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A Programmatic Description of a Social Skills Group for Young Children With Autism

Justin B. Leaf¹, Wesley H. Dotson¹, Misty L. Oppenheim-Leaf¹, James A. Sherman¹, and Jan B. Sheldon¹

Abstract

Deficits in social skills are a common problem for children with autism. One method of developing appropriate social skills in children with autism has been group instruction. To date, however, group instruction has produced mixed results. The purpose of this article is to describe a promising method of teaching social skills to children in small groups.

Keywords

applied behavior analysis, autism, group instruction, social skills

There have been a number of studies that have evaluated the effects of teaching social skills to children with Autism Spectrum Disorder (ASD) within group settings. Two reports have summarized the outcomes of some of this research. White, Koenig, and Scahill (2007) conducted a meta-analysis of 14 studies that assessed the effectiveness of group instruction on teaching social skills to children with autism. The meta-analysis showed that participants were able to learn the skills directly taught to them; however, limited generalization of social skills was found across the 14 studies. White et al. concluded that (a) research in the area of social skills groups is limited and incomplete and (b) although the research so far has not demonstrated clear effectiveness, the results are promising enough to justify additional research.

More recently, Reichow and Volkmar (2010) conducted an analysis of various social skills interventions, including those within group settings, for preschool and school-age children diagnosed with an ASD. The conclusions reached by Reichow and Volkmar were that “the effects of social skills groups in isolation remain widely unknown and warrant future study” (p. 160), conclusions similar to those reached by White, et al. (2007).

The results of some of the most-recent studies are representative of the outcomes of teaching social skills to children with autism. Palmen, Didden, and Arts (2008) taught nine adolescents and adults diagnosed with ASD to ask appropriate questions during conversations. During teaching, the researcher explained the importance of asking appropriate questions during conversations, the participants listened to prerecorded audiotapes of appropriate and inappropriate

questions asked during conversations, the participants rated whether these prerecorded questions were appropriate or inappropriate, the participants role-played during five different conversations with the researcher, and the participants not currently involved in a particular role-play observed and rated how well the role-playing participant did. The results of the study were that six out of the nine participants demonstrated some improvement in asking appropriate questions during conversations.

Cotugno (2009) conducted a study to evaluate the effectiveness of a year-long social skills group for 18 children, 7 to 11 years old, who were diagnosed with ASD. In this study, Cotugno implemented multiple therapies under a cognitive-developmental framework to teach participants a variety of social skills. A pretest–posttest design was used to evaluate whether participants’ parents rated their children as displaying more social skills on two standardized assessments: the Walker–McConnell Scale of Social Competence and Social Adjustment (Walker & McConnell, 1995) and the MGH Youth Care Social Competency/Social Skill Development Scale (Cotugno, 2009) following the social skills group. The results of the study indicated that all participants improved their social behaviors following intervention; however, when compared with a control group of

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typically developing peers, the children diagnosed with ASD still demonstrated significant delays.

Koenig and colleagues (2010) evaluated the effectiveness of a 16-week social skills group with 44 children, aged 8 to 11 years, who were diagnosed with ASD. The researchers randomly divided the 44 children into two groups as follows: a treatment group and a waitlist (control) group. The researchers implemented behavioral strategies to teach social skills. A pretest–posttest design, using two standardized tests, was used to evaluate the difference between the two groups. The results of the study were mixed across the two standardized tests. On the Clinical Global Impressions Scale, those participants who participated in the social skills group scored significantly higher than those participants in the control group. The results on the Social Competence Inventory showed no significant difference between the treatment and control group.

Even though the positive outcomes of group social skills teaching thus far have been limited, there are possible benefits of teaching social skills in groups of children diagnosed with ASD: The major potential benefits are that the children may learn from observing the performance of the other children and have opportunities to practice the social skills with other children. If this occurs, group teaching may be a very time-efficient method of improving the social skills of children diagnosed with autism.

This article provides a description of the establishment and implementation of a behaviorally oriented social skills group for young children with ASD. The main purpose is to provide an example of the general structure and critical features of a social skills group, which we hope will be useful to other researchers who are attempting to establish a social skills group for young children with ASD. A secondary purpose is to display some of the preliminary data that have been generated.

