Implementing a Social Skills Group for Children with Autism Spectrum Disorders

GRACE MATHAI
University of Louisville Health Sciences Center, Department of Pediatrics, Louisville, KY

LISA RUBLE
University of Kentucky, Department of Educational, School, and Counseling Psychology, Lexington, KY

Abstract

Social reciprocity deficits are a core feature of the autism spectrum disorders (ASD). The primary focus of this paper is to describe strategies to develop, implement, and evaluate an effective and comprehensive social skills group intervention for elementary school children with ASD. Considering the specific social skills deficits associated with ASD and recommendations from the literature, a case example of a group intervention is presented, including descriptions of content, instructional strategies, and resource materials. The format spans 12-weekly, 1 to 1.5 hour sessions. This paper is based on the clinical experience of the authors who have conducted more than fifteen social skills groups with more than 60 children as part of an outpatient clinic-based program.

Address for correspondence: Grace Mathai M.A., University of Louisville Health Sciences Center; Department of Pediatrics; 571 S. Floyd St., Suite 100, Louisville, KY 40202; (502) 852-7568

Introduction

Social reciprocity deficits are a core feature of the autism spectrum disorders (ASD) and a major source of impairment regardless of cognitive or language ability (Carter, Davis, Klin & Volkmar, 2005). Social impairments and their effects do not naturally remit with maturation and may actually increase as the child approach adolescence due to the complexity of the social milieu, the child's own awareness of their social differences (Tantum, 2003), and an increasing discrepancy between social abilities of same age peers and the adolescent with ASD. Very often children and adolescents with ASD are at an increased risk for peer rejection and social isolation (Chamberlain, 2001), academic and occupational underachievement (Howlin 2000), and mood and anxiety problems (Myles, 2003; Tantum, 2003). Thus, it is critical to intervene as early as possible to offset these potential risk factors and develop interventions that improve young children's peer-related social competence and social-cognitive problem solving skills.

Specific social skills deficits can be categorized within two domains – behavioral and cognitive. Behavioral difficulties include problems initiating interactions, maintaining reciprocal interactions, and responding to others appropriately. Cognitive based difficulties include taking another person's perspective, identifying and interpreting others' emotions (Eaves & Ho, 1997; Krasny, Williams, Provencal, & Ozonoff, 2003), and generating appropriate solutions to social problems (Ruble, Willis, & Crabtree, 2008).

Because children with ASD fail to develop appropriate social skills and often lack opportunities for learning through positive peer interactions, providing explicit training is essential. Further, training that occurs in a group format may be particularly relevant and preferred for many settings. Group training approaches provide children with teaching opportuni-

ties with other children and allow for the direct instruction of skills within a structured environment, which often does not take place explicitly in school settings (Bellini, Peters, Benner & Hopf, 2007). Finally, group training may utilize resources more effectively by allowing autism specialists, who are often limited in number in outpatient and school settings, to work with many children simultaneously. Interest in the group social skills interventions has increased, and there are many examples now available in the literature (e.g., Barnhill, Cook, Tebbenkamp, & Myles, 2002; Barry et al., 2003; Bauminger, 2007; Crager & Horvath, 2003; Hwang & Hughes, 2000; Kroeger, Schultz, & Newsom, 2007; Lopata, Thomeer, Volker, & Nida, 2006; Ruble, Willis, & Crabtree, 2008; and Tse, Strulovitch, Tagalakis, Meng, & Fombonne, 2007).

A main issue faced by clinicians is the provision of social skills group interventions that are effective and data-driven (Ruble, et al., 2008). Despite the growing interest, importance, and need for group social skills training, the gap between research and practice is widening and empirical support is mixed and limited at best. For example, Gresham, Sugai and Horner's (2001) conducted a meta-analysis of social skills training programs for children (not with ASD) and produced mixed results. They reported that effect sizes ranged greatly from ineffectual to highly effective. For individuals with ASD, White, Koenig and Scahill, (2007) reviewed the literature for group social skills interventions and found very little empirical support, a finding concluded by others (Bellini et. al., 2007).

