure: A best-evidence synthesis. In B. Spodek & O. Saracho (Eds.). *Handbook of research on the education of young children*. (2<sup>nd</sup> edition). Lawrence Erlbaum Associates, Mahwah, New Jersey.
- Chambers, J.G., Shkolnik, J, & Perez, M. (2003). *Total Expenditures for Students with Disabilities, 1999-2000. Spending Variations by Disability*. (Special Education Expenditure Project. Submitted to the United States Department of Education, Office of Special Education).
- Cicchetti, D., & Sroufe, A.L. (2000). The past as prologue to the future: The times, they've been a-changin'. *Development and Psychopathology*. Special Issue: Reflecting on the past and planning for the future of developmental psychopathology, 12(3), 255-264.

- Cicchetti, D. & Toth, S.(1995). A developmental psychopathology perspective on child abuse and neglect. *Journal of the American Academy of Child & Adolescent Psychiatry*, 34(5), 541-565.
- Conduct Problems Prevention Research Group (1999). Initial impact of the Fast Track prevention trial for conduct problems: II. Classroom effects. *Journal of Consulting and Clinical Psychology*, 67, 648-657.
- Costello, E. J., Angold, A., Burns, B. J., Stangl, D. K., Tweed, D. L., Erkanli, A., & Worthman, C. M. (1996). The Great Smoky Mountains Study of Youth. Goals, design, methods, and the prevalence of DSM-III-R disorders. *Archives of General Psychiatry*, 53, 1129–1136.
- Crick, N.R., Dodge, K.A. (1994). A review and reformulation of social information processing mechanisms in children’s social adjustment. *Psychological Bulletin*, 115, 74-101.
- Crockenberg, S. & Leerkes, E. (2000). Infant social and emotional development in family context. In Zeanah, Charles H., Jr. (Ed.). *Handbook of infant mental health* (2nd ed.). (pp. 60-90). New York, NY, US: Guilford Press. xvii, 588.
- Davidov, M & Grusec, J. (2006). Untangling the Links of Parental Responsiveness to Distress and Warmth to Child Outcomes. *Child Development*, 77(1), 44-58.
- Daleiden, E. L., & Vasey, M. W. (1997). An information processing perspective on childhood anxiety. *Clinical Psychology Review*, 17, no. 4, 407-429.
- DeHart, G., Sroufe, A., & Cooper, R. (2000). *Child development: Its nature and course* (4th ed.). New York, NY, US: McGraw-Hill. xxi, pp. 613.

- Delany-Black, V., Covington, C., Ondersma, S., Nordstrom-Klee, B., Templin, T., Ager, J., Janisse, J., & Sokol, R. (2002). Violence Exposure, Trauma, and IQ and/or Reading Deficits among Urban Children. *Archives of Pediatric Adolescent Medicine*, 156, 280-285.
- Denham, S. (1986). Social cognition, prosocial behavior, and emotion in preschoolers: Contextual validation. *Child Development*, 57(1), 194-201.
- Denham, S. (1993). Maternal emotional responsiveness and toddlers' social-emotional competence. *Journal of Child Psychology and Psychiatry*, 34(5), pp. 715-728
- Denham, S.A., & Auerbach, S. (1995). Mother-child dialogue about emotions. *Genetic, Social, and General Psychology Monographs*, 121, 311-338.
- Denham, S.A., Blair, K.A., DeMulder, E., Levitas, J., Sawyer, K., Auerbach-Major, S., & Queenan, P. (2003). Preschool emotional competence: Pathway to social competence. *Child Development*, 74(1), 238-256.
- Denham, S. & Burger, C. (1991). Observational validation of ratings of preschoolers' social competence and behavior problems. *Child Study Journal*, 21(3), pp. 185-201
- Denham, S. A. & Burton, R. (2003). *Social and Emotional Prevention and Intervention Programming for Preschoolers*. New York: Kluwer Academic/ Plenum Publishers.
- Denham, S.A., Grant, S., & Hamada, H. (2002, June). "I have two 1<sup>st</sup> teachers": Mother and teacher socialization of preschoolers' emotional and social competence. Paper in symposium submitted to 7<sup>th</sup> Head Start Research Conference.

- Denham, S. & Grout, L. (1993). Socialization of Emotion: Pathway to preschoolers' emotional and social competence. *Journal of Nonverbal Behavior*, 17(3), 205-227.
- Denham, S. & Grout, L. (1992). Mothers' emotional expressiveness and coping: Relations with preschoolers' social-emotional competence. *Genetic, Social, and General Psychology Monographs*, 118(1), pp. 73-101
- Denham, S. & Holt, R. (1993). Preschoolers' likability as cause or consequence of their social behavior. *Developmental Psychology*, 29(2), 271-275.
- Denham, S., McKinley, M Couchoud, E., & Holt, R. (1990). Emotional and behavioral predictors of preschool peer ratings. *Child Development*, 61(4), 1145-1152.
- Denham, S. A., Mitchell-Copeland, Strandberg, K., Auerbach, S., & Blair, K. (1997). Parental contributions to preschoolers' emotional competence: Direct and indirect effects. *Motivation and Emotion*, 27, 65-86.
- Denham, S., Renwick-DeBardi, S., & Hewes, S. (1994). Emotional communication between mothers and preschoolers: Relations with emotional competence. *Merrill-Palmer Quarterly*, 40(4), 488-508.
- Denham, S., Renwick, S., & Holt, R. (1991). Working and Playing Together: Prediction of preschool social emotional from mother-child interaction. *Child Development*, 61(4), 1145-1152.
- Denham, S.A. & Weissberg, R.P. (2004). Social-emotional Learning in Childhood: What we know and where to go from here. In E. Chesebrough, P. King, T.P Gullotta, &

- M. Bloom (Eds.). *A Blueprint for the Promotion of Prosocial Behavior in Early Childhood*. (pp. 13-50). New York: Kluwer Academic/Plenum Publishers.
- Denham, S., Workman, E., Cole, P., Weissbrod, C., Kendziora, K., & Zahn-Waxler, C. (2000). Prediction of externalizing behavior problems from early to middle childhood: The role of parental socialization and emotion expression. *Development and Psychopathology*, 12(1), 23-45.
- Denham, S., Zoller, D, & Couchoud, E. (1993). Socialization of Preschoolers' understanding of Emotions. *Developmental Psychology*, 30, 928-936.
- Dodge, K., Lansford, J., Burks, V, Bates, J., Pettit, G., Fontaine, R., & Price, Joseph M. (2003). Peer rejection and social information-processing factors in the development of aggressive behavior problems in children. *Child Development*, 74(2), 374-393.
- Dodge, K.A., Lochman, J.E., Harnish, J.D., Bates, J.E., & Pettit, G.S. (1997). Reactive and proactive aggression in school children and psychiatrically impaired chronically assaultive youth. *Journal of Abnormal Psychology*, 106, 37-51.
- Doll, B, Sands, D, Wehmeyer, M, & Palmer, S. (1996). Promoting the Development and Acquisition of Self-determined Behavior. In D. Sands & M. Wehmeyer (Eds.). *Self-determinations across the lifespan*. (pp. 65-90). Baltimore, MD: Paul H. Brookes.
- Domitrovich, C. E., Cortes, R., & Greenberg, M. T. (2002, June). Preschool PATHS: Promoting social and emotional competence in young children. Paper presented in symposium 7th Head Start Research Conference, Washington DC.

