

Strengthening Social and Emotional Competence in Young Children—The Foundation for Early School Readiness and Success

Incredible Years Classroom Social Skills and Problem-Solving Curriculum

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The ability of young children to manage their emotions and behaviors and to make meaningful friendships is an important prerequisite for school readiness and academic success. Socially competent children are also more academically successful and poor social skills are a strong predictor of academic failure. This article describes The Incredible Years Dinosaur Social Skills and Problem-Solving Child Training Program, which teaches skills such as emotional literacy, empathy or perspective taking, friendship and communication skills, anger management, interpersonal problem solving, and how to be successful at school. The program was first evaluated as a small group treatment program for young children who were diagnosed with oppositional defiant and conduct disorders. More recently the program has been adapted for use by preschool and elementary teachers as a prevention curriculum designed to increase the social, emotional, and academic competence, and decrease problem behaviors of all children in the classroom. The content, methods, and teaching processes of this classroom curriculum are discussed. **Key words:** *behavior problems, emotional regulation, problem-solving, school readiness, social competence*

THE prevalence of aggressive behavior problems in preschool and early school-age children is about 10%, and may be as

high as 25% for socio-economically disadvantaged children (Rimm-Kaufman, Pianta, & Cox, 2000; Webster-Stratton, 1998; Webster-Stratton, Reid, & Hammond, 2001a). Evidence suggests that without early intervention, emotional, social, and behavioral problems (particularly, aggression and oppositional behavior) in young children are key risk factors or “red flags” that mark the beginning

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of escalating academic problems, grade retention, school drop out, and antisocial behavior (Snyder, 2001; Tremblay, Mass, Pagani, & Vitaro, 1996). Preventing, reducing, and halting aggressive behavior at school entry, when children's behavior is most malleable, is a beneficial and cost-effective means of interrupting the progression from early conduct problems to later delinquency and academic failure.

Moreover, strengthening young children's capacity to manage their emotions and behavior, and to make meaningful friendships, particularly if they are exposed to multiple life-stressors, may serve an important protective function for school success. Research has indicated that children's emotional, social, and behavioral adjustment is as important for school success as cognitive and academic preparedness (Raver & Zigler, 1997). Children who have difficulty paying attention, following teacher directions, getting along with others, and controlling negative emotions, do less well in school (Ladd, Kochenderfer, & Coleman, 1997). They are more likely to be rejected by classmates and to get less positive feedback from teachers which, in turn, contributes to off task behavior and less instruction time (Shores & Wehby, 1999).

Parent education programs

How, then, do we assure that children who are struggling with a range of emotional and social problems receive the teaching and support they need to succeed in school? One way is to work with parents to provide them with positive parenting strategies that will build their preschool children's social competencies and academic readiness. Research shows that children with lower emotional and social competencies are more frequently found in families where parents express more hostile parenting, engage in more conflict, and give more attention to children's negative than positive behaviors (Cummings, 1994; Webster-Stratton & Hammond, 1999). Children whose parents are emotionally positive and attend to prosocial behaviors are more likely to be able to self-regulate and respond in

nonaggressive ways to conflict situations. Indeed, parent training programs have been the single most successful treatment approach to date for reducing externalizing behavior problems (oppositional defiant disorder (ODD) and conduct disorder (CD) in young children (Brestan & Eyberg, 1998).

A variety of parenting programs have resulted in clinically significant and sustained reductions in externalizing behavior problems for at least two third of young children treated (eg, for review, see Brestan & Eyberg, 1998; Taylor & Biglan, 1998). The intervention goals of these programs are to reduce harsh and inconsistent parenting while promoting home-school relationships. These experimental studies provide support for social learning theories that highlight the crucial role that parenting style and discipline effectiveness play in determining children's social competence and reducing externalizing behavior problems at home and in the classroom (Patterson, DeGarmo, & Knutson, 2000). More recently, efforts have been made to implement adaptations of these treatments for use as school-based preschool and early school prevention programs. A review of the literature regarding these parenting prevention programs for early school age children indicates that this approach is very promising (Webster-Stratton & Taylor, 2001). While there is less available research with preschool children, the preliminary studies are also quite promising. In our own work, we targeted all parents who enrolled in Head Start (children ages 3-5 years). In 2 randomized trials of 500 parents, we reported that the Incredible Years parenting program was effective in strengthening parenting skills for a multiethnic group of parents of preschoolers (Webster-Stratton, 1998; Webster-Stratton et al., 2001a). Externalizing behaviors were significantly reduced for children who were showing above average rates of these behaviors at baseline. Mothers with mental health risk factors, such as high depressive symptomatology, reported physical abuse as children, reported substance abuse, and high levels of anger were able to engage in the parenting program and to

benefit from it at levels comparable to parents without these mental health risk factors (Baydar, Reid, & Webster-Stratton, 2003). Similar results were obtained in an independent trial in Chicago with primarily African-American mothers who enrolled their toddlers in low-income day care centers (Gross, Fogg, Webster-Stratton, Garvey, & Grady, 2003).

Teacher training

A second approach to preventing and reducing young children's behavior problems is to train teachers in classroom management strategies that promote social competence. Teachers report that 16% to 30% of the students in their classrooms pose ongoing problems in terms of social, emotional, and behavioral difficulties (Raver & Knitzer, 2002). Moreover, there is substantial evidence showing that the way teachers interact with these students affects their social and emotional outcomes. In a recent study, Head Start centers were randomly assigned to an intervention condition that included the Incredible Years parent training *and* teacher training curricula or to a control condition that received the usual Head Start services. In classrooms where teachers had received the 6-day training workshop, independent observations showed that teachers used more positive teaching strategies and their students were more engaged (a prerequisite for academic learning) and less aggressive than students in control classrooms (Webster-Stratton, Reid, & Hammond, in press). Another study with children diagnosed with ODD/CD showed that the addition of teacher training to the parent training program significantly enhanced children's school outcomes compared to conditions that only offered parent training (Bierman, 1989; Kazdin, Esveldt, French, & Unis, 1987; Ladd & Mize, 1983; Lochman & Dunn, 1993; Shure, 1994; Webster-Stratton et al., in press). Overall, the research on collaborative approaches to parent- and teacher-training suggests that these interventions can lead to substantial improvements in teachers'

and parents' interactions with children and ultimately to children's academic and social competence.

Child social skills and problem-solving training

A third approach to strengthening children's social and emotional competence is to directly train them in social, cognitive, and emotional management skills such as friendly communication, problem solving, and anger management, (eg, Coie & Dodge, 1998; Dodge & Price, 1994). The theory underlying this approach is the substantial body of research indicating that children with behavior problems show social, cognitive, and behavioral deficits (eg, Coie & Dodge, 1998). Children's emotional dysregulation problems have been associated with distinct patterns of responding on a variety of psycho physiological measures compared to typically developing children (Beauchaine, 2001; McBurnett et al., 1993). There is also evidence that some of these biobehavioral systems are responsive to environmental input (Raine et al., 2001). Moreover, children with a more difficult temperament (eg, hyperactivity, impulsivity, and inattention) are at higher risk for particular difficulties with conflict management, social skills, emotional regulation, and making friends. Teaching social and emotional skills to young children who are at risk either because of biological and temperament factors or because of family disadvantage and stressful life factors can result in fewer aggressive responses, inclusion with prosocial peer groups, and more academic success. Because development of these social skills is not automatic, particularly for these higher risk children, more explicit and intentional teaching is needed (Bredenkamp & Copple, 1997). The preschool and early school-age period would seem to be a strategic time to intervene directly with children and an optimal time to facilitate social competence and reduce their aggressive behaviors before these behaviors and reputations develop into permanent patterns.

