

# Training Reciprocal Social Interactions Between Preschoolers and a Child with Autism



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**Abstract:** Previous research has suggested that children diagnosed with autism have severe social deficits that require active intervention. As such, the current study investigated the effectiveness of peer and individual social skills training for a preschooler diagnosed with autism. The goal of the training was to increase the rate of reciprocal social interactions. Results indicated that the frequency of appropriate initiations and responses did increase and that these changes were socially valid (a) as measured by expert ratings of change and (b) in comparison to typical peer-to-peer social behavior. Results are discussed in terms of their applicability to classrooms serving children diagnosed with autism.

Autism as a disorder is characterized by a lack of social interest and interaction with the environment (American Psychiatric Association, 1994). Children diagnosed with autism typically have poor social skills that will likely become more debilitating without active intervention (Roff, 1961; Strain, 1981). Because of these concerns, many researchers have seen the need for effective intervention in this area, and the result has been a proliferation of research targeting social skills. These interventions have ranged from simple peer exposure studies (Roeyers, 1996) to more intensive training procedures (Kamps, Potucek, Lopez, Kravits, & Kemmerer, 1997; Lovaas, 1987; for a review see Weiss & Harris, 2001).

The most common intervention in this area involves peer-initiation strategies (Pierce & Schreibman, 1997; Strain & Odom, 1986). These strategies typically teach peers to initiate interactions with the targeted child, and they involve implementing a reinforcement contingency to help maintain the interactions while fading teacher/researcher prompts. Interventions of this nature have reliably demonstrated positive effects for children with autism and their typically developing peers (e.g., Kohler, Strain, & Shearer,

1992; Lee & Odom, 1996; McGee, Almeida, Sulzer-Azaroff, & Feldman, 1992; Pierce & Schreibman, 1997).

Although many studies have indicated increased social behaviors for children with autism after interventions, the extent to which these changes remediate social deficits and normalize social interaction patterns has seldom assessed. In other words, the clinical significance of these changes is difficult to determine. Strain and his colleagues referred to the importance of measuring normal peer-to-peer social behavior to further interpret the social skills gains made by children diagnosed with autism (Strain & Odom, 1986; Strain, Odom, & McConnell, 1984; Tremblay, Strain, Hendrickson, & Shores, 1981). In his 1981 study, Strain attempted to produce a set of data on the social behaviors of typically developing preschool children. These data were proposed as a standard against which all other children's social behaviors could be gauged. Strain found that normally developing preschoolers exhibited an average of one initiation every 2 minutes in an unstructured setting. In terms of responses to these positive initiations, he found that 52% of the responses were positive and 4% were negative and that 44% of the initiations did not receive a re-

sponse. Other researchers have secondarily measured the social behavior of typically developing peers in studies focused on remediating the social skills deficits of children with disabilities (Krantz & McClannahan, 1993). Because the interactions among typically developing peers were not the focus of the study, however, results were not reported in such a manner that the findings could be used as any sort of norm comparison.

More recently studies have begun to assess the social behavior of typically developing children in comparison to children with autism. For example, Koegel, Koegel, Frea, & Fredeen (2001) measured the social behavior of five children with autism and their typically developing peers. The data indicated that the children with autism and their peers played with a similar number of toys during an average play period but that the former tended to play with each toy for a shorter period of time. The nondisabled children also engaged in social interactions much more frequently than did the children with autism, but both groups of children engaged in similar levels of social interactions with adults.

It therefore appears that research is just beginning to develop comparisons of the social behavior of typically developing peers to the social behavior of children with autism. This type of direct comparison would serve two purposes:

1. This method would allow clinicians and researchers to interpret the specific baseline social deficits of the target child, determining specific areas in need of remediation.
2. This type of direct comparison would allow for interpretation of posttreatment gains made by the target child in a clinically meaningful way.

The current study attempted to expand upon the previous literature regarding the clinical significance of social skills gains in children diagnosed with autism. In order to meet this goal, a highly structured observational system was used to quantify the social behavior of typically developing children. These norm data were then used (a) as a reference point for the baseline social behavior of a child diagnosed with autism and (b) as a target against which to gauge the posttreatment gains. Finally, as a second measure of clinical significance, two professionals familiar with autism conducted independent ratings of randomly selected pretreatment and posttreatment videotape segments regarding the social behavior of the child diagnosed with autism.