- Dryfoos, J. (1990). *Adolescents at risk: Prevalence and prevention*. New York, NY, US: Oxford University Press. vi, pp. 280.
- Dubas, J.S., Lynch, K. B. Galano, J., Geller, S., & Hunt, D. (1998). Preliminary evaluation of a resiliency-based preschool substance abuse and violence prevention project. *Journal of Drug Education, 28*(3). 235-255.
- Durlak, J.A. (1995). *School-based prevention programs for children and adolescents*. Thousand Oaks, CA, US: Sage Publications, Inc. pp. 117.
- Dunn, J., Brown, J. Slomkowski, Tesla, C., & Youngblade, L. (1991). Young children's understanding of other people's feelings and beliefs: Individual differences and their antecedents. *Child Development, 62*, 1352-1366.
- Eccles, J., Midgeley, C., & Adler, T. (1984). Age Related Changes in the School Environment: Effects on Achievement Motivation. In J.H. Nicholls (Ed.), *The development of achievement motivation*, (pp. 57-90), Greenwich, CT:JAI.
- Eckerman, C., Davis, C., & Didow, S. (1989). Toddlers' Emerging Ways of Achieving Social Coordinations with a Peer. *Child Development, 60*, 440-453.
- Eisenberg, N., Cumberland, A., & Spinard, T.L. (1998). Parental socialization of emotion. *Psychological Inquiry, 9*, 241-273.
- Eisenberg, N. & Fabes, R. (1992). Emotion, regulation, and the development of social competence. In Clark, Margaret S. (Ed.) *Emotion and social behavior. Review of personality and social psychology, 14*. (pp. 119-150). Thousand Oaks, CA, US: Sage Publications, Inc. xi, pp. 311.

- Eisenberg, N., Fabes, R., Murphy, B., Karbon, M., Smith, M. & Maszk, P. (1996). The relations of children's dispositional empathy-related responding to their emotionality, regulation, and social functioning. *Developmental Psychology*, 32(2), 195-209.
- Eisenberg, N. & Mussen, P. (1989). The roots of prosocial behavior in children. *Cambridge studies in social and emotional development*. New York, NY, US: Cambridge University Press. viii, pp. 195.
- Elias, M. (1997). Reinterpreting dissemination of prevention programs as widespread implementation with effectiveness and fidelity. In Weissberg, Roger P.; Gullotta, Thomas P.; Hampton, Robert L.; Ryan, Bruce A.; et al. (Eds.). *Healthy children 2010: Establishing preventive services. Issues in children's and families' lives*, 9. (pp. 253-289). Thousand Oaks, CA, US: Sage Publications, Inc. xii, pp. 300.
- Elias, M. J., Zins, J. E., Graczyk, P. A., & Weissberg, R. P. (2003). Implementation, Sustainability, and Scaling Up of Social-Emotional and Academic Innovations in Public Schools. *School Psychology Review*, 32, Issue 3.
- Epps, S., & Jackson, B.J. (2000). *Empowered Families, Successful Children: Early Intervention Programs that Work*. Washington, DC: American Psychological Association.
- Emde, R., Gaensbauer, T., & Harmon, R. (1976). Emotional Expression in Infancy: A biobehavioral study. *Psychological Issues Monograph Series*, 10 (37), 1-198.
- Eron, L.D. (1990). Understanding Aggression. *Bulletin of the International Society for Research on Aggression*, 12, 5-9.

- Erwin, E. (1993). Social participation of young children with visual impairments in specialized and integrated environments. *Journal of Visual Impairment & Blindness*, 87(5), 138-142
- Fantuzzo, J., McWayne, C., Perry, M., & Childs, S (2004). Multiple Dimensions of Family Invement and Their Relations to Behavioral and Learning Competencies for Urban, Low-Income Children. *School Psychology Review*, 33(4), 467-480
- Farrell, A. & Meyer, A. (1997). The effectiveness of a school-based curriculum for reducing violence among urban sixth-grade students. *American Journal of Public Health*, 87(6), 979-984.
- Farmer, E. & Farmer, T. (1999). The Role of Schools in Outcomes for Youth: Implications for Children's Mental Services Research. *Journal of Child and Family Studies*, 8, 377-396.
- Flanagan, K. S., Bierman, K. L., Kam, C, Coie, J. D., Dodge, K. A., Foster, E. M., Greenberg, M., T., Lochman, J. E., McMahon, R. J., & Pinderhughes, E. (2003). Identifying at-risk children at school entry: The usefulness of multibehavioral problem profiles. *Journal of Clinical Child and Adolescent Psychology*, 32(3), 396-407.
- Ford, C. (2003). *Despite the Benefits of In-school Counseling, Few High Schools Offer Mental Health Services*. New-York-WABC, Eyewitness News Extra.  
[http://abclocal.go.com/wanb/news/WABC\\_ourschools\\_031703counseling.html](http://abclocal.go.com/wanb/news/WABC_ourschools_031703counseling.html).

- Forehand, R., Furey, W., & McMahon, R. (1984). The role of maternal distress in a parent training program to modify child non-compliance. *Behavioural Psychotherapy*, 12(2), Apr 1984, 93-108.
- Fox, L., Dunlap, G., Hemmeter, M., Joseph, G., & Strain, P. (2003). The Teaching Pyramid: A model for supporting social competence and preventing challenging behavior in young children. *Young Children*, 58(4), 48-53.
- Fox, N. (1994). The Development of Emotional Regulation: Biological and behavioral considerations. *Monographs of the Society for Research in Child Development*, 59, series number 240.
- Frey, K. & Ruble, D. (1987). What children say about classroom performance: Sex and grade differences in perceived competence. *Child Development*, 58(4), 1066-1078.
- Fergusson, D. & Horwood, L. (1987). Vulnerability to life events exposure. *Psychological Medicine*, 17(3), 739-749.
- Gagnon, C., Craig, W., Tremblay, R., Zhou, R. et al. (1995). Kindergarten predictors of boys' stable behavior problems at the end of elementary school. *Journal of Abnormal Child Psychology*, 23(6), 751-766.
- Garcia Coll, C., & Magnuson, K. (2000). Cultural Differences as Sources of Developmental Vulnerabilities and Resources. In J.P. Shonkoff and S.J. Meisels (Eds.). *Handbook of Early Childhood Intervention* (2<sup>nd</sup> ed.) (pp. 94-114). New York: Cambridge University Press.