This article describes a classroom-based prevention program designed to increase children's social and emotional competence, decrease problem behaviors, and increase academic competence. The Incredible Years Dinosaur Social Skills and Problem-Solving Child Training Program first published in 1989 (Webster-Stratton, 1990) was originally designed as a treatment program for children with diagnosed ODD/CD and has established efficacy with that population (Webster-Stratton & Hammond, 1997; Webster-Stratton, Reid, & Hammond, 2001b; Webster-Stratton et al., in press). In 2 randomized control group studies, 4–8-year-old children with externalizing behavior problems (ODD/CD) who participated in a weekly, 2-hour, 20- to 22-week treatment program showed reductions in aggressive and disruptive behavior according to independent observed interactions of these children with teachers and peers. These children also demonstrated increases in prosocial behavior and positive conflict management skills, compared to an untreated control group (Webster-Stratton & Hammond, 1997; Webster-Stratton et al., in press). These improvements in children's behavior were maintained 1 and 2 years later. Moreover treatment was effective not only for children with externalizing behavior problems but also for children with comorbid hyperactivity, impulsivity, and attentional difficulties (Webster-Stratton, Reid, Hammond, 2001b). Additionally, adding the child program to the Incredible Years parent program was shown to enhance long-term outcomes for children who are exhibiting pervasive behavior problems across settings (home and school) by reducing behavior problems in both settings and improving children's social interactions and conflict management skills with peers (Webster-Stratton & Hammond, 1997).

Currently we are undergoing an evaluation of the classroom-based prevention version of this program designed to strengthen social competence for all children. Head Start and kindergarten classrooms from low-income schools (defined as having 60% or more

children receiving free lunch) were randomly assigned to the intervention or usual school services conditions. Intervention consisted of 4 days of teacher training workshops (offered once per month) in which teachers were trained in the classroom management curriculum as well as in how to deliver the classroom version of the Dinosaur School Curriculum. Teachers also participated in weekly planning meetings to review lesson plans and individual behavior plans for higher risk students. Teachers and research staff cotaught 30 to 34 lessons in each classroom (twice weekly) according to the methods and processes described below. The integrity and fidelity of the intervention were assured by the ongoing mentoring and coteaching with our trained leaders, weekly planning meetings and supervision, ongoing live and videotape observations and review of actual lessons delivered, completion of standard integrity checklists by supervisors, and submission of unit protocols for every unit completed. Teachers and parents provided report data, and independent observations were conducted in the classroom at the beginning and end of the school year. Preliminary analysis with over 628 students suggests the program is promising. Independent observations of children in the classrooms show significant differences between control and intervention students on variables such as authority acceptance (eg, compliance to teacher requests and cooperation), social contact, and aggressive behavior. Intervention classrooms had significantly greater positive classroom atmosphere than did control classrooms, and intervention students had significantly higher school readiness scores as measured by behaviors such as being focused and on-task during academic activities, complying during academic time, and showing cognitive concentration (Webster-Stratton & Reid, in press). Moreover, individual testing of children's cognitive social problem-solving indicated that intervention children had significantly more prosocial responses in response to conflict situations than control children. In addition, teachers reported high levels of satisfaction with both

the teacher training and the Dinosaur School classroom curriculum.

Recently, the classroom-based intervention has been used by 2 other research teams in combination with the Incredible Years parent program and while the independent contribution of the child training program cannot be determined from their research designs, positive outcomes have been reported in regard to improvements in children's social and academic variables (August, Realmuto, Hektner, & Bloomquist, 2001; Barrera et al., 2002).

In the remainder of this article, we will highlight the goals; describe the curricular content and objectives; and briefly describe the therapeutic processes and methods of delivering the Incredible Years Dina Dinosaur's Social Skills and Problem-Solving Classroom-Based Curriculum.

CONTENT AND GOALS OF THE CHILD TRAINING DINOSAUR PROGRAM

The classroom-based version of this curriculum for children aged 3-8 years consists of over 64 lesson plans and has preschool/kindergarten and primary grade (1-3) versions. Teachers use the lesson plans to teach specific skills at least 2 to 3 times a week in a 15- to 20-minute large group circle time followed by small group practice activities (20 minutes). Teachers are asked to look for opportunities during recess, free choice, meal, or bus times to promote the specific skills being taught in a unit. Ideally, as each new skill is taught, it is then woven throughout the regular classroom curriculum so that it provides a background for continued social and academic learning. Children complete dinosaur home activity books with their parents, and letters about the concepts taught are sent home regularly. Parents are also encouraged to participate in the classroom by helping out with small group activities.

The content of the curriculum is based on theory and research indicating the kinds of social, emotional, and cognitive deficits found in children with behavior problems.

It focuses on 7 units: learning school rules and how to be successful in school; emotional literacy, empathy or perspective taking; interpersonal problem solving; anger management; and friendship and communication skills. Teachers receive 4 days of training in the content and methods of delivering the program. They use comprehensive manuals with lesson plans that outline every lesson's content, objectives, videotapes to be shown, and descriptions of small group activities. There are over 300 different activities that reinforce the content of the lessons. The following description is a brief overview of each content area in the curriculum. Please see the book *How to Promote Children's Social and Emotional Competence* by Webster-Stratton (1999) for more details. See Table 1 for an overview of the objectives for each of the intervention program components.

Making friends and learning school rules and how to do your best in school (Apatasaurus Unit 1 and Iguanodon Unit 2)

In the first 2 units, students are introduced to Dinosaur School and learn the importance of group rules such as following directions, keeping hands to selves, listening to the teacher, using a polite and friendly voice or behavior, using walking feet, and speaking with inside voices. In the very first lesson, children are involved in discussing and practicing the group rules, using life-sized puppets. In small groups (6 per table), the children make rules posters that include drawings of the rules or instant photographs of the children following the rules.