## Method

### PARTICIPANTS

The participants were 18 nondisabled children and 1 child diagnosed with autism who were enrolled in a local pre-

school. The 18 peers ranged in age from 3.0 years to 4.0 years at the start of the study; 10 were boys, and 8 were girls. According to parent and teacher reports, all these peers were developing typically.

Adam, the child diagnosed with autism, was a boy who was 4 years 11 month at the start of the study. Based upon parent and teacher reports and classroom observations, we determined that he exhibited significant language, social, and cognitive deficits and no spontaneous speech. He was diagnosed at the age of 3 years with autistic disorder by a clinical psychologist with expertise in the area of developmental disabilities. He did receive an intensive behavioral home program, but it focused on academic tasks and did not target social skills.

### SETTING

All sessions took place in one room at a local preschool. The room was approximately 10 ft × 14 ft and contained a wide variety of age-appropriate preschool toys and play stations. Prior to sessions, all toys necessary to play the targeted games were placed in the classroom.

### MEASURES

#### *Behavioral Play Coding Scheme (BPCS)*

The BPCS is a 20-second interval coding system using 30 intervals for each 10-minute play session, and it was developed for this study. Refer to Table 1 for the specific behaviors in each category and their response definitions. The system is based upon previous research (Lee & Odom, 1996; Lord & Hopkins, 1986; McGee et al., 1992) and allows for the recording of five types of initiations, including who made the initiation, and whether or not the initiation(s) was prompted. Also, three types of responses were recorded, including who made the response(s) and whether or not the response(s) was prompted. One of four types of play was coded for each interval; the most advanced behavior observed was coded for that interval. Finally, six other behaviors were coded if they occurred, including self-stimulatory behaviors and technical difficulties. All measurement sessions were conducted in the same classroom where training took place.

#### *Clinical Significance*

In order to assess the clinical significance of the study, two professionals (one clinical psychologist and one preschool teacher) were asked to rate pretreatment and posttreatment video segments showing Adam playing with his peers. These 5-minute segments were randomly selected and randomly ordered on the coding tape. These professionals were unfamiliar with the details of the research project but were familiar with autism. A series of 10 items rated on a 5-point Likert scale (0 = *never*, 4 = *always*) was used for each of the 5-minute segments.

**Table 1. Definitions for the Behavior Play Coding Scheme (BPCS)**

Type of code	Code name	Definition
Initiation	General prompt	General statements, such as “come here,” or saying the name of a peer
	Play organizer	Giving directions for an activity or regarding the use of a specific play material
	Sharing	Verbal or nonverbal behaviors that result in taking turns or exchange
	Nonvocal	Nonvocal behavior attempting to evoke a response, such as tapping
Response	Negative	Inappropriate, uncomplimentary, threatening, or aggressive initiations
	Positive	Appropriate vocal or nonvocal responses to either positive or negative initiations
	Negatory	Ignoring or saying “no” in response to a positive initiation or response
	Negative	Inappropriate, uncomplimentary, rejecting, or aggressive responses
Type of play	Solitary	Any play occurring more than 1.5 meters from another child; the lowest form of group play
	Parallel	Any play occurring within 1.5 meters of another child
	Associative	Playing in proximity to another child and interacting with them through vocal or nonvocal means
	Cooperative	Playing and sharing responsibilities toward a goal; the highest form of group play
Other behaviors	Self-stimulatory	Engaging in repetitive behavior with no obvious function
	Tantrum	Crying or yelling throughout the interval
	Transitions	Moving from one activity to another during the interval

### PROCEDURE

After we obtained institutional review board approval, we sought parental consent during a preschool orientation meeting. We began by conducting a 4-week baseline phase composed of 24 observation sessions during which typical peer-on-peer social behavior was measured (15 sessions), as well as the typical social behavior of Adam (9 sessions). Typical peer-on-peer social behavior was measured by observing a group of 8 to 10 peers as they played in the free-play room (a typical preschool room with a variety of toys available). A different peer was videotaped every 2 minutes for a total of 10 minutes per session, with all 18 peers being videotaped at least once. In this phase, no instructions were given to the children or the teachers. Following baseline, social skills training was conducted for 18 sessions with the peers and with Adam separately. Following this training, 17 assessment sessions were conducted to assess whether separate training would increase the social interaction between Adam and his peers. Because this was not the case, social skills training was then conducted with the peers and Adam simultaneously. This training consisted of 8 sessions and involved Adam playing with his peers in a structured format (see Table 2). Following this phase of the intervention, 8 assessment sessions were conducted to assess progress. Because these phases lasted until the end of the school year, it was not possible to collect follow-up data. All sessions lasted for 10 minutes and were conducted three times per week.