- Garner, P. (1996). The Relations of Emotional Role Taking, Affective/Moral Attributions and Emotional Display Rule Knowledge to Low-income School-age Children's Social Competence, *Journal of Applied Developmental Psychology*, 17, 19-36.
- Garner, P., Jones, D., & Miner, J. (1994). Social Competence Among Low-income Preschoolers: Emotional socialization practices and social cognitive correlates. *Child Development*, 65, 622-637.
- Gauvain, M. (2001). *The Social Context of Cognitive Development*. Guilford Publishing. pp. 249
- Gazelle, H. & Ladd, G.W. (2003). Anxious solitude and peer exclusion: A diathesis-stress model of internalizing trajectories in childhood. *Child Development*, 74 (1), 257-278.
- Gertner, B. L., Rice, M., & Hadley, P. A. (1994). Influence of communicative competence on peer preferences in a preschool classroom. *Journal of Speech & Hearing Research*, 37(4), 913-923.
- Gilliam, W.S. (2005). *Prekindergarteners left behind: Expulsion rates in state prekindergarten systems*. Yale University, Child Study Center.
- Gottman, J. M., Katz, L. F., & Hooven, C. (1997). *Meta-emotion: How families communicate emotionally*. Mahwah, NJ: Erlbaum.
- Green, V. & Cillessen, A. (2008). Achievement versus maintenance of control in six-year-old children's interactions with peers: An observational study. *Educational Psychology*, 28(2), 161-180.

- Greenbaum, P., Decrick, R., Prange, M., & Friedman, R. (1994). Parent, teacher, and child ratings of problem behaviors of youngsters with serious emotional disturbances. *Psychological Assessment*, 6(2), 141-148.
- Greenberg, M.T., Domitrovich, C., & Bumbarger, B. (2001). The prevention of mental disorders in school-aged children: Current state of the field. *Prevention & Treatment*, 4(1).
- Greenberg, M.T., Speltz, M.L., & DeKlyen, M. (1993). The role of attachment in the early development of disruptive behavior problems. *Development and Psychopathology*, 5, 191-213.
- Gresham, F. & Elliott, S. (1990). *Social Skills Rating System – Manual*. American Guidance Service. Circle Pines, MN.
- Gresham, F. & Reschly, D. (1987). Dimensions of social competence: Method factors in the assessment of adaptive behavior, social skills, and peer acceptance. *Journal of School Psychology*, 25(4), 367-381
- Gross, D., Fogg, L., Webster-Stratton, C., Garvey, C., Julion, W, & Grady, J. (2003). Parent training of toddlers in day care in low-income urban communities. *Journal of Consulting and Clinical Psychology*, 71(2) Apr, 261-278.
- Grossman, D., et al. (1997). The effectiveness of a violence prevention curriculum among children in elementary school. *Journal of the American Medical Association*, 277, 1605–1611.
- Gullotta, T.P., & Bloom, M. (2003). *Encyclopedia of primary prevention and health promotion*. Kluwer Academic/Plenum Publishers.

- Guralnick, M.J. (1999). Family and child influences on the peer-related social competence of young children with developmental delays. *Mental Retardation and Developmental Disabilities Research Reviews*, 5(1), 21-29.
- Guralnick, M.J. (2001). Social Competence with Peers and Early Childhood Inclusion: Need for Alternative Approaches. In M.J. Guralnick (Ed.) *Early Childhood Inclusion; Focus on Change*. (pp. 481-502). Baltimore: Paul H. Brookes Publishing Co.
- Guralnick, M., Connor, R., Hammond, M. Gottman, J., et al. (1996). The peer relations of preschool children with communication disorders. *Child Development*, 67(2), 471-489.
- Guralnick, M., Gottman, J., & Hammond, M. (1996). Effects of social setting on the friendship formation of young children differing in developmental status. *Journal of Applied Developmental Psychology*, 17(4), 625-651.
- Guralnick, M.J. & Neville, B. (1997). Designing Early Intervention Programs to Support Childrens' Social Competence. In M. Guralnick (Ed.) *The Effectiveness of Early Intervention*. (pp. 579 – 610). Baltimore, MD: Paul H. Brookes.
- Gutkin, T.B., & Conoley, J.C. (1990). Reconceptualizing School Psychology from a Service Delivery Perspective; Implications for Practice, Training, and Research. *Journal of School Psychology*, 28, 203-223.
- Hadley, P. & Rice, M. (1991). Conversational responsiveness of speech- and language-

impaired preschoolers. *Journal of Speech & Hearing Research*, 34(6), pp. 1308-1317

Halpern R. (2000). Early childhood intervention for low-income children and families. In J.P. Shonkoff and S.J. Meisels (Eds.). *Handbook of Early Childhood Intervention* (2<sup>nd</sup> ed.) (pp. 361-386). New York: Cambridge University Press.

Harter, S. (1986). Cognitive-developmental processes in the integration of concepts about emotions and the self. *Social Cognition. Special Issue: Developmental perspectives on social-cognitive theories*, 4(2), 119-151.

Hartup, W. (1983). Peer relations. In P.H. Mussen (Ed.). *Handbook of Child Psychology* 4, pp.103-186. New York: Wiley.

Hartup, W. (1989). Social Relationships and their Developmental Significance. *American Psychologist*, 44, 120-126.

Hauser-Cram, P., Bronson, M., & Upshur, C. (1993). The effects of the classroom environment on the social and mastery behavior of preschool children with disabilities. *Early Childhood Research Quarterly*, 8(4), 479-497

Havighurst, S.S., Harley, A., & Prior, M. (2004). Building Preschool Children's Emotional Competence: A Parenting Program. *Early Education and Development*, 15(4), 423-447.

Havighurst, S.S., Harley, A., Littlefield, L., Prior, M., & Gavidia-Payne, S. (2002). Shaping preschool children's emotion regulation: A parenting program. Paper

presented at the International Society for the Study of Behaviour Development,  
Ottawa, Canada.

Hawkins, J. D. & Catalano, R.F. Jr. (1992). *Communities that care: Action for drug abuse prevention*. xxii, San Francisco, CA, US: Jossey-Bass.

Herrera, C. & Dunn, J. (1997). Early experiences with family conflict: Implications for arguments with a close friend. *Developmental Psychology*, 33(5), pp. 869-881

Hinshaw, Stephen P. (1994). *Attention deficits and hyperactivity in children*. Thousand Oaks, CA, US: Sage Publications, Inc.

Honig, A. & Wittmer, D. (1992). Prosocial development in children: Caring, helping, and cooperating: A bibliographic resource guide. *Reference books on family issues*, . 19. *Garland reference library of social science*, 538. New York, NY, US: Garland Publishing. pp. 384.

Honig, A. & Wittmer, D. (1996). Encouraging Positive Social Development in Young Children. Part II. *Young Children*, 62-71.

Howes, C. (1987). Social Competence with Peers in Young Children: Developmental sequences. *Developmental Review*, 7, 252-272.

Howes, C. & Farber, J. (1987). Toddlers' Responses to the distress of peers. *Journal of Applied Developmental Psychology*, 8, 441-452.

Institute of Medicine. (1994). *Reducing risks for mental disorders: Frontiers for preventive intervention research*. Washington, DC: National Academy Press.