Understanding and detecting feelings (Triceratops Unit 3)

Children at risk for behavior problems often have language delays and limited vocabulary to express their feelings, thus contributing to their difficulties regulating emotional responses (Frick et al., 1991; Sturge, 1982). Children from families where there has been neglect or abuse, or where there is considerable environmental stress may have negative

Table 1. Content and objectives of the Incredible Years child training programs (a.k.a. Dina Dinosaur Social Skills and Problem-Solving Curriculum) (ages 4–8)

Content	Objectives
Apatosaurus Unit 1: Introduction to Dinosaur School	<ul style="list-style-type: none"> ● Understanding the importance of rules ● Participating in the process of rule making ● Understanding what will happen if rules are broken ● Learning how to earn rewards for good behaviors ● Learning to build friendships
Iguanodon Unit 2: Doing your best detective work at school	
Part 1: Listening, waiting, quiet hands up	<ul style="list-style-type: none"> ● Learning how to listen, wait, avoid interruptions, and put up a quiet hand to ask questions in class
Part 2: Concentrating, checking, and cooperating	<ul style="list-style-type: none"> ● Learning how to handle other children who poke fun and interfere with the child’s ability to work at school ● Learning how to stop, think, and check work first ● Learning the importance of cooperation with the teacher and other children ● Practicing concentrating and good classroom skills
Triceratops Unit 3: Understanding and detecting feelings	
Part 1: Wally teaches clues to detecting feelings	<ul style="list-style-type: none"> ● Learning words for different feelings ● Learning how to tell how someone is feeling from verbal and nonverbal expressions
Part 2: Wally teaches clues to understanding feelings	<ul style="list-style-type: none"> ● Increasing awareness of nonverbal facial communication used to portray feelings ● Learning different ways to relax ● Understanding why different feelings occur ● Understanding feelings from different perspectives ● Practicing talking about feelings
Stegosaurus Unit 4: Detective Wally teaches problem-solving steps	
Part 1: Identifying problems and solutions	<ul style="list-style-type: none"> ● Learning how to identify a problem ● Thinking of solutions to hypothetical problems
Part 2: Finding more solutions	<ul style="list-style-type: none"> ● Learning verbal assertive skills
Part 3: Thinking of consequences	<ul style="list-style-type: none"> ● Learning how to inhibit impulsive reactions ● Understanding what apology means ● Thinking of alternative solutions to problem situations such as being teased and hit ● Learning to understand that solutions have different consequences ● Learning how to critically evaluate solutions—one’s own and others
T-Rex Unit 5: Tiny Turtle teaches anger management	
Part 4: Detective Wally teaches how to control anger	<ul style="list-style-type: none"> ● Recognizing that anger can interfere with good problem solving
Part 5: Problem-solving step 7 and review	<ul style="list-style-type: none"> ● Understanding Tiny Turtle’s story about managing anger and getting help ● Understanding when apologies are helpful ● Recognizing anger in themselves and others ● Understanding anger is okay to feel “inside” but not to act out by hitting or hurting someone else

(continues)

Table 1. (Continued)

Content	Objectives
	<ul style="list-style-type: none"> ● Learning how to control anger reactions ● Understanding that things that happen to them are not necessarily hostile or deliberate attempts to hurt them ● Practicing alternative responses to being teased, bullied, or yelled at by an angry adult ● Learning skills to cope with another person's anger
Allosaurus Unit 6: Molly Manners teaches how to be friendly	
Part 1: Helping	<ul style="list-style-type: none"> ● Learning what friendship means and how to be friendly
Part 2: Sharing	<ul style="list-style-type: none"> ● Understanding ways to help others
Part 3: Teamwork at school	<ul style="list-style-type: none"> ● Learning the concept of sharing and the relationship between sharing and helping
Part 4: Teamwork at home	<ul style="list-style-type: none"> ● Learning what teamwork means ● Understanding the benefits of sharing, helping, and teamwork ● Practicing friendship skills
Brachiosaurus Unit 7: Molly explains how to talk with friends	
	<ul style="list-style-type: none"> ● Learning how to ask questions and tell something to a friend ● Learning how to listen carefully to what a friend is saying ● Understanding why it is important to speak up about something that is bothering you ● Understanding how and when to give an apology or compliment ● Learning how to enter into a group of children who are already playing ● Learning how to make a suggestion rather than give commands ● Practicing friendship skills

feelings and thoughts about themselves and others and difficulty perceiving another's point of view or feelings different from their own (Dodge, 1993). Such children also may have difficulty reading facial cues and may distort or underutilize social cues (Dodge & Price, 1994).

Therefore, the Triceratops Feelings Program is designed to help children learn to regulate their own emotions and to accurately identify and understand their own as well as others' feelings. The first step in this process is to help children be able to accurately label and express their own feelings to others. Through the use of laminated cue cards and videotapes of children demonstrating various emotions, children discuss and

learn about a wide range of feeling states. The unit begins with basic sad, angry, happy, and scared feelings and progresses to more complex feelings such as frustration, excitement, disappointment, and embarrassment. The children are helped to recognize their own feelings by checking their bodies and faces for "tight" (tense) muscles, relaxed muscles, frowns, smiles, and sensations in other parts of their bodies (eg, butterflies in their stomachs). Matching the facial expressions and body postures shown on cue cards helps the children to recognize the cues from their own bodies and associate a word with these feelings. Next, children are guided to use their detective skills to look for clues in another person's facial expression, behavior, or tone

of voice to recognize what the person may be feeling and to think about why they might be feeling that way. Video vignettes, photos of sports stars and other famous people, as well as pictures of the children in the group are all engaging ways to provide experience in “reading” feeling cues. Games such as Feeling Dice (children roll a large die with feeling faces on all sides and identify and talk about the feelings that they see) or Feeling Bingo are played to reinforce these concepts. Nursery rhymes, songs, and children’s books provide fun opportunities to talk about the characters’ feelings, how they cope with uncomfortable feelings, and how they express their feelings (for example, “Itsy Bitsy Spider” expresses happiness, fear, worry, and hopefulness in the course of a few lines of rhyme). As the children become more skilled at recognizing feelings in themselves and others, they can begin to learn empathy, perspective taking, and emotion regulation.

Children also learn strategies for changing negative (angry, frustrated, sad) feelings into more positive feelings. Wally (a child-sized puppet) teaches the children some of his “secrets” for calming down (take a deep breath, think a happy thought). Games, positive imagery, and activities are used to illustrate how feelings change over time and how different people can react differently to the same event (the metaphor of a “feeling thermometer” is used and children practice using real thermometers in hot and cold water to watch the mercury go from “hot and angry” to “cool and calm”). To practice perspective taking, role-plays include scenarios in which the students take the part of the teacher, parent, or another child who has a problem. This work on feelings literacy is integrated and underlies all the subsequent units in this curriculum.

Detective Wally teaches problem-solving steps (Stegosaurus Unit 4)

Children who are temperamentally more difficult, that is, hyperactive, impulsive, or inattentive have been shown to have cognitive deficits in key aspects of social prob-

lem solving (Dodge & Crick, 1990). Such children perceive social situations in hostile terms, generate fewer prosocial ways of solving interpersonal conflict, and anticipate fewer consequences for aggression (Dodge & Price, 1994). They act aggressively and impulsively without stopping to think of nonaggressive solutions or of the other person’s perspective and expect their aggressive responses to yield positive results. There is evidence that children who employ appropriate problem-solving strategies play more constructively, are better liked by their peers, and are more cooperative at home and school. Consequently, in this unit of the curriculum, teachers help students to generate more prosocial solutions to their problems and to evaluate which solutions are likely to lead to positive consequences. In essence, temperamentally difficult children are provided with a thinking strategy that corrects the flaws in their decision-making process and reduces their risk of developing ongoing peer relationship problems. Other students in the class benefit as well because they learn how to respond appropriately to children who are more aggressive in their interactions.