Purpose of the Group

There were three primary goals of this social skills group. The first was to provide families in a midwestern college town and a nearby city with a setting where graduate students (the first three authors) and undergraduate teachers could provide social skills training to young children diagnosed with ASD, free of charge. Many children diagnosed with ASD in these communities already received intensive behavioral treatment; however, the priority of these interventions was on teaching academic skills, language skills, or decreasing aberrant behaviors (e.g., self-stimulatory behaviors) and not teaching aimed at improving social skills. The second goal of the group was to provide a setting in which the authors could conduct applied research to evaluate various behavioral teaching methodologies used in this group. The third goal was to provide an educational setting for undergraduate students where they could learn how to implement

different social skills interventions, perform the various duties that paraprofessionals or behavioral therapists typically encounter (e.g., providing reinforcement) in a school setting, and conduct behavioral research.

General Group Description

Recruitment of Children

The social skills group included children diagnosed with ASD and typically developing children who served as peer role models. The researchers established four criteria for participation in the group. First, a child had to be able to speak in full sentences and to answer and ask questions. This criterion was selected because the intended teaching methodologies were primarily language based and required the ability to understand spoken language. Second, a child had to be toilet trained prior to starting the group. Third, the child could not have an immediate history (i.e., within the last 3 months) of severe self-injury and aggressive or disruptive behavior (e.g., more than 2 instances a day). This criterion was established because the presence of severe problem behaviors would interfere with the goal of analyzing the teaching methodologies to be implemented and the undergraduate social skills teachers were not properly trained or certified to deal with such behaviors. Finally, the child had to be between the ages of 3 to 7.

To find potential participants with ASD, the authors contacted local organizations (e.g., the local chapter of the Autism Society of America) and asked them to distribute information to any interested parties. In addition, the authors conducted public presentations for these and other groups at local meetings to identify potential children. In all cases, interested families were asked to contact the authors. To find potential typically developing peer models, the authors asked colleagues and parents of participating children with ASD whether they would like to have their typically developing children join the group. Typically developing peers had to meet the same inclusion criteria as the children diagnosed with ASD.

Once the families of potential children contacted the authors, the authors arranged formal interviews with the parents and the child to determine whether the child met the four inclusion criteria. The interviews consisted of direct observations of the child, parental interviews about the child, and asking the parents to complete the Social Skills Rating Scale (SSRS; Greshman & Elliot, 1990). Parent interviews and direct observations were conducted simultaneously and lasted approximately 30 min. If the child was appropriate for the social skills group, he or she was invited to participate. If the child was not appropriate for the group, the authors provided suggestions of alternative (e.g., other research or clinical programs) services or interventions.

Table 1. Child Demographic Information

Name	Age during first session	Sex	Diagnosis	IQ testing	Number of months of participation
Annie	6.3	Female	Typically developing	NA	9
Buddy	5.6	Male	Autism	87	16
Brady	6.6	Male	PDD-NOS	NA	16
Jeremy	5.1	Male	Autism	89	12
Hank	4.9	Male	PDD-NOS	117	12
Larry	4.4	Male	Asperger	89	10
Lisa	3.4	Female	Typically developing	NA	16
Zack	3.1	Male	Typically developing	NA	8

Abbreviations: PDD-NOS = Pervasive Developmental Disorder Not Otherwise Specified.

Location and Children

The authors conducted the social skills group for 16 months. The group met for 120 min, twice a week, for approximately 120 meetings. The setting for the group teaching was in a preschool classroom at a large midwestern university. The classroom consisted of two play areas, a table with chairs, and had a door exiting to an enclosed outdoor play area. The classroom also included an observation booth with a one-way mirror, which allowed parents, researchers, and other professionals to observe the children unobtrusively.

Across the 16 months the group met, a total of eight children participated. The group began with five children (three with ASD and two peer models). Later, three additional children (two with ASD and one peer model) were enrolled. Table 1 displays key demographic information about all the children. Only two of the eight participants left the group before the end of the 16 months. One child with ASD was dismissed due to the development of severe aggressive and disruptive behavior that was not responsive to several attempts at intervention during the group, and one of the typically developing peer models graduated from the group when she turned 7 years old.

Group Structure

During a typical group meeting, there were six distinct activities. First, the group began with a 15-min free-play activity, during which children came into the classroom and could choose to engage in either a dramatic play activity (e.g., dress up) or a structured game (e.g., twister). The purposes of free play were as follows: (a) to provide a period of time where children could interact with each other and the teachers free from direct instructional demands, (b) to provide a transitional period from the child's home to the group, and (c) to allow assessment of the skills being taught (Leaf, Dotson, Oppenheim, Sheldon, & Sherman, 2010; Leaf et al., 2011). Two to three teachers (undergraduate social skills teachers

and/or the authors) supervised the children, reinforced appropriate social behavior, and redirected inappropriate behavior during the free-play period. Additional undergraduate social skills teachers or the other authors helped with conducting research probes at this time.