- Isley, S, O'Neil, R., & Parke, R. (1996). The relation of parental affect and control behaviors to children's classroom acceptance: A concurrent and predictive analysis. *Early Education and Development*, 7(1), pp. 7-23
- Isley, S. L., O'Neil, R., Clatfelter, D., & Parke, R. D. (1999). Parent and child expressed affect and children's social competence: Modeling direct and indirect pathways. *Developmental Psychology*, 35, 547-560.
- Izard, C., Fine, S., Schultz, D., Mostow, A., Ackerman, B, & Youngstrom, E. (2001). Emotion knowledge as a predictor of social behavior and academic competence in children at risk. *Psychological Science*, 12(1), 18-23.
- Jacobson, J., & Wille, D. (1986). The Influence of Attachment Pattern on Developmental Changes in Peer Interaction from the Toddler to the Preschool Era. *Child Development*, 57, 338-347.
- Jeglum-Bartusch, D., Lynam, D., Moffitt, T. E., & Silva, P. (1997). Is age important: Testing general versus developmental theories of antisocial behavior, *Criminology*, 35, 13-47.
- Joseph, G.E. & Strain, P.S. (2003). Comprehensive evidence-based social-emotional curricula for young children: an analysis of efficacious adoption potential. *Topics in Early Childhood Special Education*, 23(2), 65-76.
- Kane, P. & Garber, J. (2004). The relations among depression in fathers, children's psychopathology, and father-child conflict: A meta-analysis. *Clinical Psychology Review*, 24(3), 339-360.

- Kaminski, J.W., Valle, L.A., Filene, J.H., & Boyle C.L. (2008). A Meta-analytical Review of Components Associated with Parent Training Program Effectiveness. *Journal of Abnormal Child Psychology*, 36, 567-585.
- Kazdin, A.E. (1993). Treatment of conduct disorder: Progress and directions in psychotherapy research. *Development and Psychopathology*, 5(1-2), 277-310.
- Klein, D. N., Lewinsohn, P. M., & Seeley, J. R. (1997). Psychosocial characteristics of adolescents with a past history of dysthymic disorder: Comparison with adolescents with past histories of major depressive and non-affective disorders, and never mentally ill controls. *Journal of Affective Disorders*, 42, 127–135.
- Kupersmidt, J.B., Bryant, D., & Willoughby, M.T. (2000). Prevalence of aggressive behaviors among preschoolers in Head Start and community child care programs. *Behavioral Disorders*, 26(1), 42-52.
- Kuszynski, L. & Kochanska, G. (1990). Developmental of Children's Noncompliance Strategies from Toddlerhood to Age 5. *Developmental Psychology*, 26, 398-408.
- Kusche, C.A., & Greenberg, M.A. (1994). *The PATHS curriculum*. Seattle, WA: Developmental Research and Programs.
- Ladd, G., Birch, S., & Buhs, E. (1999) Children's social and scholastic lives in kindergarten: Related spheres of influence? *Child Development*, 70(6), 1373-1400.
- Ladd, G., Kochenderfer, B., & Coleman, C. (1996). Friendship quality as a predictor of young children's early school adjustment. *Child Development*, 67(3), 1103-1118.

- Ladd, G. & Pettit, G. (2002). Parenting and the development of children's peer relationships. In Bornstein, Marc H. (Ed.). *Handbook of parenting: Practical issues in parenting* (2nd ed.). (pp. 269-309). Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers. xxxiii, pp. 507.
- Laible, D. (2004). Mother-Child Discourse in Two Contexts: Links With Child Temperament, Attachment Security, and Socioemotional Competence. *Developmental Psychology*, 40(6), 979-992.
- LeBuffe, P.A. & Naglieri, J.A. (1999). *Devereux Early Childhood Assessment User's Guide*. The Devereux Foundation, Villanova, PA. Kaplan Press, Lewisville, NC.
- Liang, B., Tracy, A., Kenny, M., & Brogan, D. (2008). Gender differences in the relational health of youth participating in a social competency program. *Journal of Community Psychology*, 36(4), 499-514.
- Lipincott-Williams & Wilkins. (2004). Out-of-school Suspension and Expulsion. *Journal of the American Academy of Child and Adolescent Psychiatry*, 43, 1010-1011.
- Lemerise, E. & Arsenio, W. (2000). An integrated model of emotion processes and cognition in social information processing. *Child Development*, 71(1), 107-118.
- Lemerise, E. & Dodge, K. (2000). The Development of Anger and Hostile Interactions. In Lewis, Michael; Haviland-Jones, Jeannette M. (Eds.). *Handbook of emotions* (2nd ed.). (pp. 573-691). New York, NY, US: Guilford Press. xvi, pp. 720.
- Levine, L. & Antia, S. (1997). The effects of partner hearing status on social and cognitive play. *Journal of Early Intervention*, 21, 21-35.

- Lonigan, C. J., Elbert, J. C., & Johnson, S. B. (1998). Empirically supported psychosocial interventions for children: An overview. *Journal of Clinical Child Psychology*, 27(2), 138-145.
- Luthar, S.S. & Zigler, E. (1992). Intelligence and social competence among high-risk adolescents. *Development and Psychopathology*, 4(2), 287-299.
- Lynch, K.B., Geller, S.R., & Schmidt, M.G. (2004). Multi-Year Evaluation of the Effectiveness of a Resilience-Based Prevention Program for Young Children. *Journal of Primary Prevention*, 24(3), 335-353.
- Masten, A. & Garmezy, N. (1985). Risk, vulnerability, and protective factors in developmental psychology. In B. Lahey & A. Kazdin, (Eds.), *Advances in Clinical Child Psychology*. New York: Plenum Press.
- Masten, A., Coatsworth, J., Neemann, J., Gest, S., Tellegen, A., & Garmezy, N. (1995). The structure and coherence of competence from childhood through adolescence. *Child Development*, 66(6), 1635-1659.
- McClelland, M. M., Cameron, C. E., Wanless, S. B., & Murray, A. (2007). Executive function, self-regulation, and social-emotional competence: Links to school readiness. In O. N. Saracho & B. Spodek (Eds.), *Contemporary perspectives on research in social learning in early childhood education*. Greenwich, CT: Information Age.
- McCollum, J. & Ostrosky, M. (2008). Family roles in young children's emerging peer-related social competence. In Brown, William H.; Odom, Samuel L.; McConnell, Scott R. (Eds.). *Social competence of young children: Risk, disability, and*

*intervention*. (pp. 31-59). Baltimore, MD, US: Paul H Brookes Publishing. xviii, 341 pp.

McMahon, S. D. & Washburn, J. J. (2003). Violence Prevention: An Evaluation of Program Effects with Urban African American Students. *Journal of Primary Prevention, 24*(1), 43-62.

McMahon, S. D., Washburn, J., Felix, E. D., Yakin, J., & Childrey, G. (2000). Violence Prevention: Program Effects on Urban Preschool and Kindergarten Children. *Applied and Preventive Psychology, 9*, 271–281.

Mills, R. & Rubin, K. (1993). Parental ideas as influences on children's social competence. In Duck, Steve (Ed.). *Learning about relationships. Understanding relationship processes series*, (pp. 98-117). Thousand Oaks, CA, US: Sage Publications, Inc. xiii, pp. 252.

Moffitt, T.E. (1990). Juvenile delinquency and Attention Deficit Disorder: Boys' developmental trajectories from age 3 to age 15. *Child Development, 61*, 893-910.

Moffitt, T.E., Caspi, A., Dickson, N., Silva, P., & Stanton, W. (1996). Childhood-onset versus adolescent-onset antisocial conduct problems in males: Natural history from ages 3 to 18 years. *Development and Psychopathology, 8*, 399-424.