Children learn a 7-step process of problem solving: (1) How am I feeling, and what is my problem? (define problem and feelings) (2) What is a solution? (3) What are some more solutions? (brainstorm solutions or alternative choices) (4) What are the consequences? (5) What is the best solution? (Is the solution safe, fair, and does it lead to good feelings?) (6) Can I use my plan? and (7) How did I do? (evaluate outcome and reinforce efforts). In Year 1 of the curriculum a great deal of time is spent on steps 1, 2, and 3 to help children increase their repertoire of possible prosocial solutions (eg, trade, ask, share, take turns, wait, walk away, etc). In fact, for the 3–5-year-olds, these 3 steps may be the entire focus of this unit. One to 2 new solutions are introduced in each lesson, and the students are given multiple opportunities to role-play and practice these solutions with a puppet or another child. Laminated cue cards of over 40 pictured solutions

are provided in Wally's detective kit and are used by children to generate possible solutions and evaluate whether they will work to solve particular problems. As in the feeling unit, we begin with the less complex and more behavioral solutions such as ask, trade, share, and wait before moving onto the complex, cognitive solutions such as compliment yourself for doing the right thing. Children role-play solutions to problem scenarios introduced by the puppets, the video vignettes, or by the children themselves. In one activity, the children draw or color their own solution cards so that each student has his own detective solution kit. The children are guided to consult their own or the group solution kit when a real-life problem occurs in order to begin to foster self-management strategies. Activities for this unit include writing or acting in a problem-solving play, going "fishing" for solutions (with a magnetized fishing rod), and working as a group to generate enough solutions to join "Wally's Problem-Solving Detective Club."

Tiny Turtle teaches anger management (T-Rex Unit 5)

Aggression and inadequate impulse control are perhaps the most potent obstacles to effective problem solving and forming successful friendships for children. Without help, children who are aggressive are more likely to experience ongoing peer rejection and continued social problems for years afterwards (Coie, 1990). Such children have difficulty regulating their negative affect in order to generate positive solutions to conflict situations. Furthermore, there is evidence that aggressive children are more likely to misinterpret ambiguous situations as hostile or threatening. This tendency to perceive hostile intent in others has been seen as one source of their aggressive behavior (Dodge & Coie, 1987; Walker, Colvin, & Ramsey, 1995).

Consequently, once the basic framework for problem solving has been taught, children are taught anger-management strategies. Anger-management programs based on the work of Novaco (1975) have been shown to

reduce aggression in aggressive middle and high school students and to maintain gains in problem-solving skills (Lochman & Dunn, 1993). Clearly children cannot solve problems if they are too angry to think calmly. A new puppet, Tiny Turtle, is used to teach the children a 5-step anger management strategy that includes (1) recognize anger; (2) think "stop"; (3) take a deep breath; (4) go into your shell, and tell yourself "I can calm down"; and (5) try again. Tiny's shell is the basis for many activities: making a large cardboard shell that children can actually hide under, making grocery bag "shells" or vests, molding play dough shells for small plastic figures (the children pretend the figures are mad and help them to calm down in the play dough shells), and making teasing shields (the teasing shield is made of cardboard—friendly words are written on cards that stick to the shield with the Velcro; unfriendly words have no Velcro and slip off the shield). Each of these activities provides multiple opportunities for the teacher to help the children practice the steps of anger management. Children are helped to recognize the clues in their bodies that tell them they are becoming angry and to learn to use self-talk, deep breathing, and positive imagery to help themselves calm down. Teachers also use guided imagery exercises with the children (having them close their eyes and pretend to be in a cocoon or turtle shell) to help them experience the feeling of being relaxed and calm. Videotapes of children handling anger or being teased or rejected are used to trigger role-plays to practice these calming down strategies.

Throughout the discussion of vignettes and role-play demonstrations, the teachers and puppets help the children to change some of their negative attributions about events. For example, the puppet Molly explains, "Maybe he was teasing you because he really wanted to be your friend but didn't know how to ask you nicely" or, "You know, all kids get turned down sometimes when they ask to play; it doesn't mean the other kids don't like you" or, "You know, he might have bumped you accidentally and not on purpose." The Pass the Hat

Detective game is played to help the children determine when an event might be an “accident” versus when it might be done “on purpose” and how each event could be handled.

Molly Manners teaches how to be friendly and how to talk with friends (Allosaurus and Brachiosaurus Units 6 and 7)

Few teachers need to be convinced that friendships are important for children. Through the successful formation of friendships, children learn social skills such as cooperation, sharing, and conflict management. Friendships also foster a child’s sense of group belonging and begin to facilitate children’s empathy skills—that is, their ability to understand another’s perspective. The formation (or absence) of friendships has an enduring impact on the child’s social adjustment in later life. Research has shown that peer problems such as peer isolation or rejection are predictive of a variety of problems including depression, school drop out, and other psychiatric problems in adolescence and adulthood (Asher, Parkhurst, Hymel, & Williams, 1990).

Children who are aggressive and have more impulsive and hyperactive temperaments have particular difficulty forming and maintaining friendships. Our research has indicated these children have significantly delayed play skills including difficulties waiting for a turn, accepting peers’ suggestions, offering an idea rather than demanding something, or collaborating in play with peers (Webster-Stratton & Lindsay, 1999). They also have poor conversation skills, difficulty responding to the overtures of others, and poor group entry skills. Consequently, in the friendship units of this curriculum, we focus on teaching children a repertoire of friendly behaviors such as sharing, trading, taking turns, asking, making a suggestion, apologizing, agreeing with others, and giving compliments. In addition, children are taught specific prosocial responses for common peer situations, such as entering a group of children who are already playing (ie, watch from sidelines and show interest,

continue watching and give a compliment, wait for a pause, and ask politely to join in and accept the response).

As with other units, the teaching strategies involve (a) modeling these friendship skills by the puppets or in videotape examples; (b) guided practice using them in role plays and games; (c) coaching the skills during small group activities; and (d) promotion of skills throughout the day. For example, after the initial circle time discussion and modeling, children are paired up for a cooperative activity, such as making a Lego building together. A teacher coaches the pair to exhibit friendly behaviors by making suggestions and describing the children’s play (eg, “Wow! That was really friendly of John to share that block with you. And now you’re waiting patiently for a turn with the car. Can either of you think of a good compliment to give your friend?”). Over time, pairs become triads and then larger groups practice these skills. The complexity increases for early school age students when they are given a turn to become the “coach,” and the teacher helps them to count and record (on a sheet with pictures of each behavior) each friendly thing they see their peers doing. Other activities for this unit include making Secret Pal Friendship Books (each child writes friendly things about a secret pal and then gives the book to them), compliment circles, Friendship Bingo, and setting goals (on a sticker chart) for friendly things they can do to help at home.