In contrast to the aforementioned conclusions on effectiveness of social interventions, McConnell (2002) reviewed 55 studies for young children with ASD and deduced a different conclusion. He identified several effective social skills interventions and concluded that children with ASD can benefit from social skills programming.

Because of the mixed results on the effectiveness of

social skills interventions, perhaps a useful approach is to focus on the specific and potential active ingredients in successful programs. From their review of the literature, Gresham, Sugai and Horner (2001) concluded that (a) social skills training should be implemented more frequently and more intensely than what is typically implemented and thirty hours of instruction spread over 10 to 12 weeks may not be sufficient; (b) plans for adequate maintenance and generalization of skills should be included; (c) social skills teaching strategies should take into account the type of skill deficit presented; For example, if the child is experiencing skill acquisition deficits, then intervention strategies are designed to teach new skills, or if the child is experiencing performance deficits, then intervention strategies are designed to enhance the performance of existing skills; and (d) treatment integrity should be monitored. White et. al. (2007) also reported many promising intervention strategies such as making social rules clear and concrete and modeling age appropriate initiation strategies. Finally, McConnell divided social skills interventions into five useful categories for reviewing instructional approaches that included the use of: (a) environmental modifications, (b) child-specific interventions, (c) collateral skills interventions, (d) peer-mediated interventions, and (e) comprehensive interventions.

According to McConnell (2002), *environmental modifications* involve changes to the physical and social environment that promote social interactions between children with ASD and their peers. *Child-specific interventions* involve the direct instruction of social behaviors, such as initiating and responding. *Collateral skills interventions* involve strategies that promote social interactions through training in related skills, such as play behavior and language, rather than training specific social behaviors. *Peer-mediated interventions* involve training typical peers to direct and respond to the social behaviors of children with ASD. Finally, *comprehensive inter-*

ventions involve social skills interventions that combine two or more of the above mentioned intervention categories.

Implementing the Social Skills Group

The primary focus of this article is to describe strategies to develop, implement, and evaluate a comprehensive social skills group intervention for elementary school children with ASD. Keeping in mind the specific social skills deficits associated with ASD and recommendations from the literature, a case example of a group intervention is presented. The format presented spans 12 weekly, 1- to 1.5-hour sessions. This case description is based on the experience we have obtained from more than fifteen social skills groups conducted as part of an outpatient clinic based program that included more than 60 children. Therefore, the procedures are able to be feasibly applied within a community-based outpatient treatment or school setting. The intervention format targeted specific skill deficits while using the recommended intervention strategies previously reviewed (White, et al., 2007). A more detailed example is also provided in Ruble, et. al., 2008.

Description of Group Characteristics and Measures

Participants

The social skills group program participants described in this case description are children with ASD who are between the ages of 7 and 11 years, and possess adequate cognitive, language, and attention skills to be able to benefit from a time limited group learning format. Children are able to read at a second grade level and converse using complete sentences in a spontaneous manner. Further, group members share similar learning profiles of social skills deficits determined by a prior social skills assessment (described later). Assessment of

child characteristics and social skills needs was important to ensure that there was an instructional match between the therapist, teaching methods, and the child's learning abilities and needs.

Measures

There are several methods available to assess social skills, such as standardized approaches and criterion-based methods. Each approach has strengths and weaknesses. Standardized measures may allow for detection of differences of the child's social abilities to other children. Examples of standardized measures of social skills are the Social Skills Rating System (SSRS: Gresham & Elliott, 1990) which is a commonly used measure of actual skill use. Other measures are the Social Responsiveness Scale (Constantino, Przybeck, Friesen &Todd, 2000) and the Social Competence Inventory (Rydell, Hagekull, & Bohlin, 1997). Although standardized measures are helpful in comparing the child's skills to norm-referenced groups, they are often insufficient for determining specific social skills objectives for an individual child and measuring progress as a result of intervention.