Moffitt, T. E., Caspi, A., Harrington, H., & Milne, B. J. (2002). Males on the life-course-persistent and adolescence-limited antisocial pathways: follow-up at age 26 years. *Development and Psychopathology, 14*, 179-207.

- Moore, B. & Beland, K. (1992). Evaluation of Second Step Preschool/Kindergarten: A Violence Prevention Curriculum Kit. Committee for Children; Seattle, Washington.
- Morisset, C.E., Barnard, K.E., Greenberg, M.T., Booth, C.L., & Spieker. (1990). Environmental influences on early language development: The context of social risk. *Development and Psychopathology*, 2(2), 127-149.
- Nagin, D., & Tremblay, R. E. (1999). Trajectories of boys' physical aggression, opposition, and hyperactivity on the path to physically violent and nonviolent juvenile delinquency. *Child Development*, 70, 1181-1196.
- Odom, S., Vitztum, J., Wolery, R., Lieber, J., Sandall, S., Hanson, M., Beckman, P., Schwartz, I., & Horn, E. (2004). Preschool inclusion in the United States: A review of research from an ecological systems perspective. *Journal of Research in Special Educational Needs*, 4(1), 17-49.
- Odom, S. L. & Strain, P. S. (2002). Evidence-based practice in early intervention/early childhood special education: Single-subject design research. *Journal of Early Intervention*, 25(2), 151-160.
- O'Neil, R., & Park, R.D. (2000). Family-peer relationships: The role of emotion, regulation, cognitive understanding, and attentional processes as mediating processes. In K.A. Kerns, J.M. Contreras, & A.M. Neal-Barnett (Eds.), *Family and peers: Linking two social worlds*. (pp. 195-225). Greenwood Press.

- Orpinas, P., Kelder, S., Frankowski, R., Murray, N., Zhang, Q., & McAlister, A. (2000). Outcome evaluation of a multi-component violence-prevention program for middle schools: The Students for Peace project. *Health Education Research*, 15(1), 45-58.
- Park, K., Lay, K., & Ramsay, L. (1993). Individual differences and developmental changes in preschoolers' friendships. *Developmental Psychology*, 29(2), 264-270.
- Parke, R. (1994). Progress, paradigms, and unresolved problems: A commentary on recent advances in our understanding of children's emotions. *Merrill-Palmer Quarterly*. Special Issue: Children's emotions and social competence, 40(1), 157-169.
- Parke, R., Cassidy, J., Burks, V., Carson, J., & Boyum, L. (1992). Familial Contribution to Peer Competence among Young Children: The role of interactive and affective processes. In R.D. Parke & G.W. Ladd (Eds.). *Family-peer relationships: Models of linkage*. (pp. 107-134). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Parke, R. & O'Neil, R. (1997). The influence of significant others on learning about relationships. In Duck, Steve (Ed.). *Handbook of personal relationships: Theory, research and interventions* (2nd ed.). (pp. 29-59). Hoboken, NJ, US: John Wiley & Sons Inc. xxviii, pp. 857.
- Parke, R. & O'Neil, R. (1999). Social relationships across contexts: Family-peer linkages. In A.W. Collins, & B. Laursen (Eds.). *Relationships as developmental contexts. The Minnesota symposia on child psychology*, 30. (pp. 211-239). Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers. xiv, pp. 369.

- Parke, R. & Slaby, R. (1983). The Development of Aggression. In E.M. Hetherington (Ed.) *Handbook of Child Psychology*. Socialization, personality, and social development (pp.47-62). New York:Wiley.
- Parker, J.G. & Asher, S. (1987). Peer Relations and Later Personal Adjustment: Are low-accepted children at risk? *Psychological Bulletin*, 102, 357-389.
- Payton, J., Wardlaw, D., Graczyk, P., Bloodworth, M., Tompsett, C., & Weissberg, R. (2000). Social and Emotional Learning; A framework for promoting mental health and reducing risk behaviors in children and youth. *Journal of School Health*. 70(5), 179-185.
- Peth-Pierce, R. (2000). *A good beginning: Sending America's children to school with the social and emotional competence they need to succeed*. Chapel Hill, NC: The Child Mental Health Foundations and Agencies Network.
- Pines, M. (1979). Good Samaritans at Age Two? *Psychology Today*, Jan, 66-76.
- Putallaz, M. (1987). Maternal behavior and children's sociometric status. *Child Development*. 58(2), 324-340
- Raver, C. & Zigler, E. (1997). Focus section: New perspectives on Head Start. Social competence: An untapped dimension in evaluating Head Start's success. *Early Childhood Research Quarterly*, 12(4), 363-385.
- Raver, C., Blackburn, E., & Bancroft, M. (1996). Relations between Emotional Self-regulation and Social Competence among Head Start Preschoolers. Presentation to the Making a difference for children, families and communities: Partnerships

among researchers, practitioners, and policy makers, 3<sup>rd</sup> National Head Start Association. Washington, DC, June 20-23.

Reynolds, A., Temple, J., Robertson, D., & Mann, E. (2001). Long-term effects of an early childhood intervention on educational achievement and juvenile arrest: A 15-year follow-up of low-income children in public schools. *Journal of the American Medical Association*, 285, 2339-2346.

Rice, M. L. (1991). Children with specific language impairment: Toward a model of teachability. In N. Krasnegor, D. Rumbaugh, R. Schiefelbusch, & M. Studdert-Kennedy (Eds.). *Biological and behavioral determinants of language development*. (pp. 447-480). Hillsdale, NJ, England: Lawrence Erlbaum Associates, Inc. x, pp. 534.

Robins, L.N & Price, R.K. (1991). Adult disorders predicted by childhood conduct problems: Results from the NIMH Epidemiologic Catchment Area project. *Psychiatry: Journal for the Study of Interpersonal Processes*, 54(2), 116-132.

Robins, L. & Rutter, M. (1990). Straight and devious pathways from childhood to adulthood. New York, NY, US: Cambridge University Press. xix, pp. 389.

Rothbart, M. K. (1989). Temperament in childhood: A framework. In G. Kohnstamm, J. Bates, & M. Rothbart (Eds.). *Temperament in childhood*. (pp. 59-73). Oxford, England: John Wiley & Sons. xvii, pp. 641.

Rothbart, M. & Bates, J. (1998). Temperament. In W. Damon & N. Eisenberg (Eds.). *Handbook of child psychology*, (5th ed.) *Social, emotional, and personality*

*development*. (pp. 105-176). Hoboken, NJ, US: John Wiley & Sons Inc. xxiv, 1208 pp.

Rothbart, M., & Derryberry, D. (1985). Emotion, attention, and temperament. In C. Izard, J. Kagan, & R. Zajonc. (Reprinted 1988). *Emotions, cognition, and behavior*. (pp. 132-166). New York, NY, US: Cambridge University Press. x, 620 pp.

Rubin, K. & Clark, M. (1983). Preschool teachers' ratings of behavioral problems: Observational, sociometric, and social-cognitive correlates. *Journal of Abnormal Child Psychology*, 11(2), 273-286.