Developmentally appropriate, individualized for every child

The cornerstone of developmentally appropriate practice and setting goals is individualizing the curriculum and experiences for all children. Using a manualized curriculum does not mean that it is delivered inflexibly or without sensitivity to individual student, family, or community differences. Throughout Dinosaur School, we individualize the curricular activities and teachers’ interactions with students to take into account developmental, cultural, and interpersonal differences and

also individual approaches to students' learning. Teachers are encouraged to make modifications and adaptations for children with special needs, for classrooms with particular issues (eg, bullying on playground), and for unique situations that occur in a particular community (eg, experiencing an earthquake). For example, the small group activities allow for many levels of development. If an activity calls for a drawing of a feeling face, the child who can barely hold a crayon may color in a line drawing of a feeling face and the teacher may transcribe the child's word for that feeling, another child with better fine motor skills may be provided with a blank face to draw in his own feeling face, and a third child may draw a feeling face and write the word or even a story to describe the feeling. Thus, emergent and formal reading and writing skills can be encouraged according to the child's abilities. Dinosaur School is also individualized through behavior plans developed for children with particular behavioral issues. Individual behavior plans include identifying the target behaviors that are of concern; doing a functional analyses of the behavior (ie, identifying when and why the behavior occurs); pinpointing the desired behavior to increase; and identifying the specific strategies that teachers will use to help the child learn the new behavior (Bear, 1998; Wolery, 2000).

It is important that a social skills curriculum reflects the lives of the children it is being used with. Dinosaur School uses puppets, pictures, and videotapes of children from diverse cultural backgrounds and stories of children from differing ethnic groups. In addition, the puppets reflect the diversity of personal issues for families and children in a particular classroom. For example, one of the puppets may have a disability, another puppet may be teased by peers, another may have parents who fight or may live in a foster home. Although the curriculum offers suggestions about role-play scenarios, teachers are encouraged to tailor the specific role-plays to issues that are relevant to the children in their classes. For example, if sharing at choice time is an issue in a particular class, the puppets

might come to class to talk about their own difficulties with sharing in the block area.

Translators are used for Dinosaur School whenever necessary. Parent volunteers or instructional assistants have helped translate during the large circle time discussions, sometimes even using a puppet to speak the other language.

Involving parents

Widespread support for involving parents in their children's educational experience grows out of convincing evidence suggesting that family involvement has a positive effect on children's academic achievement, social competence, and school quality (Webster-Stratton, 1998; Webster-Stratton et al., 2001a). Teachers send Dinosaur newsletters home to inform parents about what is being taught in Dinosaur School and make positive phone calls about children's successes. Dinosaur School homework is another way to promote parent involvement. Children receive Dina's Detective Activities workbooks for each of the 7 units. They work on the activities in these workbooks with their parents so that parents can reinforce the skills their children are learning in Dinosaur School. If parents are unable to complete homework with their children at home, the children are provided with opportunities to complete the workbooks during the school day. Our experience to date suggests that about 85% of the parents are very involved with their children in doing the homework and report that they and their children enjoy this time together. Parents are also involved in Dinosaur School through reports given at school in parent meetings about what skills are being taught in Dinosaur School, as well as through volunteer opportunities to help with Dinosaur School, particularly during the small group activity times. Parents' input is also solicited when individual behavior plans are developed for their child. Because research has suggested that many of children's emotional problems are affected by parenting practices, it is ideal to also offer parent programs that aim to reduce families' use of inconsistent and harsh parenting and strategies

for parents to strengthen social competence at home.

METHODS OF PRESENTING DINOSAUR PROGRAM

Methods and processes for teaching social skills to young children must fit with the children's learning styles, temperaments, and cognitive abilities. Within the 3- to 8-year-old age range, there are vast differences in children's developmental ability. Some children in a group may be reading, other children may not read at all. Some children will be able to grasp relatively complicated ideas, such as how to evaluate possible future consequences of an action. Other children may be operating in the "here and now" with little ability to predict ahead. The Dinosaur Program provides relevant content areas for the preschool to early elementary school age group. A skilled teacher will then use developmentally appropriate practices to present the material to the child in any given group.

The following sections provide guidelines for teaching and sequencing the curriculum, organizing groups, and for using methods that will enhance learning for young children.

Research-proven group management skills

It is vitally important that the teachers have positive and proactive classroom management skills in order for the curriculum to be maximally effective. Harsh and critical approaches, a poorly managed classroom with no clear limits or predictable schedule, or a failure to collaborate with parents will reduce the effectiveness of the program. Effective classroom management strategies (such as high levels of praise and encouragement, incentives, predictable rules and schedules, effective limit setting, proactive teaching strategies, and developmentally appropriate discipline) used in conjunction with a child-directed approach that promotes emotional and social literacy can reduce aggression and rejection as well as enhance social, emotional,

and academic learning (Webster-Stratton & Reid, in press).

Selecting children for small group practice activities

Small group practice activities consist of 6 children per table for preschool and up to 8 per table for early school grades. We suggest selecting children for each table according to developmental level and temperament style. For example, a student with attentional or behavior problems might be paired up with a popular student with good social and self-regulatory skills. Thus a more mature student may serve as a model and helper for the student with difficulties. The diversity of skills at a table helps with modeling and learning among students.

Preparing lesson plans

Lesson plans are provided for 64 lessons in Year 1 and another set in Year 2. Teachers plan and prepare each week's lessons noting the objectives and tailoring role-plays according to the particular needs of that classroom. This preparation includes practicing for what the puppets will say during small group discussions, cueing videos, and preparing props and cue cards. Teachers also select and prepare the small group activities they feel will best reinforce the new concepts for students in their class. Special planning is conducted around specific children's individual behavior plans and the targeted negative and positive behaviors for those children. Teachers communicate with their coteachers about the behaviors they will ignore and those they will praise and perhaps give incentives to promote specifically targeted social skills for children with special difficulties. The teachers think about whether the day's activity needs some adaptation for a child with more or less advanced developmental skills.

Schedule

At the opening of circle time, Wally, Molly, or Dina puppets arrive with a hello ritual or song. They are welcomed and students have an opportunity to ask questions and tell other

group members about the dinosaur homework that they have done during the week (and receive compliments and dinosaur buttons for completing it!). The opening discussion lasts 5 minutes. After this introductory time, new content is presented. Although the Dinosaur Curriculum is child focused and individualized for different developmental levels or family situations, it is important that structured learning occur in each lesson. This learning should be interactive, engaging, fun, and paced at the level of the children in the group. The goal is to present new ideas or content so children begin to increase their repertoire of ideas and responses. Children who do not know words to express feelings can not describe their feelings to others in problem situations. Children who do not have strategies to control their anger will not be able to respond to an adult's directions to calm down. Children who have not learned what it looks like to share, trade, or wait for a turn, will have difficulty using these strategies in their peer play. This plan to present new material to children in a structured small group circle time is paired with the idea of taking advantage of teachable moments that occur naturally between the children during the time they are in the group.