Criterion-based assessments, in contrast to norm-referenced measures, are often more sensitive to the targeted skills and actual intervention being implemented. Criterion-based measures are a necessary ingredient in measuring the overall effectiveness of a social skills intervention. For our groups, we have used the TRIAD Social Skills Assessment (TSSA; Stone, Ruble, Coonrod, Hepburn, & Pennington, 2002). The TSSA provides more specific assessment of child skills and takes into account parent and teacher report as well as direct interactions with the child. A multi-informant approach to assessment is necessary because research suggests that although parents and teachers agree on global social skills strengths and weaknesses, they do not necessarily agree on

specific social behaviors and some social behaviors may be particularly sensitive to the environmental context (Murray, Ruble, Willis, & Malloy, 2008). Criterion-related assessment of social skills helps target specific individual as well as group behavior objectives. Further, the assessment includes Likert type scales for which parents and teachers rate perceived changes in the child's social behavior over the course of a group. Rating scales have also been used in other studies for measurement of effectiveness (Tse, Strulovitch, Tagalakis, Meng & Fombonne 2007). Another approach to pre- and post-analysis of effectiveness is video and audio recordings of skills. For our groups, we used analogue assessments of initiating and problem solving skills to indicate if qualitative changes have occurred after specific interventions have been implemented (Ruble, et al., 2008). For example, for assessment of conversation skills we conduct a role-play scenario. We ask the child to pretend that he is at recess and there is a new student sitting on the swing next to him/her (the examiner pretends to be the new student). Then we ask the child to tell us what s/he would say and do. We record this on an audiotape and evaluate it for how well the child: (a) obtained the person's attention; (b) asked a question or made a statement; (c) remained on topic; (d) ended the conversation appropriately. We also conduct a similar role-play during the last session. This assessment is able to be feasibly administered during the first and last session. Ruble, et. al. (2008) provides more information.

As mentioned earlier as a weakness of many programs, generalization of skills is an important component of a program. Tools that help with assessment of generalization may evaluate collateral skills, such as problem behaviors that occur as a result of social or communication deficits. Hence pre- and post measures of problem behaviors can help determine treatment effectiveness. Examples of standardized assessment of problem behaviors specific to the ASD population are the Aberrant behavior Checklist (Aman, Singh, Stewart & Field, 1985), the Nisonger Child Behavior Rating Form (Aman, Tasse, Rohahn, & Hammer, 1996), Behavior Problems Inventory, (Rohahn, Matson, Lott, Esbensen, & Smalls, 2001) and the PDD Behavior Inventory (Cohen, 2003). Use of parent and teacher rating forms are useful for indicating if intervention effectiveness has generalized to home and school environments as well. In our groups, we have applied four direct approaches: (a) the assignment of weekly homework to practice skills outside the clinical setting, (b) parent report of weekly behaviors and examples of skill application, (c) parent observation of the social skills intervention behind a two-way mirror, and (d) involvement of typical peers or siblings of the target child.

Physical space and location

Social skills groups can be implemented in clinics, schools, or other community centers. Space needs to have some components of structure that facilitate comfortable seating at a table that also allows for writing and a room that is large enough for movement, role playing, and other fun activities that incorporate social skills practice. While adult directed teaching of skills may take place within such venues, it is not necessary for the group to always meet at the same locale. Outings can take place to closely simulate the natural environment such as restaurants and bowling alleys, for example, where group members can have opportunities to practice and generalize skills to other environments.

Group Characteristics

An ideal group is comprised of four to six children, depending on their specific skill deficits and characteristics, and two adult leaders. We encourage the involvement of typi-

cally developing peers as much as possible, however, they need to have certain personal attributes that make them good role models such as being outgoing, friendly, patient, and understanding of other group members' social deficits as well as adequate attention skills, ability to follow directions, and motivation.