Following the initial free-play activity, there was a 25-min opening group instruction period (circle time). The purpose of this instructional circle was to teach the children targeted social skills (e.g., appropriate initial greeting, showing appreciation, and giving a compliment) using the teaching interaction procedure (Leaf et al., 2010). During the opening group instruction, the children sat in a semicircle, and the first author led the activities from the middle of the group. The author implemented the teaching interaction procedure, addressed off-task behavior, and provided reinforcement to the children. Two undergraduate social skills teachers were shadow teachers who also addressed problem behavior, reinforced children for appropriate behaviors, and helped model skills taught. After this instructional circle, the children were split into two groups for smaller group instruction.

The purpose of the smaller groups of two to four children (the third activity) was to provide more individualized instruction to the children. Small groups were used to teach a variety of additional social skills, including emotion recognition, sportsmanship, and social communication. Small-group instruction lasted approximately 20 min. Each group was assigned a lead teacher (one of the authors or undergraduate social skills teachers) who carried out the activity chosen for the day. In addition, each group was assigned a shadow teacher (undergraduate social skills teacher) to assist the lead teacher in the instruction and help address any problem behaviors.

Fourth, after the small groups, children engaged in another large-group instructional circle, followed by either a 15-min outdoor or indoor play activity (fifth activity). Indoor play was typically a structured game (e.g., duck duck goose), whereas outdoor activities were unstructured (e.g., jungle gym) activities with minimal teacher presence. The final

Table 2. Some of the Social Skills Taught

Skills taught for research (research targets)	Skills taught for clinical need (clinical targets)
Showing appreciation	Sitting appropriately
Giving compliment	Sharing
Changing the game when a friend is bored	Turn taking
Making empathetic statements	Playing indoor games
Interrupting appropriately	Playing outdoor games
Facial recognition (e.g., sad, mad)	Raising your hand
Playing games	Appropriate greetings
Conditioned reinforcement	Cheering for a friend

activity of the day (sixth activity) was a large-group instructional meeting (a closing circle) that lasted approximately 15 min. The purpose of the closing circle was to work on school readiness skills, discuss the day's activities with the children, and allow the children time to exchange the tickets they had earned for the day for reinforcers (reinforcement procedures described below).

Skills Taught

Throughout the course of the 16 months, the authors taught a wide variety of social skills. The authors selected social skills based on parental interviews, skills addressed on the SSRS, requests from schoolteachers, and ongoing direct observations of the children. The authors selected social skills that the majority of children needed to work on. The authors placed some of these social skills into experimental designs (research targets), with the purpose of evaluating the effectiveness of the various teaching procedures implemented within the social skills group. The authors designated other skills as clinical targets that were measured but were not included within any experimental design. The authors worked on several skills simultaneously with all of the children. Table 2 provides information on some of the social skills that were taught.

Important Features of the Group

Children

All children in the group were 7 years old or younger at the start of the group. Two of the children were under the age of 5 during the first social skills group session that they attended; thus, this social skills group provided early behavioral intervention. This differs from the ages of children who participated in the great majority of social skills groups that are reported in the literature (White et al., 2007). In fact, there have been relatively few reports of social skills groups that

are implemented to such young children diagnosed with autism (Reichow & Volkmar, 2010; White et al., 2007).

Duration of Group Teaching

A second important feature of this social skills group was the length of time that the group was carried out. Social skills groups are typically conducted anywhere from 6 to 36 weeks (Reichow & Volkmar, 2010; White et al., 2007). However, this group lasted for 16 months with little turnover of the children. This is far longer than the average social skills group intervention. Having group instruction take place this long with the same children likely had two main advantages: increased opportunities for children to develop and display positive social relationships with each other and increased opportunities to enhance the variety and complexity of the social interactions. By the end of the social skills group, there was considerable evidence for the establishment of positive relationships, such as children (a) exchanged gifts on holidays, (b) invited each other to birthday parties, and (c) arranged outside playdates with each other, independent of group meetings on a weekly basis.

Staff Selection and Training

The social skills group took place at a large midwestern university, and the primary teachers of this group were undergraduate students who enrolled in a semester-long practicum. During each semester, 3 to 6 undergraduate social skills teachers enrolled in the social skills group practicum. The first three authors supervised 13 undergraduate social skills teachers over the entire duration of the social skills group. The authors were also in charge of selecting skills, conducting research, teaching children, interacting with parents, training undergraduate social skills teachers, public promotion of the group, recruitment of children, and dealing with behavioral problems.