Rubin, K. & Daniels-Beirness, T. (1983). Concurrent and predictive correlates of sociometric status in kindergarten and Grade 1 children. *Merrill-Palmer Quarterly*, 29(3), Jul, 337-351.

Rutter, M. (2000). Psychosocial influences; Critiques, findings, and research needs. *Development and Psychopathology*, 12, 375-405

Rutter, M. (2003). Categories, dimensions, and mental health of children and adolescents: Keynote address. In J.A. King, C.F. Ferris, I.I. Lederhendler (Eds.), *Roots of Mental Illness in Children*. Annals of the New York Academy of Sciences. New York.

Rutter, M., Yule, B., Quinton, D., Rowlands, O., Yule, W., & Berger, W. (1975). Attainment and adjustment in two geographical areas, 3: some factors accounting for area differences. *British Journal of Psychiatry*, 126, 520-533.

- Sanson, A., Oberklaid, F., Pedlow, R., & Prior, M. (1991). Risk indicators: Assessment of infancy predictors of pre-school behavioural maladjustment. *Journal of Child Psychology and Psychiatry*, 32, 609-626.
- Sameroff, A.J. (1996). *Democratic and Republican Models of Development: Paradigms or Perspectives*. Presentation at the 104<sup>th</sup> meeting of the American Psychological Association, Toronto, Canada, August 1996.
- Sameroff, A. (2000). Developing systems and psychopathology. *Development and Psychopathology*, 12, 297-312.
- Sameroff, A.J., Seifer, R., Zax, M., & Barocas, R. (1987). Early indicators of developmental risk: Rochester longitudinal study. *Schizophrenia Bulletin*, 13(3), 383-394.
- Saarni, C. (1990). Emotional competence: How emotions and relationships become integrated. *Nebraska Symposium on Motivation, 1988: Socioemotional development. Current theory and research in motivation*, (pp. 115-182). Lincoln, NE, US: University of Nebraska Press. xv, pp. 492.
- Schore, A. N. (1994). *Affect regulation and the origin of the self: The neurobiology of emotional development*. Hillsdale, NJ, England: Lawrence Erlbaum Associates, Inc. (1994) xxxiv, pp. 670.
- Schultz, D., Izard, C., & Ackerman, B. (2000). Children's anger attribution bias: Relations to family environment and social adjustment. *Social Development*, 9(3), 284-301.

- Schultz, D., Izard, C., Ackerman, B., & Youngstrom, E. (2001). Emotion knowledge in economically disadvantaged children: Self-regulatory antecedents and relations to social difficulties and withdrawal. *Development and Psychopathology*, 13(1), 53-67.
- Shaw, D., Winslow, E., Owens, E., Vondra, J., Cohn, J., & Bell, R. (1998). The development of early externalizing problems among children from low-income families: A transformational perspective. *Journal of Abnormal Child Psychology*, 26(2), 95-107
- Shaw, D., Winslow, E., & Flanagan, C. (1999). A prospective study of the effects of marital status and family relations on young children's adjustment among African American and European American families. *Child Development*, 70(3), 742-755
- Shaw, D.S., Bell, R.Q., & Gilliom, M. (2000). A truly early starter model of antisocial behavior revisited. *Clinical Child and Family Psychology Review*, 3(3), 155-172.
- Sheridan, S.M. & Gutkin, T.B. (2000). The Ecology of School Psychology: Examining and Changing our Paradigm for the 21<sup>st</sup> Century. *School Psychology Review*, 29, 485-502.
- Speltz, M., Greenberg, M., & DeKlyen, M. (1990). Attachment in preschoolers with disruptive behavior: A comparison of clinic-referred and nonproblem children. *Development and Psychopathology*, 2(1), 31-46.
- Spitz, R. (1965). *The First Year of Life*. New York: International Universities Press.

- Sroufe, A. (1996). Emotional development: The organization of emotional life in the early years. *Cambridge studies in social & emotional development*. New York, NY, US: Cambridge University Press. xiii, pp. 263.
- Sroufe, A., Cooper, R., & DeHart, G. (1996). *Child development: Its nature and course* (3<sup>rd</sup> ed.) New York: McGraw-Hill.
- Sroufe, A., Schork, E., Motti, F., Lawroski, N., & LaFreniere, P. (1985). The role of affect in social competence. In C. Izard, J. Kagan, & R. Zajonc (Eds.). *Emotions, cognition, and behavior*. (pp. 289-319). New York, NY, US: Cambridge University Press. x, pp. 620. Reprinted 1988.
- Stern, D. (1990). Joy and satisfaction in infancy. In Glick, Robert A.; Bone, Stanley (Eds.). *Pleasure beyond the pleasure principle. The role of affect in motivation, development, and adaptation*, (pp. 13-25). New Haven, CT, US: Yale University Press. xvi, pp. 286.
- Stoneham, G. (2001). Friendship skills in children with specific language impairment. *International Journal of Language & Communication Disorders*, 36 (Suppl), pp. 276-281
- Strain, P. (1983). Generalization of autistic children's social behavior change: Effects of developmentally integrated and segregated settings. *Analysis & Intervention in Developmental Disabilities*, 3(1), 23-34
- Taub, J. (2001). Evaluation of the Second Step Violence Prevention Program at a Rural Elementary School. *School Psychology Review*, 31, 186–200.

- Taumoepeau, M. & Ruffman, T. (2006). Mother and Infant Talk About Mental States Relates to Desire Language and Emotion Understanding. *Child Development*, 77(2), 465-481
- Taylor, T.K., Schmidt, F., Pepler, D., & Hodgins, C. (1998). A comparison of eclectic treatment with Webster-Stratton's parents and children series in a children's mental health center: A randomized controlled trial. *Behavior Therapy*, 29(2), 221-240.
- Thompson, R., Goodvin, R., & Meyer, S. (2006). Social Development: Psychological Understanding, Self-Understanding, and Relationships. In J.L. Luby (Ed.). *Handbook of preschool mental health: Development, disorders, and treatment*. (pp. 3-22). New York, NY, US: Guilford Press. xviii, pp. 430.
- Trevarthen, C. (2003). Infant Psychology Is an Evolving Culture. *Human Development*, 46(4), 233-246.
- Tronick, E. Z. (1989). Emotions and emotional communication in infants. *American Psychologist*. Special Issue: Children and their development: Knowledge base, research agenda, and social policy application, 44(2), 112-119.
- United States Census Bureau. (2000). <http://censtats.census.gov/cgi-bin/pct/pctProfile.pl>
- U.S. Department of Health and Human Services. (1999). *Mental health: A report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health.