Content of Intervention

Topics identified for instruction are based on skill deficits commonly identified from parental report from the TSSA (Stone, et. al., 2002). Table 1 gives an overview of typical 12-week instructional format. A combination of psychoeducational and cognitive behavioral methods of teaching social skills with an emphasis on learning with the strategies identified in Table 1 are applied. The 12 sessions can be classified under three major targeted skills: (a) initiating skills (sessions 1-3); (b) understanding emotions, perspective taking, and problem solving (sessions 4-6); and (c) conversational skills (sessions 8-11). Resources for the above curriculum were primarily adapted from four sources: (a) Social Skills Training (Baker; 2003), (b) Super Skills (Coucouvanis, 2005), (c) Talkabout (Kelly, 1996), and (d) Skills Training for Children with Behavior Problems (Bloomquist, 2006).

After the introductory session, each session begins with a review of the previous skill and a check-in with each child regarding opportunities to practice the skill in the past week. Every week, the child completes homework for skill practice in the natural environment. A binder is also maintained by the child that includes the teaching materials and is reviewed by parent and teacher to facilitate opportunities to practice the skill in school and other environments. When sessions are held in a clinic setting, it is also possible to have caregivers and teachers as well as others associated with the child, to observe the session through a one-way mirror. This

Table 1. Example of 12-week Social Skills Group Program

Week	Topic	Instructional Methods
1	Introductions & Initiating: Greetings	Visual supports; social stories; social scripts; role play; nonverbal activities
2	Initiating: Friends and strangers	Visual supports; social stories; social scripts; role play; nonverbal activities
3	Initiating: Complementing others	Social stories; nonverbal activities (identifying steps to problem solving, generating solutions); modeling, role-play
4	Problem Solving	Social story; nonverbal activities; role-plays
5	Being a good sport	Social story; role-plays (setting up scenarios such as board or other games to provide opportunities to demonstrate cooperative play)
6	Emotion regulation	Visual supports; sorting activities; nonverbal activities (feelings thermometer, calming strategies) role-plays
7	Use and understanding of body language	Visual supports; video self modeling; role play
8	Conversational skills: Listening	Visual supports; video self modeling, role-play
9	Conversational skills: starting a conversation and choosing a topic	Social story; social scripts; role-play (different scenarios to starting a conversation); nonverbal activities
10	Conversational skills: maintaining conversations and staying on topic	Visual supports; video self modeling; role play
11	Conversational skills: Terminating conversations	Visual supports; role-play; video self modeling
12	Review and putting it all together	Pizza party, games and review of material if necessary

allows significant others to observe strategies to implement within child's natural environment and allows for more frequent opportunities to practice skills. A caution to therapists is that although we feel that parent observation of social skills groups is important, the parents must be carefully prepared, especially if a therapist will not be with the parents to answer questions and address concerns during the group training. One way to address this would be to appraise caregivers about the topic that is going to be addressed, include handouts and strategies that will be incorporated during the session to reinforce skills and give caregivers an opportunity to ask questions before they leave.

Instructional Methods

Within the context of a comprehensive program, several instructional components are used and include the use of visual supports, role-playing, social stories, social scripts, video self modeling and rehearsal, and nonverbal problem solving activities (Baker, 2003; Coucouvanis, 2005; Buggey, 1999; White, et. al., 2007). All instruction includes modeling, rehearsal, and feedback and generally consists of four steps described next in more detail: (a) introducing the topic with a social story; (b) explaining through nonverbal activities and modeling the correct behavior; (c) conducting role-plays through simulated situations of the skills, and (d) disseminating homework to practice the skill.