The undergraduate social skills teachers were in charge of teaching, shadowing, setting up the group, taking and analyzing data, and helping in skill selection. Although there were up to seven teachers (undergraduate and graduate students) in the room at any one time, a great majority of teachers were in charge of conducting research-related activities (e.g., data collection or videotaping) and were not needed to run the social skills group. The social skills group typically was implemented by four teachers (graduate and/or undergraduate), and, as experience was gained, could have easily been managed by three teachers.

The authors selected the undergraduate social skills teachers based on their outstanding performance in classes in applied behavior analysis. Specific training began at the start of every semester prior to the children attending the group. The first 2 days of training were didactic and began with an overview

of autism (reading, videotapes, and presentations), descriptions of the teaching procedures, and descriptions of the individual participants. This training also included explanations of the different roles that the undergraduate social skills teachers would have in the group (e.g., shadow teacher and data collector) and guidelines about how to conduct these roles.

Following didactic training, the first three authors provided anywhere from 2 to 4 days of practice training consisting of demonstrations and role-plays. The intensity of the role-plays increased as the undergraduates demonstrated increased competence and comfort with their roles. Initial role-plays were focused on correctly implementing teaching strategies, whereas later role-plays required the undergraduates to also deal with behavioral disruptions, nonresponsive children, and children with different skill deficits. Undergraduates were then given feedback based on their role-play performance (see Appendix).

After 4 days of training, children entered the social skills group. Undergraduate social skills teachers with prior experience in the social skills group initially took the lead in the teaching activities. New undergraduate social skills teachers began as shadow teachers and typically did not provide direct teaching to children until later in the semester.

The first three authors continued to supervise and train undergraduate teachers during the semester. At least one author was always present in the classroom and provided ongoing feedback to the undergraduate social skills teachers, which consisted of daily preparation, daily debriefing, weekly team meetings about important concepts (e.g., promoting friendships, shadowing, and prompting in group settings), and weekly related readings.

If undergraduate social skills teachers decided to enroll in the practicum for an additional semester, they became a mentor of a newly enrolled undergraduate social skills teacher. Undergraduate social skills mentors (second semester undergraduate social skills teachers) helped the graduate students in all aspects of mentoring new undergraduate teachers about how to function successfully as a teacher in the social skills group. Having such a wide variety of undergraduate social skills teachers over the course of the 16 months also provided a unique opportunity to promote generalization of skills taught to the children with autism across multiple adults.

Teaching Methodologies

Other significant features of this social skills group were the teaching methodologies used. Previous investigations on social skills groups have implemented behavioral techniques (Koenig et al., 2010), many have used a demonstration role-play model (Palmen et al., 2008), and there have been social skills groups that have implemented procedures

similar to the teaching interaction procedure (e.g., Stichter et al., 2010); however, there have been no social skills groups where the primary intervention has been the teaching interaction procedure or the cool versus not cool procedure. Although a variety of behavioral interventions were implemented (e.g., discrete trial teaching and incidental teaching) within the group, these two interventions were the most significant and were somewhat distinctive to this group.

Teaching interactions. The primary teaching methodology of the group was the teaching interaction procedure (Leaf et al., 2009). The teaching interaction procedure is similar to behavioral skills training (Himle, Miltenberger, Flessner, & Gatheridge, 2004) and consisted of both demonstrations and role-playing. The authors implemented the teaching interaction procedure during large-group instruction.

The teaching interaction procedure began with the teacher labeling and describing what social skill was to be taught for that session. Then, the teacher asked each child to repeat what was being taught. Next, the teacher asked each child to provide a meaningful rationale of why he or she should display the desired social skill. The teacher then asked each participant to describe a time or situation when he or she could display the social skill. Next, the teacher divided the social skill into smaller behavioral steps and asked each of the children to name a step until all of the behavioral steps were stated. Then the teacher displayed the social behavior correctly and incorrectly with one of the shadow teachers and asked the entire group to rate how well the teacher displayed the skill and what the teacher did correctly or incorrectly. Finally, each child was asked to role-play the social skill with the teacher in front of the group. After the role-play, the teacher asked the rest of the children to state what the child did correctly and what the child did incorrectly during the role-play. Each child was required to display all behavioral steps correctly before he or she was finished role-playing. Throughout the entire procedure, the teacher provided children with reinforcement for correctly answering questions and for role-playing correctly.