Both the videotapes and puppets are used to present content that is then processed during discussions, problem solving, role-plays, and collaborative learning. After each vignette, the teacher solicits ideas from the children and involves them in the process of problem solving, sharing, and discussing ideas and reactions. To enhance generalization, the scenes selected for each of the units involve real-life situations at school (eg, playground and classroom). Some vignettes represent children behaving in prosocial ways such as helping their teachers, playing well with peers, or using problem solving or anger management techniques. Other vignettes are examples of children having difficulty in conflict situations, such as teasing, arguing, and destructive behavior. After viewing the vignettes, children discuss feelings, de-

cide whether the examples are good or bad choices, generate ideas for more effective responses, and role play alternative scenarios. Although some mild negative videotape examples are shown so that children can show how they would improve the situation, the program uses a far greater number of positive examples than negative examples (about 5 to 1), and children are coached to help solve or resolve any problems that they see in the vignettes. The children are *never* asked to act out the inappropriate responses, only the positive alternatives. After the 15- to 20-minute large group lesson, students go to their small group activity tables. Small group activities can involve cooperative projects, puzzles, games, stories, reading, and puppet play.

Puppets as models

The teachers use child-size boy and girl puppets to model appropriate child behavior. A dinosaur puppet (Dina Dinosaur) is the director of Dinosaur School and teaches school rules and rewards and praises children who are doing well. The puppets, "Wally" and "Molly," help narrate the video vignettes and ask the children for help with common conflict situations they have encountered (based on the problems of the children in the group). In addition to Wally and Molly, other puppets regularly visit the group (eg, Oscar the Ostrich has his head in the sand all the time and has difficulty talking about his problems or Freddy Frog can't sit still). Particularly when working with diverse populations, we use a variety of child puppets to represent the ethnicity, gender, and different family structures of the children in the group.

The puppets are an integral part of the program's success. Young children are enthralled with the puppets and will talk about sensitive or painful issues with a puppet more easily than with adults. The puppets quickly become real to the children and are very effective models. Each puppet has a name, age, personality, and family situation. Puppets should be good group role models. They raise their hands to speak, listen to the

teachers, watch the video, and take turns. Puppets occasionally make mistakes, just as children do, but when a puppet makes a mistake, it is important to quickly have the puppet show he is sorry, and make a plan to solve a problem.

Live and videotape modeling methods

In accordance with modeling and self-efficacy theories of learning (Bandura, 1989), children using the program develop their skills by watching (and modeling) videotape examples of key problem-solving and interpersonal skills. We use videotape to provide a more flexible method of training than didactic instruction or sole reliance on role play; that is, we can portray a wide variety of models, situations, and settings for children to watch and discuss. We hypothesize that this flexible modeling approach results in better generalization of the training content and, therefore, better long-term maintenance. Further, it is an engaging method of learning for less verbally oriented children, younger children, or children with short attention spans.

Role-playing/practice games

The use of role-plays provides children with the opportunity to try out new strategies in a nonthreatening situation. One role-play activity children play is the “Let’s Suppose” game or the Pass the Detective Hat game. A variety of common problem situations are put in a hat, which is passed around the circle. When the music stops, the child holding the hat picks out the problem and suggests a solution. Then someone else will try to act out that solution for all to see. Initially, children require considerable coaching during these role-plays. The teacher should set up the role-play before the children start acting. The teacher may also provide the words for the child to say or may narrate the role-play so that the child knows what to do next. As children progress through the program, these role-plays become more complex with children taking on more roles and enacting differing viewpoints.

Helping children learn and remember concepts

Because young children are easily distracted and possess fewer cognitive organizing abilities and shorter memories than older children, they need help reviewing and organizing the material to be remembered. Time spent on a particular unit and the complexity of the activities chosen will vary depending on the group’s developmental abilities. However, it is important to note that all children need a great deal of repetition and practice with the skills to actually master them. So just as a teacher reviews addition and subtraction concepts each year, so does the teacher constantly integrate concepts related to rules, empathy skills, problem solving, and play skills every week.

Some strategies that will help young children learn and retain new information include: (1) provide many examples (in different media) of the same concept (videos, role plays, games, cue cards); (2) post cue card pictures in strategic areas to remind children of key concepts (eg, sharing cue card in big block area); (3) role play with puppets (common scenarios such as being teased, rejected, or making a mistake); (4) reenact videotaped scenes; (5) use Dina and Wally’s detective storybooks to discuss key ideas and generate prosocial solutions; (6) play games designed to practice key concepts (eg, playing “Wally Says”); (7) rehearse skills through activities; (8) give homework to practice skills (ie, Dina’s Detective Homework Manual); and (9) send letters to parents asking them to reinforce the skills children learned that week.

Practice activities—coaching/ cueing/reinforcing

For each of the lessons there are a series of small group activities to help children practice the new skills. A friendship lesson about sharing might be paired with an art project where there are limited supplies and students have to figure out how to share. During a lesson on cooperation, children might be asked to design their own dinosaur incorporating

everyone's ideas. In the problem-solving unit, children might be given a problem and asked to think of as many solutions as they can. The problems might be presented on a colorful cue card or in a problem-solving book. Children who are reading and writing can read the problem and write solutions while nonreaders dictate or draw a picture of their solutions. Children might also look in the detective kit (a box that contains all the solutions that children have learned) for more solutions. During the small group activity, the teacher sits with each group of students and "coaches" and comments on prosocial behavior. These coached small group guided learning activities are a key process to children's learning because they take the cognitive social and emotional concepts into the actual behavioral interactions between children.

Enhancing academic skills

Most of the activities described in this program help strengthen prewriting, writing, prereading, reading, sequencing, vocabulary, or discrimination skills. Thus, this program enhances academic as well as social competence. For example, reading is enhanced through use of the laminated cue cards with words and pictures, Wally problem-solving detective books, and homework activities books. Other activities promote communication, language, and writing skills through drawings, written stories, pictures of solutions, and play acting. Laminated cue cards are provided for all the major concepts being taught. These cards show a picture (eg, sharing or quiet hand up) as well as the words that describe the concept. These picture cue cards are very helpful for children who cannot read and are useful nonverbal cues to remind children of a particular skill they might be working on. For example, the teacher might point to a picture of Dina raising her hand or looking at the teacher to remind a child of the desired behavior in the group. When the children respond to these visual cues, the teacher reinforces their accomplishment. The problem-solving unit provides an opportunity for a discussion of sequencing as children learn the

steps to solving their problems. All lessons have opportunities to promote effective learning behaviors, such as verbal and nonverbal communication skills, that include collaborating, cooperating, listening, attending, speaking up, and asking questions. These are key foundational skills in order for a child to learn academic skills and be successful in the classroom environment

Integration of cognitive, affective, and behavioral components

Each unit uses a combination of cognitive, affective, and behavioral components to enhance learning. For example, the anger thermometer is used to teach children self-control and to monitor their emotional state. Children decorate the thermometer with pictures of feeling faces from "happy" and "relaxed" in the blue (or cool) section of the thermometer—all the way up to "angry" or "stressed out" in the red (or hot) section of the thermometer. The teacher can then ask children to describe a recent conflict, and together they retrace the steps that led to the angry outburst. The teacher writes down the child's thoughts, feelings, and actions that indicated an escalating anger pattern (eg, "He always takes my toys"; thought. "That really makes me mad"; feeling. "I got so mad that I kicked him"; action). Then the teacher and child discuss the thoughts, words, and actions that the child can use to reduce his anger. As the teacher retraces the steps of the angry outburst—she or he helps the child identify the place where he was aware he was getting angry. This is marked as the Danger Point on the thermometer. Once the child has established his danger point—he gives a name to the signal (eg, chill out, cool down, code red, hot engine, etc.). This code word can be the teacher and child's signal that anger or stress has reached the threshold, which triggers the use of an agreed upon calming strategy, such as taking 3 deep breaths.