Visual Supports

Visual supports can range from use of schedules that help children understand the order of events within the group to pictures that illustrate abstract social norms. Children with ASD have difficulty comprehending language, and visual supports have been well documented to facilitate greater understanding and comprehension (Quill, 1995; Hodgdon, 1997). Visual supports are a powerful means to engage the child's attention (Baker, 2001). Visual supports help make abstract verbal concepts more concrete and the information remains stable over time which allows for increased processing time, an important attribute for children who have comprehension and attention problems. The use of auditory information as the teaching method can be less effective as the child's attention fluctuates. Two good resources for obtaining visual supports for explaining to children the processes involved in social interactions are Super Skills (Coucouvanis, 2005) and Talkabout (Alex, 1996).

Social Stories

Developed by Carol Gray (Gray, 1993), social stories are first-person accounts of ways to increase the child's awareness of problematic social situations. The story contains a description of what is happening, why it might be happening, and how people think and feel about the situation. Social stories should be commensurate with the child's ability and comprehension level and should use less directive terms. Specific guidelines for writing social stories are available (Gray, 1993). Social stories work best when a new skill is being taught and the story is read just before the child has an opportunity to role-play the skill or practice it in a naturalistic environment.

Role-playing

Role-playing consists of acting out various social interactions that the child would typically encounter such as initiating with another child or maintaining a reciprocal interaction. Role-plays give the child opportunities to practice skills in a simulated environment, enabling them to correctly imple-

ment these skills in realistic situations. It also allows for the child to observe others and become more aware of the importance of learning by observing. When observing others practice a skill appropriately or inappropriately, the child can reflect on what impact the behavior has on the way other people think, feel, and behave.

Social scripts

Children with ASD often lack the knowledge regarding what to say and how to respond in a social situation (an example of a skill deficit). Social scripts can be a valuable resource for situations in which they do not know how to initiate, respond or say something appropriate. Krantz and McClannahan (1993) used scripts to successfully teach children with ASD to initiate, asking questions such as "Would you like some candy or chips?"

Video self modeling (VSM)

VSM is an intervention in which children learn skills by observing themselves performing the targeted skill successfully. A videotape is made of the child demonstrating the prosocial skill and the tape is then played back to the child for review. A strength of VSM is that it allows the child to learn, both through observation and through personal experience (much like role playing). Videos, as visual stimuli, capitalize on the child's propensity toward visual learning. Charlop-Christy and Daneshvar (2003) used video modeling to teach perspective taking to three children with ASD between the ages of 6 and 9. The researchers concluded that the video modeling intervention was a quick and effective procedure for teaching perspective taking and promoting generalization of newly acquired skills.

Nonverbal activities

Such activities involve nonverbal problem solving. For example, the correct and incorrect ways of greeting other children can be written on 3 x 5 cards and sorted into two different categories (right way vs. wrong way). Another example is identifying emotions by sorting various emotions based on situations that elicit the emotions (e.g., "When I go to a birthday party, I feel ___." The child chooses the emotion(s) from a written list). Rating scales or thermometers can also be used to quantify emotions to help children understand the continuum of an emotion. For example an anger thermometer can be used to depict differences between feelings of irritability versus anger (McAfee, 2003).

Description of Sessions

Initiating with Others

The first session is a great opportunity for group members to practice learning how to get to know another peer and making introductions. After setting up rules and discussing confidentiality in terms appropriate to the children as well as reward systems, children can be given scripts to specifically elicit information regarding, grade, school, interests and hobbies of another peer. They are then asked to introduce each other to the group. As each member is introduced to the group, other group members greet the newly introduced member. Visuals depicting required distance from each other during greetings can also be presented to explicitly differentiate personal space involved while greeting a family member vs. good friend vs. an acquaintance. Group leaders can model various scenarios and have group members role-play with each other.

Initiating with others involve approaching another

child or group of peers or adults for a variety of reasons. Reasons could range from asking a question, to asking for help or asking to join in play. Scenarios can be modeled, clearly delineating the various steps involved: (a) first approaching the other person, (b) then waiting for a pause if the other person is conversing or playing with someone else, (c) next getting their attention appropriately, and (d) then asking the question. While modeling initiating, it is important to demonstrate how rewarding initiating can be; the child gets to play with another person or gets help with something.