Cool versus not cool. The authors implemented the “cool versus not cool” program during small-group instruction almost every social skills group (Taubman, Leaf, & Kuyumjian, 2011). Cool versus not cool is a social discrimination program used to teach a child to discriminate between appropriate (“cool”) and inappropriate (“not cool”) social behaviors. During this activity, one of the teachers, for example, engaged in a socially appropriate behavior (e.g., raising hand to gain a teacher’s attention) or a socially inappropriate behavior (e.g., yelling out to gain a teacher’s attention). The teacher then asked the children to say whether the behavior was cool or not cool and why it was cool or not cool. On some occasions, children had the opportunity to role-play

the socially appropriate behavior. The authors implemented the cool versus not cool procedure to teach a variety of social skills, including raising your hand, asking questions, answering questions, sitting appropriately, and losing graciously.

Reinforcement System

A final important feature of this social skills group was the reinforcement system used to promote appropriate social behavior. To ensure that children would receive an appropriate amount of reinforcement and that the reinforcement would not interfere with learning or interactions with peers, the authors and undergraduate social skills teachers implemented a group ticket (or token) economy system (Ayllon & Azrin, 1965). During nongroup instruction, children could earn tickets for engaging in appropriate social behaviors with their peers. During large- and small-group instruction, the authors and undergraduate social skills teachers gave children tickets for answering questions correctly and engaging in appropriate behaviors.

The authors set up a reinforcement store where children could exchange the tickets they earned throughout the day for tangible reinforcers such as bouncy balls, stuffed animals, and snow cone machines at the end of each social skills group. The reinforcement store was set up to be differential so that smaller items (e.g., bouncy balls) were worth fewer tickets and the larger items (e.g., Thomas the Tank engines[®]) were worth more tickets. Children also had the opportunity to save their tickets across sessions so that, if they had not earned enough tickets to receive a large, more preferred reinforcer, they could save their tickets and buy the reinforcer later.

There were several reasons for the structure of the reinforcement system. First, children with autism often need external reinforcement to display appropriate social behavior. This was the case for the children in this group. Therefore, tangible items were used to help promote appropriate social behavior. Second, providing a single consumable item at the end of the session rather than having the child receive multiple items throughout the session decreased the total amount of reinforcement needed and ensured that reinforcement did not interfere with learning or with social opportunities. Finally, setting up a reinforcement store where more preferred items cost more tickets and less preferred items cost less tickets provided opportunities to teach children how to develop self-control, wait for a more desirable reinforcer, and how to save.

All reinforcers ranged from US\$0.50 to US\$15.00 and were selected based on each individual child's preference. Over the course of 16 months, the total cost of all reinforcers used in the group was less than US\$1000 dollars.

Outcomes

Two experimental evaluations of the effects of the teaching procedures were conducted within the social skills group and have been published. The first study (Leaf et al., 2010) evaluated the effectiveness of the teaching interaction procedure implemented in a group instructional format to teach four social skills (giving compliments, making empathetic statements, showing appreciation, and changing the game) to each of the children diagnosed with ASD. Results indicated that all participants displayed the four social skills at high level during role-plays and also generalized these skills in a different and more naturalistic setting. The second study (Leaf et al., 2011) evaluated the effectiveness of small-group instruction using the no-no prompt procedure on skill acquisition and observational learning. The results were that all participants were able to learn the skills directly taught to them and observationally learn skills taught to other children in the group.

There also were a number of skills taught that were not incorporated into an experimental design. The data for these nonexperimental targets were often evaluated during role-play probes as part of teaching and during probes outside of the teaching situation (generalization). Role-play probes as part of teaching would occur during the role-play component of the teaching interaction procedure. During these role-play probes, the teacher would engage in a behavior that would set the occasion for the learner to display the appropriate behavior. For example, if the social skill was giving a compliment, the author would draw a picture and then hold up the picture to see if the learner would give a compliment. Probes outside of the teaching situation would occur with an undergraduate social skills teacher who was not involved in the teaching and would occur at least 10 min after teaching occurred. Probes outside of the teaching situation were similar to role-play probes, except that the child was not primed of what skill they should display and no consequences were provided based on whether the child displayed the skill or not.