- Walker, H., Irvin, L., Noell, J., & Singer, G. (1992). A construct score approach to the assessment of social competence: Rationale, technological considerations, and anticipated outcomes. *Behavior Modification*. Special Issue: Current research on social behavior. 16(4), 448-474
- Wallach, L.B. (1994). Violence and Young Children's Development. *ERIC Digest*.
- Waters, E. & Sroufe, A. (1983). A Developmental Perspective on Competence. *Developmental Review*, 3, 79-97.
- Webster-Stratton, C. (1990). Long-term follow-up of families with young conduct problem children: From preschool to grade school. *Journal of Clinical Child Psychology*, 19(2), 144-149.
- Webster-Stratton, C. (2000). Oppositional-defiant and conduct-disordered children. In M. Hersen & R.T. Ammerman (Eds.). *Advanced abnormal child psychology* (2nd ed.). (pp. 387-412)
- Webster-Stratton, C. & Hammond, M. (1997). Treating children with early-onset conduct problems: A comparison of child and parent training interventions. *Journal of Consulting and Clinical Psychology*, 65(1), 93-109.
- Webster-Stratton, C. & Hammond, M. (1998). Conduct problems and level of social competence in Head Start children: Prevalence, pervasiveness, and associated risk factors. *Clinical Child and Family Psychology Review*, 1(2), 101-124.
- Webster-Stratton, C., & Reid, M. J. (2008). Strengthening social and emotional competence in young children who are economically disadvantaged. In W.

- Brown, S. Odom, & S. McConnell (Eds.). Social competence of young children: Risk, disability, & intervention. Paul H. Brookes Publishing. (pps. 341).
- Weissman, M. M., Wolk, S., Goldstein, R. B., Moreau, D., Adams, P., Greenwald, S., et al. (1999). Depressed adolescents grown up. *Journal of the American Medical Association*, *281*, 1707–1713.
- Wellman, H. & Banerjee, M. (1991). Mind and emotion: Children's understanding of the emotional consequences of beliefs and desires. *British Journal of Developmental Psychology*, Special Issue: Perspectives on the child's theory of mind: II, 9(2), 191-214
- Wellman, H.M., & Woolley, J.D. (1990). From simple desires to ordinary beliefs: The early development of everyday psychology. *Cognition*, *35*, 245-275.
- Witmer, D., Doll, B., & Strain, P. (1996). Social and Emotional Development in Early Childhood: The identification of competence and disabilities. *Journal of Early Intervention*, *20*(4), 299-318.
- Wittmer, D. & Honig, A. (1994). Play, story-song, and eating times in child care: Caregiver responses to toddlers and threes. In Goelman, Hillel; Jacobs, Ellen Vineberg (Eds.). *Children's play in child care settings*. SUNY series, children's play in society. (pp. 119-147). Albany, NY, US: State University of New York Press. vi, pp. 234.
- Yarrow, M. & Zahn-Waxler, C. (1976). Dimensions and Correlates of Prosocial Behavior in Young Children. *Child Development*, *47*, 118-125.

Zahn-Waxler, C., Radke-Yarrow, M., & King, R.A. (1979). Childrearing and children's prosocial initiations toward victims of distress. *Child Development*, 50, 319-33

Table 1

Number of participants (*n*) by year, school district, classroom, teacher, and treatment condition

Academic Year	Treatment Groups ( <i>n</i> =41)			Control ( <i>n</i> =33)	
	School District ( <i>n</i> )	Classroom & Teacher ( <i>n</i> )	Treatment Intervention ( <i>n</i> )	School District ( <i>n</i> )	Classroom & Teacher ( <i>n</i> )
2005-06	A (14)	AM (7) Teacher 1	CO (5) CHV (2)	B (3)	T W Th (3) Teacher 4
		PM (7) Teacher 1	CO (7) CHV (0)		
2006-07	A (12)	M T W AM (5) Teacher 1	CO (4) CHV (1)	C (16)	M T W AM (8) Teacher 5
					M W PM (8) Teacher 5
		Th F PM (7) Teacher 1	CO (7) CHV (0)	C (14)	T Th AM (7) Teacher 6
	A (7)	T W Th AM (7) Teacher 2	CO (3) CHV (4)		T Th PM (7) Teacher 6
B (8)	T W Th AM (8) Teacher 3	CO (8) CHV (0)			

*Note.* M = Monday meeting; T = Tuesday meeting; W = Wednesday meeting; Th = Thursday meeting; F = Friday meeting; AM = morning meeting; PM = afternoon meeting. CO= classroom-only intervention group; CHV = classroom-plus-home-visit intervention.

Table 2

## Pre- and Post-Intervention Means on Dependent Measures by Experimental Group and Informant

Participant Group	Pre-test						Post-test					
	SSRS		DECA		Observation		SSRS		DECA		Observation	
	Total	PB	TPF	PB	+ B	-B	Total	PB	TPF	PB	+B	-B
Control ( <i>n</i> = 33)					17	1.06					18	.66
Teacher	100	88	48	39			103	90	50	39		
Parent	95	100	48	56			100	97	52	57		
Any Treatment ( <i>n</i> = 41) (combined CO and CHV)					17	1.77					18	.92
Teacher	95	98	50	44			110	95	60	43		
Parent	94	94	55	52			93	99	52	55		
Classroom-plus-home-visit CHV) Treatment ( <i>n</i> = 7)					18	1.67					17	.83
Teacher	96	110	47	53			105	111	55	53		
Parent	84	98	50	51			87	97	50	52		
Classroom only (CO) Treatment ( <i>n</i> = 34)					16	1.80					19	.95
Teacher	94	95	50	42			112	92	61	41		
Parent	97	98	57	52			97	102	53	55		

*Note.* PB = Problem Behavior Scale; TPF = Total Protective Factors; +B = positive behaviors; -B = negative behaviors. The standard means for the SSRS and DECA were 100 and 50, respectively. Higher scores on the SSRS Total, TPF, and +B reflect possession of more social skills, while higher scores on the PB and -B scales reflect more problematic behaviors. The numbers reported for the Observation data reflect the number of 60 second intervals in which the target behaviors were observed. There were 80 total intervals for each observation period (pre- and post-intervention).

Table 3

Dependent Measure Completion Rates by Informant and Experimental Group

Informant	SSRS	DECA	Observation <sup>a</sup>
Teacher control	97%	97%	Na
treatment	100%	95%	Na
Parent control	64%	64%	Na
treatment	24%	27%	Na
Observation control	NA	NA	97%
Treatment	NA	NA	93%

*Note.* SSRS refers to the Social Skills Rating System. DECA refers to the Devereux Early Childhood Assessment.

<sup>a</sup>na = not applicable

Table 4

Dependent measure	$M^a$		$SD$		$t$		$df$		$p$	
	Treat	Control	Treat	Control	Treat	Control	Treat	Control	Treat	Control
Teacher Reports										
SSRS Total Score	15.68	3.54	10.57	9.03	9.50	2.25	40	32	.001*	.031*
SSRS Problem Behaviors	2.12	1.78	9.96	9.75	1.36	1.03	40	31	.180	.309
DECA Total Protective Factors	9.69	1.96	7.54	4.67	8.02	2.38	38	31	.001*	.023*
DECA Problem Behaviors	0.74	0.16	7.40	12.55	1.18	.070	38	31	.534	.944
Parent Reports										
SSRS Total Score	1.10	4.71	8.00	10.80	.434	2.00	9	20	.674	.059
SSRS Problem Behaviors	5.00	3.38	5.79	12.19	2.73	1.27	9	20	.023*	.219
DECA Total Protective Factors	2.18	3.90	7.76	7.67	1.20	2.33	10	20	.257	.030*
DECA Problem Behaviors	3.36	1.66	10.17	12.37	1.09	0.62	10	20	.298	.544
Observer Reports										
Prosocial behaviors	1.80	1.18	6.83	7.88	1.34	0.85	25	31	.190	.401
Negative social behaviors	0.85	0.41	1.95	1.56	2.20	1.47	25	31	.037*	.152

Summary of Paired Samples  $t$ -tests Comparing Change from Pre- to Post-Intervention across All Participants ( $N=74$ )

<sup>a</sup>  $M$  reflects the mean difference between participant's post-intervention score minus pre-intervention score.