For complements, we teach that sincere, genuine compliments help make connections and create a good impression. Complimenting another person involves directing attention to others and making good observations about another's skills, appearance, or personality. A social story can be used to explain the positive effects of compliments. Sorting activities can be utilized to explain different types of compliments that can be given. Visuals can be used to describe the body language, facial expressions and tone of voice involved while giving and receiving compliments. Children with ASD also need to know how others feel when they receive compliments versus receiving mean or "cold" messages.

Emotional Education, Perspective Taking, and Social Problem Solving

Children with ASD might know basic emotions such as "happy," "mad," or "sad" and what might make them experience these emotions. They might have more difficulty, however, figuring out what would make others experience these similar emotions. Playing games like "emotions charades"- picking an emotion out of a hat and acting it out with no verbalizations helps the child with autism identify crucial body and facial cues specific to a particular emotion. Once the children are able to identify the emotion, they can be taught

how to respond to these emotions in an empathetic manner. While still on the topic of emotions, children can help identify body, action and feeling triggers associated with each emotion using a visual such as an "emotions" or "anger" thermometer (McAfee, 2003).

Cartoon strips with thought bubbles can be used to help children understand how their peers would feel if responded to in a certain manner (Gray, 1998). For example, "Your friend buys you a CD for your birthday; write in what she thinks when you tell her you don't like it. What kind of impression do you make:__________ ." On the other hand, what kind of impression do you make when you say "thanks" and that you like it even if you do not?

Teaching children how to problem solve helps them learn to think through situations, take others' thoughts and behaviors into consideration, and generate solutions to a problem rather than impulsively respond to it. Bloomquist (1996) describes visually the different steps involved in solving a social problem such as identifying the problem and thinking about how every one is feeling before arriving at probable solutions. While modeling and using role plays to depict various problem scenarios is useful within the group format, carry over can be facilitated by having children report from homework how what problems occurred and how problems were addressed during the week. Parents can also endorse if their child is implementing the steps to problem solving and redirect if necessary as well as reward appropriate behaviors.

Conversational Skills

Baker (2003) describes different ways a conversation can be started based on information one has of another: (a) what is happening currently, (b) what has been done in the past, and (c) what plans one might have for the future. Once again, the child's attention is being directed to others and re-

quires filing away in memory pertinent information regarding others. For example, if the child is aware that a peer has just returned from vacation, a conversation can be started about the peer's vacation. Further, if the child sees another peer playing with a new toy, conversation can be centered on the toy. On a Friday afternoon, conversations can be around plans for the weekend.

Choosing a topic of relevant interest to peers is an extremely important step in having successful conversations with others. Very often children with ASD have repetitive interests that consume most conversations. Teaching them facial cues that indicate boredom or lack of interest is helpful to changing the topic to that of mutual interest. Reciprocity in conversations and taking turns while conversing is another important focus in teaching conversational skills to children with ASD. Teaching children to show "active listening" while another is talking helps carry the conversation forward. Playing the "Reporter game" (i.e., conducting a mock interview of a famous person) is useful in helping children ask relevant questions or make comments regarding the other's topic of interest (Baker, 2003).

Finally, teaching terminating a conversation appropriately is important for having future conversations with others. Children are taught, through modeling and role playing, how conversations can be ended if one has to leave due to a variety of reasons, while always communicating an interest in pursuing the conversation if there are elements that remain unfinished. Video self modeling is another important strategy that can be used to teach conversational skills and accompanying body language.

With each skill that is taught, games and other fun, interactional activities can be introduced to enhance the skill that has been targeted for instruction. For instance, while on the topic of identifying body and facial cues associated with emotions, play emotion charades. Snack time or visits to a

nearby restaurant can be ideal situations to provide training in the natural environment regarding dining etiquette or conversational skills. Ultimately, the goal of social skills groups are to provide social skills training in a fun, interactive setting that most closely resembles the natural environment to facilitate generalization of acquired skills.