The first social skill that was taught in the social skills group was appropriate greeting. Appropriate greetings consisted of four behavioral steps (i.e., facing the person, appropriate voice tone, initiating statement, and initiating question). The lead teacher scored whether the students displayed each of the behavioral steps both in role-play probes and in generalization probes outside of the teaching situation (e.g., with peers). One of the undergraduate social skills teachers or one of the authors independently and simultaneously scored each of the behavioral steps to get measures of reliability. Prior to intervention, Buddy, Brady, and Jeremy were unable to display the social skill in either role-play probes during teaching or generalization probes. The authors taught this skill

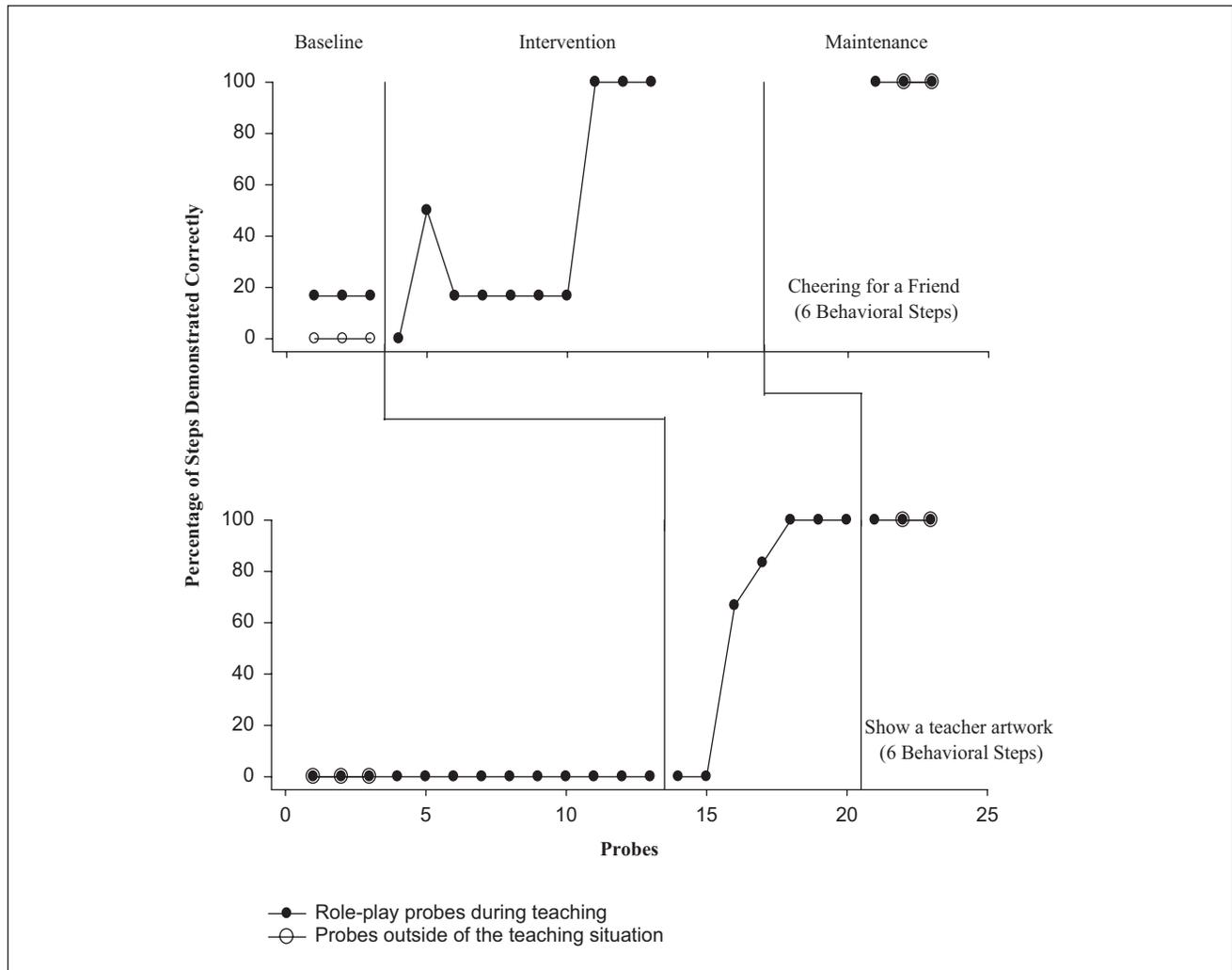


Figure 1. Larry Clinical Data.

with the teaching interaction procedure during large-group instruction. Within two sessions, Buddy, Brady, and Jeremy were able to display the social skill during both role-play probes during teaching and in generalization probes. All three participants were able to maintain this social skill, except Brady during one role-play probe during teaching.