*Note.* SSRS refers to the Social Skills Rating System. DECA refers to the Devereux Early Childhood Assessment. The  $df$  on this table reflects  $n - 1$ . Variation between the  $df$  by dependent measure or experimental group reflect differences in dependent measure return rates or the statistical procedure that was used in analysis.

Table 5

Summary of Independent Samples *t*-tests Comparing Pre- to Post-Intervention Change (reported by teachers) for Initially Low- Versus High-Performers ( $N=74$ )

Dependent measure	Low scorers mean change ( <i>SD</i> )	High scorers mean change ( <i>SD</i> )	<i>t</i>	<i>df</i>	<i>p</i>
SSRS Total Score	13.08 (12.93)	7.14 (1.52)	2.30	68	.024*
SSRS Problem Behaviors	2.85 (7.81)	4.36 (10.99)	3.16	56	.003*
DECA Total Protective Factors	6.89 (7.77)	5.51 (7.15)	.775	69	.441
DECA Problem Behaviors	2.97 (6.95)	3.94 (11.53)	3.02	53	.004*

*Note.* SSRS refers to the Social Skills Rating System. DECA refers to the Devereux Early Childhood Assessment. The *df* on this table reflects  $n - 1$ . Variation between the *df* by dependent measure or experimental group reflect differences in dependent measure return rates or the statistical procedure that was used in analysis.

Table 6

Summary of Independent Samples *t*-test Comparing Treatment ( $n = 41$ ) versus Control Group ( $n = 33$ ) Change from Pre- to Post-Intervention

Dependent measure	<i>M</i> difference <sup>a</sup> ( <i>SD</i> )	<i>t</i>	<i>df</i>	<i>p</i>
<b>Teacher Reports</b>				
SSRS Total Score	12.13 (2.31)	5.23	72	.001*
SSRS Problem Behaviors	3.90 (2.32)	1.67	71	.09
DECA Total Protective Factors	7.72 (1.52)	5.28	64	.001*
DECA Problem Behaviors	.900 (2.39)	.375	69	.708
<b>Parent Reports</b>				
SSRS Total Score	-5.81 (3.85)	-1.51	29	.142
SSRS Problem Behaviors	-8.38 (4.08)	-2.05	29	.04*
DECA Total Protective Factors	-6.72 (2.86)	-2.34	30	.02*
DECA Problem Behaviors	-1.69 (4.34)	-.390	30	.699
<b>Observer Reports</b>				
Positive behaviors	.62 (1.96)	.316	56	.753
Negative behaviors	-.44 (.46)	-.953	56	.345

<sup>a</sup>The mean difference was calculated by subtracting the control group's pre-intervention to post-intervention mean change from the treatment group's pre-intervention to post-intervention mean difference score. Therefore, a positive mean difference reflected more social skill gains in the treatment group compared to the control group, while a negative mean difference reflected less social skill gains in the treatment group compared to the control group. Note. SSRS refers to the Social Skills Rating System. DECA refers to the Devereux Early Childhood Assessment. The *df* on this table reflects  $n - 1$ . Variation between the *df* by dependent measure or experimental group reflect differences in dependent measure return rates or the statistical procedure that was used in analysis.

Table 7

Summary of Independent Samples *t*-test Comparing Classroom-only ( $n = 34$ ) versus Classroom-Plus-Home-Visit ( $n = 7$ ) Treatment Groups

Dependent measure	<i>M</i> difference <sup>a</sup> (SD)	<i>t</i>	<i>df</i>	<i>p</i>
Teacher				
SSRS – Total Score	-7.54 (2.43)	-3.09	27	.005*
SSRS – Problem Behaviors	-4.45 (4.12)	-1.07	39	.287
DECA – Total Protective Factors	-2.58 (3.16)	-.818	37	.419
DECA – Problem Behaviors	-.906 (3.12)	-.290	37	.774
Parent				
SSRS – Total Score	.143 (5.86)	.024	8	.981
SSRS – Problem Behaviors	.952 (4.22)	.284	6	.785
DECA – Total Protective Factors	4.03 (4.95)	.815	9	.436
DECA – Problem Behaviors	2.14 (6.68)	.321	9	.756
Observer				
Observations – positive behaviors	-4.08 (3.13)	-2.12	23	.045*
Observations – negative behaviors	.017 (.928)	.018	24	.986

<sup>a</sup>The mean difference was calculated by subtracting pre-intervention to post-intervention mean change of the Classroom-Plus-Home-Visit (CHV) from the Classroom-Only (CO) treatment group. Therefore, a positive mean difference reflected more social skill gains in the CO treatment group compared to the CHV treatment group, while a negative mean difference reflected more social skill gains in the CHV than the CO treatment group. *Note.* SSRS refers to the Social Skills Rating System. DECA refers to the Devereux Early Childhood Assessment. The *df* on this table reflects  $n - 1$ . Variation between the *df* by dependent measure or experimental group reflect differences in dependent measure return rates or the statistical procedure that was used in analysis.

APPENDIX A = SSRS (protocol booklet)

APPENDIX B = DECA (protocol booklet)

## APPENDIX C

### Observation sheet

Name \_\_\_\_\_

	Data point 1 dates										Data point 2 dates									
<b>Prosocial behavior</b>	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
Follows direction																				
+ PS/conflict res.																				
+ Peer interaction																				
+ adult interaction																				
<b>- Social behavior</b>																				
- interaction																				
- problem solving																				
Aggression																				
Verbal aggression																				
Provocation																				

Comments: Data point 1 -

Comments: Data point 2 -

	Data point 1 dates										Data point 2 dates									
<b>Prosocial behavior</b>	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
Follows direction																				
+ PS/conflict res.																				
+ Peer interaction																				
+ adult interaction																				
<b>- Social behavior</b>																				
- interaction																				
- problem solving																				
Aggression																				
Verbal aggression																				
Provocation																				

Comments: Data point 1 -

Comments: Data point 2 -

Follow directions = responds to adult direction complies within 30 sec. or appropriately asks for additional time.

+ problem-solving and conflict resolution = works out differences using verbal strategies, ignoring, or asks adult for help.

+ peer/adult interaction = engages in social interaction with cooperation, sharing, and respect (volume, respect personal space), evidence of empathy – caring words or gestures, allowing join in, closing a communication circle.

- problem-solving = whining, crying, yelling in response to conflict, no resolution

- interaction = grabbing object away, infringement on personal space, ignoring + peer exchange

Aggression = strike at a peer with hands, feet, or body (regardless of connection), biting, throwing objects (regardless of connection). Can be initiated or retaliatory.

Verbal aggression = swearing, name-calling, or derogatory comments used to incite or retaliate. Associated with negative emotions – anger, frustration.

Provocation = inciting others by verbal or physical means (poking, pinching, teasing) without the presence of negative emotion.