#### *Social Skills Training for Nondisabled Peers*

Based upon regular attendance and teacher nominations, six peers were selected to participate in the social skills training phase. The peers were taught to gain the attention

of Adam by using appropriate vocal and nonvocal verbal prompts and to maintain his attention through these same means. See Table 2 for a description of these training procedures. A variety of typical childhood games, including ring-around-the-rosy, hide-and-seek, and pop-the-bubble, were used during this phase. Training was completed when the children could play the specified games with each other while initiating interactions at least two times during each session. These criteria resulted in a total of 17 training sessions being conducted with the children.

During this phase, Adam was taught by adults to play the necessary games and to initiate and maintain an interaction (see Table 2 for a description of these training procedures). Because speech was difficult for Adam, picture cards were also used to identify the games that he could play with his peers. His training was considered complete when he could initiate with adults an average of two times per session and maintain each interaction for approximately 2 minutes. This resulted in a total of 17 training sessions.

#### *Social Skills Training for Adam*

This phase involved training Adam to play the necessary games with his peers instead of with adults. Training was accomplished through prompting and shaping. Because the school year was drawing to a close, only eight training sessions of this type were conducted.

### INTEROBSERVER AGREEMENT

Interobserver agreement was calculated for the BPCS. Four undergraduate research assistants and the first author each scored all videotapes, and interobserver agreement was calculated for 30% of all segments. An agreement was scored

**Table 2. Social Skills Training Procedures for Adam and His Peers**

Social skills training with peers	Social skills training with Adam
Training with adults and other peers (18 sessions) Learn how to play: Ring-around-the-rosy Hide-and-seek Pop-the-bubble Initiation strategies Tap Adam on shoulder Say Adam's name Say "Would you like to play . . .?" and name one of the game choices while pointing to the appropriate gamecard Wait for Adam's response  Play with Adam (with adult prompting; 8 sessions) Initiate with Adam using learned strategies Play games with Adam for 10 minutes  Play with Adam independently (8 sessions) Play games with Adam for 10 minutes	Training with adults (17 sessions) Learn how to play: Ring-around-the-rosy Hide-and-seek Pop-the-bubble Response strategies Say "yes" to peer initiation Look at the chosen gamecard Play game with peers  Play with peers (with adult prompting; 8 sessions) Respond to peer initiations using learned strategies Play games with peers for 10 minutes  Play with peers independently (8 sessions) Play games with peers for 10 minutes

Note. All stages of training used the techniques of verbal instruction, modeling, prompting (verbal and physical), shaping, and reinforcement.

when coders agreed with the criterion in all of the following areas: the presence or absence of the behavior, whether or not the behavior was prompted, and who emitted the behavior. Percentage agreement was calculated separately for each behavior category by dividing the number of agreements by the sum of the number of agreements plus the number of disagreements and multiplying by 100. Prior to baseline data collection, the coders were trained to a criterion of 96% interobserver agreement. Mean interobserver agreement over all phases was 95% and ranged from 91% to 99%.

## Results

### SOCIAL BEHAVIOR OF NONDISABLED CHILDREN

Typical peer-to-peer social behaviors were measured during the baseline phase. The results indicated that in a 10-minute session, the nondisabled children initiated an average of five times with each other, and these interactions typically last approximately 40 seconds. These results are similar to those obtained in previous research (Krantz & McClannahan, 1993). Specifically, the most common type of initiation was a general prompt (1.4 per 10 minutes), followed by sharing (.26) and by negative initiations (.26). The nondisabled children responded positively an average of 10.93 times per 10-minute session, followed by negatory responses (1.13) and negative responses (.13). Finally, they spent 10.67% of their time in solitary play, 44.93% in parallel play, 11.07% in associative play, and 33.33% in cooperative play (see Figure 1). These children did not engage in any self-stimulatory behaviors or

tantrums, and they engaged in an average of 1 transition per 10-minute session.