Second and third examples of social skills that were taught, and that were not part of an experimental design, were cheering for a friend while he or she was playing a game and the learner showing artwork that he made to an undergraduate social skills teacher. Both social skills were taught in large-group instruction using the teaching interaction procedure. Figure 1 provides data on Larry's role-play probes during teaching and generalization probes outside of the teaching situation. Larry demonstrated both skills to 100% accuracy across three consecutive role-play

probes during teaching, after 10 and 7 sessions, respectively. In addition, he showed high levels of generalization of both skills toward additional teachers following intervention. Reliability was assessed in 39% and 58% of role-play probes during teaching and generalization probes, respectively. Reliability was 98% (range = 83%–100%) for role-play probes during teaching and 100% during generalization probes.

Parental Social Validity

An additional measure of the success of the social skills group was the rating of the parents on their satisfaction with the group. These social validity measures were previously published (Leaf et al., 2010). All parent evaluations were positive but some did request that we teach additional

social skills. We also solicited additional thoughts from the parents. Two examples are presented below. One parent stated,

When we began group, we were always dragging Buddy into preschool kicking and screaming. He chose to sift gravel at recess. Birthday parties were a disaster and so were playdates. Working with your team increased his confidence, taught him in tiny steps to do things that most of us take for granted as intuitive. He has thrived. Your efforts have helped make his life better and his future better.

A second parent wrote,

Before the social skills group, he [Larry] could not sit still in a group circle (he would roll around on the ground, biting his shoes, shirt, making noises, very disruptive). He loved other kids, but did NOT know how to interact with them. He was not set up very well for a school atmosphere or really anything that life was going to bring him. The social skills group targeted all these issues and was the single most effective “therapy” that we tried with Larry. He just finished his 1st year in kindergarten. He has many many friends, functions very well in school, and is more comfortable in his own skin. The Special Ed teacher at his school told me one day, “Larry is the ONLY exception at this school of kids on the spectrum that is excelling socially.”

Challenges

Although there were numerous successes of the social skills group, there were also several challenges. One of the most difficult challenges was identifying children for participation in the group who were compatible and likely to be most helped by the teaching procedures used. The personalities of potential peer mentors, balancing the skill level of the undergraduate teachers and the behavioral supports needed by the children, and selecting children with prerequisite skills to benefit from teaching procedures that relied heavily on verbal instruction was a constant struggle. Another obstacle to the group was funding for the teaching materials and reinforcers. A small grant provided many of the supports for the present group, but similar programs may have to charge a small fee to parents to support the staffing and material required by the group teaching methods. A third obstacle was being able to take generalization data in the children’s schools or homes. This was a challenge because it was difficult to get permission from schools to take data in the school setting and difficult to find peers to come over to the participants’ homes. Future researchers should attempt to implement social skills groups in a school setting so

measures of generalization can be more easily taken. Finally, children sometimes displayed severe problem behaviors (e.g., undressing in public) and occasionally multiple children displayed these problem behaviors simultaneously. This was a problem because the undergraduate social skills teachers had not been taught how to address severe problem behaviors. One way that the authors attempted to minimize these problem behaviors from occurring or from escalating was to provide an abundant amount of reinforcement to children who did not display problem behaviors. Thus, the children observed their peers receiving tickets and opportunities to engage in desirable activities for appropriate behaviors.

Conclusions

Children with autism have difficulty displaying social skills and developing positive social relationships. Although these skills have traditionally been taught in one-on-one settings, there have been several recent studies that have evaluated the effects of group instructional formats to teach social skills to children with autism (Cotugno, 2009; Leaf et al., 2010; Reichow & Volkmar, 2010). This article described one such group that was implemented for young, high-functioning children diagnosed with an ASD. Children in this group successfully learned the social skills taught to them and were able to develop positive relationships with other members of the group, and parents were satisfied with the group. In addition, there are several possible advantages to social skills groups. First, social skills groups often involve peers as part of the intervention so that children have a higher likelihood of generalizing the targeted skills toward these peers. A second advantage is that social skills groups provide opportunities for observational learning to occur. Third, social skills groups more closely resemble natural learning environments, such as schools, and, therefore, may help promote more successful integration of the child into natural learning environments. Finally, group instruction may also provide benefits to clinicians because it may be more efficient when teaching similar skills to multiple clients, be more cost-effective, and provide the opportunity for practitioners to work on generalization of skills from one-on-one teaching settings.

Based on the results found in the social skills group literature and the results of this social skills group, it appears that a group instructional format may be an effective strategy for teaching children with autism. Future researchers and clinicians should find ways to implement these procedures in more applied settings such as public schools, church groups, or other community settings. It should be noted that although the outcomes of the present group were promising, we do not know how effective social skills groups would be for children with more significant impairments.