Fantasy play and instruction

Fantasy play provides the context for this program because a high level of sociodramatic

play in early school age children is associated with sustained and reciprocal verbal interaction and high levels of affective role taking (Connolly & Doyle, 1984). Fantasy play gives children the opportunity to develop intimacy and work out emotional issues (Gottman, 1983). For preschool age children, sociodramatic play is an important context in which perspective taking, social participation, group cooperation, and intimacy skills develop. It is a skill to be fostered.

Promoting skills maintenance and generalization

Because many opportunities for practicing these new social and problem-solving skills will take place outside of the classroom environment, it is essential that the teachers do everything they can to promote generalization of skills to the playground, lunchroom, and bus. The puppets can be brought out onto the playground to demonstrate friendly behavior or to help problem solve. Key chains with small laminated problem solving steps should be available in the school lunchroom, the playground, and the school office, and the playground staff, lunchroom monitors, and office staff should know how to cue children to begin problem solving. Children should be encouraged to watch for friendly behavior at recess and can then fill out Super Star awards for other children who were being friendly. One teacher commented that using the Super Star awards reduced daily "tattling" about negative playground behavior in her class.

SUMMARY

Several recent reports, such as the Surgeon General's 2000 Report on Children's

Mental Health (<http://www.surgeongeneral.gov/cmh/childreport.htm>) and *From Neurons to Neighborhoods: The Science of Early Childhood Development* (Shonkoff & Phillips, 2000) have highlighted the need for the adoption of evidence-based practices that support young children's social and emotional competence and prevent and decrease the occurrences of challenging behavior in early childhood. In this article, we described a social skills and problem-solving curriculum that has previously been shown to be effective in treating young children with externalizing behavior problems in a small group "pullout" intervention and is currently being evaluated as a classroom-based curriculum. The classroom version is designed to be delivered to all children in the classroom, several times per week, throughout the school year. In this way, young children are provided with the language and skills to cope effectively with emotions and problems that arise in their everyday lives. Preliminary results and experience with the program in over 40 Head Start, kindergarten, and grades 1 and 2 classrooms suggests the program is highly regarded by teachers, parents, and children alike and is showing promising social and academic improvements.

Dinosaur School is a comprehensive program that simultaneously works to eliminate disruptive child behaviors and to foster prosocial behaviors. Ideally it would be used in conjunction with the parent program and teacher classroom management training programs so that parents and teachers are consistently reinforcing the newly learned social behaviors at home and school. As with any intervention, this program is most effective when provided with high fidelity, upholding the integrity of the content, process, and methods.

REFERENCES

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- Asher, S. R., Parkhurst, J. T., Hymel, S., & Williams, G. A. (1990). Peer rejection and loneliness in childhood. In S. R. Asher & J. D. Coie (Eds.), *Peer rejection in childhood* (pp. 253-273). Cambridge: Cambridge University Press.
- August, G. J., Realmuto, G. M., Hektner, J. M., & Bloomquist, M. L. (2001). An integrated components preventive intervention for aggressive elementary school children: The early risers program. *Journal of Consulting and Clinical Psychology, 69*(4), 614-626.

- Bandura, A. (1989). Regulation of cognitive processes through perceived self-efficacy. *Developmental Psychology*, 25, 729-735.
- Barrera, M., Biglan, A., Taylor, T. K., Gunn, B., Smolkowski, K., Black, C., et al. (2002). Early elementary school intervention to reduce conduct problems: A randomized trial with Hispanic and non-Hispanic children. *Prevention Science*, 3(2), 83-94.
- Baydar, N., Reid, J. B., & Webster-Stratton, C. (2003). The role of mother mental health factors and program engagement in the effectiveness of a preventive parenting program for Head Start mothers. *Child development*, 74(5), 1433-1456.
- Bear, G. G. (1998). School discipline in the United States: Prevention, correction and long-term social development. *School Psychology Review*, 2(1), 14-32.
- Beauchaine, T. P. (2001). Vagal tone, development, and Gray's motivational theory: Towards an integrated model of autonomic nervous system functioning in psychophysiology. *Development and Psychopathology*, 13, 1183-1214.
- Bierman, K. L. (1989). Improving the peer relationships of rejected children. In B. B. Lahey & A. E. Kazdin (Eds.), *Advances in clinical child psychology* (Vol. 12). New York: Plenum.
- Bredenkamp, S., & Copple, C. (1997). *Developmentally appropriate practice in early childhood programs*. Washington, DC: NAEYC.
- Brestan, E. V., & Eyberg, S. M. (1998). Effective psychosocial treatments of conduct-disordered children and adolescents: 29 years, 82 studies, and 5,272 kids. *Journal of Clinical Child Psychology*, 27, 180-189.
- Coie, J. D. (1990). Toward a theory of peer rejection. In S. R. Asher, & J. D. Coie (Eds.), *Peer rejection in childhood* (pp. 365-398). Cambridge: Cambridge University Press.
- Coie, J. D., & Dodge, K. A. (1998). Aggression and antisocial behavior. In W. Damon & N. Eisenberg (Eds.), *Handbook of child psychology: 5th ed.: Social, emotional and personality development* (Vol. 3, pp. 779-862). New York: Wiley.
- Connolly, J. A., & Doyle, A. B. (1984). Relation of social fantasy play to social competence in preschoolers. *Developmental Psychology*, 20, 797-806.
- Cummings, E. M. (1994). Marital conflict and children's functioning. *Social Development*, 3(1), 16-36.
- Dodge, K. A. (1993). Social-cognitive mechanisms in the development of conduct disorder and depression. *Annual Review of Psychology*, 44, 559-584.
- Dodge, K. A., & Coie, J. D. (1987). Social-information-processing factors in reactive and proactive aggression in children's peer groups. *Journal of Personality and Social Psychology*, 53(6), 1146-1158.
- Dodge, K. A., & Crick, N. R. (1990). Social information processing bases of aggressive behavior in children. *Personality and Social Psychology Bulletin*, 16, 8-22.
- Dodge, K. A., & Price, J. M. (1994). On the relation between social information processing and socially competent behavior in early school-aged children. *Child Development*, 65, 1385-1397.
- Frick, P., Kamphaus, R. W., Lahey, B. B., Loeber, R., Christ, M. G., Hart, E., et al. (1991). Academic underachievement and the disruptive behavior disorders. *Journal of Consulting and Clinical Psychology*, 59, 289-294.
- Gottman, J. M. (1983). How children become friends. *Monographs of the Society for Research in Child Development*, 48(2, Serial No. 201).
- Gross, D., Fogg, L., Webster-Stratton, C., Garvey, C. W. J., & Grady, J. (2003). Parent training with multi-ethnic families of toddlers in day care in low-income urban communities. *Journal of Consulting and Clinical Psychology*, 71(2), 261-278.
- Kazdin, A. E., Esveltdt, D. K., French, N. H., & Unis, A. S. (1987). Effects of parent management training and problem-solving skills training combined in the treatment of antisocial child behavior. *Journal of the American Academy of Child and Adolescent Psychiatry*, 26(3), 416-424.
- Ladd, G. W., Kochenderfer, B. J., & Coleman, C. (1997). Classroom peer acceptance, friendship, and victimization: Distinct relational systems that contribute uniquely to children's school adjustment. *Child Development*, 68, 1181-1197.
- Ladd, G. W., & Mize, J. (1983). A cognitive-social learning model of social-skill training. *Psychology Review*, 90(2), 127-157.
- Lochman, J. E., & Dunn, S. E. (1993). An intervention and consultation model from a social cognitive perspective: A description of the anger coping program. *School Psychology Review*, 22, 458-471.
- McBurnett, K., Harris, S. M., Swanson, J. M., Pfiffner, L. J., Freedland, D., & Tamm, L. (1993). Neuropsychological and psychophysiological differentiation of inattentive/overactivity and aggression/defiance symptom groups. *Journal of Clinical Child Psychology*, 22, 165-171.
- Novaco, R. W. (1975). *Anger control: The development and evaluation of an experimental treatment*. Lexington, MA: DC Heath.
- Patterson, G. R., DeGarmo, D. S., & Knutson, N. (2000). Hyperactive and antisocial behaviors: Comorbid or two points in the same process? *Developmental and Psychopathology*, 12, 91-106.
- Raine, A., Venables, P. H., Dalais, C., Mellingen, K., Reynolds, C., & Mednick, S. A. (2001). Early educational and health enrichment at age 3-5 is associated with increased autonomic and central nervous system arousal and orienting at age 11 years: Evidence from the Mauritius Child Health Project. *Psychophysiology*, 38, 254-266.
- Raver, C. C., & Knitzer, J. (2002). *Ready to enter: What research tells policy makers about strategies to promote social and emotional school readiness among three and four year old children*. New York: Mailman