In summary, social skills interventions are essential for children with ASD. Community based service providers such as schools and clinics can expect to be asked by parents to provide social skills treatment to their children. The problem is that there is very little information available to guide the development of effective programs in such settings. The purpose of the case description of the implementation of a social skills group intervention is to assist community based providers in the development of such programs.

References

Aman, M. G., Singh, N. N., Stewart, A. W., & Field, C. J. (1985). The aberrant behavior checklist: A behavior rating scale for assessment of treatment effects. *Journal of Mental Deficiency, 89, 485–491.*

Aman, M. G., Tasse, M. J., Rojahn, J., & Hammer, D. (1996). The Nisonger Child Behavior Rating Form: A child behavior rating form for children with developmental disabilities. *Research in Developmental Disabilities, 17, 41–57.*

Baker, J. (2001). *The social skills picture book: Teaching play, emotion and communication to children with autism.* Arlington, TX: Future Horizons, Inc.

Baker, J. (2003) *Social skills training for children and adolescents with Asperger Syndrome and social-communication problems.* Shawnee Mission, Kansas: Autism Asperger Publishing Company

Barnhill, G. P., Cook, K. T., Tebbenkamp, K., & Myles, B. S. (2002). The effectiveness of social skills intervention targeting nonverbal communication for adolescents with Asperger syndrome and related pervasive developmental delays. *Focus on Autism and Other Developmental Disabilities, 17*(2), 112–118.

Barry, T. D., Klinger, L. G., Lee, J. M., Palardy, N., Gilmore, T., & Bodin, S. D. (2003). Examining the effectiveness of an outpatient clinic-based social skills group for high-functioning children with autism. *Journal of Autism and Developmental Disorders, 33*(6), 685–701.

Bellini, S. (2006). The development of social anxiety in high functioning adolescents with autism spectrum disorders. *Focus on Autism and Other Developmental Disabilities, 21,* 138–145.

Bloomquist, M. (2006). *Skills training for children with behavior problems* . New York: The Guilford Press.

Buggey, T. (1999). Videotaped self-modeling: Allowing children to be their own models. *Teaching Exceptional Children* (4) 27-31

Carter, A. S., Davis, N. O., Klin, A., & Volkmar, F. R. (2005). Social development in autism. In F. R. Volkmar, R. Paul, A. Klin, & D. Cohen (Eds.), Handbook of autism and pervasive developmental disorders: Vol. 1. Diagnosis, development, neurobiology, and behavior. Hoboken, NJ: John Wiley & Sons.

Chamberlain, B. O. (2001). Isolation or involvement? The social networks of children with autism included in regular classes. Unpublished doctoral dissertation, University of California, Los Angeles.

Charlop-Christy, M. H., & Daneshvar, S. (2003). Using video modeling to teach perspective taking to children with autism. *Journal of Positive Behavior Interventions,* 5, 12-21.

Cohen, I. L., (2003). Criterion-related validity of the PDD

Behavior Inventory. *Journal of Autism and developmental Disorders, 33, 47-53.*

Constantino, J. N., Przybeck T., Friesen, D., & Todd, R. D. (2000). Reciprocal social behavior in children with and without pervasive developmental disorders. *Journal of Behavioral Pediatrics, 21, 2–11.*

Coucouvanis, J. (2005). *Super skills.* Shawnee Mission, Kansas: Autism Asperger Publishing Company

Cragar, D., & Horvath, L. (2003). The application of social skills training in the treatment of a child with Asperger's disorder. *Journal of Clinical Case Studies, 2,* 34–49.

Eaves, L. C, c& Ho, H. H. (1997). School placement and academic achievement in children with autism spectrum disorders *Journal of Developmental and Physical Disabilities, 9,* 277-291.