Appendix

1. Description

1	2	3	4	5
Needs Improvement: Provided no description of the behavior. Provided no explanation of the behavior. Did not have participants provide a description.	Average: Provided their own statement and description of the behavior but did not allow any or just one participant to give them a description.	Good: Provided a description of the behavior but one which was vague. Had several participants give a description but their description was also vague.	Very Good: Provided a clear description of the behavior. Had participants give a description but didn't require it to be clear. Provided an explanation of the behavior.	Excellent: Provided a clear description of the behavior. Had participants give a clear description. Provided an explanation of the behavior.

2. Rationale

1	2	3	4	5
Needs Improvement: Did not provide a rationale or provided a blanket rationale. Participants not asked to provide rationale.	Average: Provided a blanket rationale to the behavior and also only had the participants provide a blanket rationale.	Good: Provided a meaningful rationale to the behavior but allowed participants to provide blanket rationales.	Very Good: Provided a meaningful rationale to the behavior and had some participants provide a meaningful rationale.	Excellent: Provided a meaningful rationale to the target behavior and had each participant come up with a meaningful rationale.

3. Cues and Characteristics

1	2	3	4	5
Needs Improvement: Did not provide cues and characteristics. Did not ask participants to provide them either.	Average: Provided a poor example of when the participants would display the skill and did not ask the participants to provide any different examples.	Good: Provided a clear example of when the participant would use the skill but one that may not be relevant. Had only some of the participants come up with different times they would display the skill.	Very Good: Provided a clear example of when the participant would use the skill but one that may not be relevant. Had participants come up with different times they would display the skill, which were not all relevant.	Excellent: Provided a clear and relevant example when the participant would use the skill and had participants come up with different times they would display the skills.

4. Skill Breakdown

1	2	3	4	5
Needs Improvement: Did not break the skill down or broke the steps down inappropriately. Did not have the participants practice naming and describing steps.	Average: Broke the skill down and had participants practice naming steps but missed an important step in the skill.	Good: Broke the skills down appropriately and had participants state each of the steps.	Very Good: Broke the skills down appropriately, did discrimination training when needed, and had participants state each of the steps.	Excellent: Broke the skills down appropriately, did discrimination training when needed, provided further explanation when needed, and had participants describe and state each of the steps.

(continued)

Appendix (continued)

5. Teacher Role-Play

1	2	3	4	5
Needs Improvement. Did not role-play the skill for the participants.	Average: Demonstrated the skill in front of the group. Did not ask participants to give feedback on role-play.	Good: Demonstrated the skill incorrectly in front of the group. Asked participants to give feedback but did not ask them to explain. Role-played a second time.	Very Good: Demonstrated the skill incorrectly in front of the group first and then role-played the skill a second time correctly. Asked participants to give feedback each time but did not ask for explanations.	Excellent: Demonstrated the skill incorrectly in front of the group. Role-played again as many times as needed to establish discrimination. Asked participants to give feedback each time and to explain feedback.

6. Participant Role-Play

1	2	3	4	5
Needs Improvement. Did not have the participants role-play.	Average: Had some participants role-play, but did not require them to role-play with 100% accuracy. Made many mistakes in prompting or delivery of consequences.	Good: Had all participants role-play but did not require them to role-play with 100% accuracy. Made several mistakes in prompting or delivery of consequences.	Very Good: Had all participants role-play with 100% accuracy but made some mistakes in delivering prompts or consequences.	Excellent: Had all participants role-play with 100% accuracy, made no mistakes in delivering prompts or consequences.

7. Other Teacher Behaviors

1	2	3	4	5
Needs Improvement: Made significant mistakes in the delivery of prompting and reinforcement, asking questions, controlling off-task behavior and managing shadow staff to the point that the teaching interaction was not finished.	Average: Made significant mistakes in the delivery of prompting and reinforcement, asking questions, controlling off-task behavior and managing shadow staff leading to major disruptions of the teaching environment.	Good: Made several mistakes in the delivery of prompting and reinforcement, asking questions, controlling off-task behavior and managing shadow staff leading to minor disruptions of the teaching environment.	Very Good: Made some mistakes in the delivery of prompting and reinforcement, asking questions, controlling off-task behavior and managing shadow staff, which did not lead to disruptions of the teaching environment.	Excellent: Provided reinforcement, asked clarifying questions, prompted participants as necessary, controlled off-task behavior, and directed shadow staff as necessary throughout teaching.

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