- School of Public Health, Columbia University, National Center for Children in Poverty.
- Raver, C. C., & Zigler, E. F. (1997). Social competence: An untapped dimension in evaluating Head Start's success. *Early Childhood Research Quarterly, 12*, 363-385.
- Rimm-Kaufman, S. E., Pianta, R. C., & Cox, M. J. (2000). Teachers' judgements of problems in the transition to kindergarten. *Early Childhood Research Quarterly, 15*, 147-166.
- Shonkoff, J. P., & Phillips, D. A. (2000). *From neurons to neighborhoods: The science of early childhood development*. Washington, DC: National Academy of Press.
- Shores, R. E., & Wehby, J. H. (1999). Analyzing classroom social behavior of students with EBD. *Journal of Emotional and Behavioral Disorders, 7*, 194-199.
- Shure, M. (1994). *I Can Problem Solve (ICPS): An interpersonal cognitive problem-solving program for children*. Champaign, IL: Research Press.
- Snyder, H. (2001). Child delinquents. In R. Loeber & D. P. Farrington (Eds.), *Risk factors and successful interventions*. Thousand Oaks, CA: Sage.
- Sturge, C. (1982). Reading retardation and antisocial behavior. *Journal of Child Psychology and Psychiatry, 23*, 21-23.
- Taylor, T. K., & Biglan, A. (1998). Behavioral family interventions for improving child-rearing: A review for clinicians and policy makers. *Clinical Child and Family Psychology Review, 1*(1), 41-60.
- Tremblay, R. E., Mass, L. C., Pagani, L., & Vitaro, F. (1996). From childhood physical aggression to adolescent maladjustment: The Montreal prevention experiment. In R. D. Peters, & R. J. MacMahon (Eds.), *Preventing childhood disorders, substance abuse and delinquency* (pp. 268-298). Thousand Oaks: Sage.
- Walker, H. M., Colvin, G., & Ramsey, E. (1995). *Antisocial behavior in school: Strategies and best practices*. Pacific Grove, CA: Brooks/Cole.
- Webster-Stratton, C. (1990). *Dina Dinosaur's Social Skills and Problem-Solving Curriculum*. Seattle, WA: Incredible Years.
- Webster-Stratton, C. (1998). Preventing conduct problems in Head Start children: Strengthening parent competencies. *Journal of Consulting and Clinical Psychology, 66*(5), 715-730.
- Webster-Stratton, C. (1999). *How to promote children's social and emotional competence*. London: Sage.
- 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. (1999). Marital conflict management skills, parenting style and early-onset conduct problems: Processes and pathways. *Journal of Child Psychology and Psychiatry, 40*, 917-927.
- Webster-Stratton, C., & Lindsay, D. W. (1999). Social competence and early-onset conduct problems: Issues in assessment. *Journal of Child Clinical Psychology, 28*, 25-93.
- Webster-Stratton, C., & Reid, M. J. (in press). Incredible Years teacher training program: Content, methods and processes. In J. Szapocznik, P. Tolan, & S. Sambrano (Eds.), *Preventing Substance Abuse*.
- Webster-Stratton, C., Reid, M. J., & Hammond, M. (2001a). Preventing conduct problems, promoting social competence: A parent and teacher training partnership in Head Start. *Journal of Clinical Child Psychology, 30*(3), 283-302.
- Webster-Stratton, C., Reid, M. J., & Hammond, M. (2001b). Social skills and problem solving training for children with early-onset conduct problems: Who benefits? *Journal of Child Psychology and Psychiatry, 42*(7), 943-952.
- Webster-Stratton, C., Reid, M. J., & Hammond, M. (in press). Treating children with early-onset conduct problems: Intervention outcomes for parent, child, and teacher training. *Journal of Clinical Child and Adolescent Psychology*.
- Webster-Stratton, C., & Taylor, T. (2001). Nipping early risk factors in the bud: Preventing substance abuse, delinquency, and violence in adolescence through interventions targeted at young children (ages 0-8 years). *Prevention Science, 2*(3), 165-192.
- Wolery, M. (2000). Behavioral and educational approaches to early intervention. In J. P. Shonkoff & S. J. Meisels (Eds.), *Handbook of early childhood intervention* (2nd ed., pp. 179-203).

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