Gray, C. (1993). *The new social story book – illustrated edition.* Arlington, TX: Future Horizons, Inc.

Gray, C. (1998) Social stories and comic strip conversations with students with Asperger syndrome and high-functioning autism. In. Schopler E.,. Mesibov G.B., & Kunce L.J. (Eds). *Asperger syndrome or high-functioning autism?* (pp. 167-198) New York: Plenum Press

Gresham, F. M., & Elliott, S. N. (1990). Social skills rating system. Circle Pines, MN: American Guidance Service.

Gresham, F. M., Sugai, G., & Horner, R. H. (2001). Interpreting outcomes of social skills training for students with high-incidence disabilities. *Teaching Exceptional Children, 67,* 331–344.

Hodgdon, L.Q. (1997). *Visual strategies for improving communication: Practical supports for school and home.* Troy, MI: QuirkRoberts Publishing

Howlin, P. (2000). Outcome in adult life for more able indi-

viduals with autism or asperger syndrome. *Autism, 4, 63–83.*

Hwang, B., & Hughes, C. (2000). The effects of social interactive training on early social communicative skills of children with autism. *Journal of Autism and developmental Disorders, 30(4), 331–343.*

Kelly, A. (1996). *Talkabout*. Oxon, UK: Speechmark Publishing Ltd.

Krantz, P. J., & McClannahan, L. E. (1993). Teaching children with autism to initiate to peers: Effects of a script-fading procedure. *Journal of Applied Behavior Analysis*, *26*,121-132.

Krasny, L., Williams, B. J., Provencal, S., & Ozonoff, S. (2003). Social skills interventions for the autism spectrum: Essential ingredients and a model curriculum. *Child and Adolescent Psychiatric Clinics of North America, 12, 107–122.*

McAfee, J. (2002). Navigating the social world. Arlington, TX: Future Horizons, Inc.

McConnell, S. R. (2002). Interventions to facilitate social interaction for young children with autism: Review of available research and recommendations for educational intervention and future research. *Journal of Autism and Developmental Disorders, 32,* 351–372.

Murray, D., Ruble, L., Willis, H., & Malloy, C. (in press). Congruency between caregiver and teacher report of social skills in children with autism spectrum disorder. *Speech and Language Services in the Schools.*

Quill, K.A. (1995). Teaching children with autism. Albany, NY: Delamar Publishing.

Rojahn, J., Matson, J. L., Lott, J. L., Esbensen, A. J., & Smalls, Y. (2001). The Behavior problems Inventory: An instrument for the assessment of self injury, stereotyped behavior and aggressive/destruction in individuals with developmental disabilities. *Journal of Autism and Developmental Disorders, 31, 577-588.*

Ruble, L.A., Willis, H., & Crabtree, V. (2008). Social skills group therapy for autism spectrum disorders. *Journal of Clinical Studies*, 7, 287-300.

Rydell, A., Hagekull, B., & Bohlin, (1997). Measurement of two social competence aspects in middle childhood. *Developmental Psychology, 33, 824–833.*

Stone, W., Ruble, L., Coonrod, E., Hepburn, S., & Pennington, M. (2002). TRIAD social skills assessment manual. Available at 2100 Pierce Ave., Medical Center South, Rm. 426, Nashville, TN 37232.

Tantam, D. (2003). The challenge of adolescents and adults with asperger syndrome. *Child Adolescence and Psychiatric Clinics of North America, 12, 143–163.*

Tse, J., Strulovitch, J., Tagalakis, V., Meng, L., & Fombonne, E. (2007). Social skills training for adolescents with asperger syndrome and high functioning autism. *Journal of Autism and Developmental Disorders, 37, 1960-1968.*

White, S. W., Keonig, K., & Scahill, L. (2007). Social skills development in children with autism spectrum disorders: A review of the intervention research. *Journal of Autism and Developmental Disorders, 37, 1858-1868.*