### BASELINE

Prior to the training, Adam's nondisabled peers attempted to initiate an interaction with him an average of two times per 10-minute session. These interactions typically lasted less than 20 seconds because Adam rarely responded to the initiations. Specifically, the children made 2.11 general prompts per session, followed by .22 sharing initiations and .22 nonvocal initiations. Adam engaged in .22 nonvocal initiations and .78 negative initiations. His peers made an average of .56 positive responses and .67 negatory (ignored) responses per session. Adam made an average of .33 positive responses and 1.67 negatory responses per session.

### SOCIAL SKILLS TRAINING FOR NONDISABLED PEERS

Following the social skills training, Adam's peers attempted to initiate an interaction with him an average of 4.3 times per session, which was a 100% increase over baseline. These interactions typically lasted 2 minutes. Specifically, these children made an average of 2.12 general prompts per session, followed by 1.24 play organizer initiations, .65 nonvocal initiations, .18 sharing initiations, and .06 negative initiations. Adam engaged in an average of .53 nonvocal initiations, .12 general prompts, and .29 negative initiations per session. His peers made an average of 8.53 positive responses to Adam's initiations and .41 negatory responses to those initiations. Adam made an average of

6.24 positive responses, 1.47 negatory responses, and .06 negative responses per session to his peers' initiations.

### SOCIAL SKILLS TRAINING FOR ADAM

Following the social skills training for Adam, his peers attempted to initiate an interaction with him an average of seven times per session. These interactions typically lasted 6 minutes. Specifically, Adam's peers made an average of 3 general prompts per session, followed by 2.25 play organizer initiations, 2.13 nonvocal initiations, and .13 sharing initiations. Adam engaged in an average of .13 negative initiations. Regarding responses to Adam's initiations, his peers made an average of 23.13 positive responses and .25 negatory responses per session. Adam had an average of 19.5 positive responses, 1 negatory response, and .13 negative responses per session.

### SOCIAL VALIDITY

Ten social validity questions were answered by the two professionals. Their ratings are contained in Table 3. These ratings indicated that at baseline Adam "never" or "rarely" played with his peers, and the peers "sometimes" or "rarely" appeared to have fun. The two professionals agreed that during the baseline tapes, the typically developing peers "never" invited Adam to play.

Ratings of the two postintervention videotapes revealed some positive changes. The professionals noted that Adam "sometimes" or "often" played with his peers and that his peers "always" appeared to have fun. They disagreed, however, on whether the peers invited Adam to play. One person indicated that Adam was "often" invited to play by his peers, whereas the other person said that he was "rarely" invited, but both of these are an improvement from the "never" baseline rating.

## Discussion

The current article describes an intervention designed to increase the reciprocal social behaviors between a child diagnosed with autism and his preschool peers. The results indicate that the number of initiations made by the peers toward Adam increased from two to seven per 10-minute session, which was better than the average five initiations for typical peer-to-peer interactions. These results indicate that at the end of the current intervention, the nondisabled children initiated with Adam more frequently than they did with each other during baseline. It therefore appears that the intervention used in this study assisted peers in incorporating Adam into their typical free-play situations.

The number of appropriate responses made by Adam increased from 1 to 24 over the course of the current intervention. When compared to the number of responses made by a typical peer in a typical peer-to-peer situation (12), however, 24 responses per 10-minute session seems artificially elevated. We speculate that because Adam was socially delayed, such high rates of responding were beneficial in exposing Adam to a higher rate of social interaction, increasing the likelihood that his peers would continue to initiate with him in the future.

There is little data from the current study to indicate why the number of initiations made by peers and the number of positive responses made by Adam increased to such high levels. It seems most likely that the behaviors were reinforced to such a degree that this level of responding was observed. In addition, because the behaviors were reinforced not only by the researchers, who "artificially" reinforced the behaviors during training, but also by the peers, who "naturally" reinforced the behaviors during the course of social interactions, it could be that the two sources of reinforcement led to the elevated rates of behavior. Perhaps future research will address this issue.

**Table 3. Social Validity Questions**

Question	M	
	Preintervention	Postintervention
1. How often does Adam play with his peers?	.75	2.0
2. Does Adam play with several different children?	.25	1.25
3. Is Adam invited to play by other children?	.0	2.0
4. Does Adam invite other children to play?	.0	.0
5. Does Adam appear to have fun?	2.25	2.0
6. Do the peers appear to have fun?	2.50	3.75
7. Does Adam make noises that annoy others?	1.50	.25
8. Does Adam take things from others?	1.0	.0
9. Is Adam overly active or unable to sit still?	2.50	.50
10. Does Adam bother or annoy other children?	.50	.0

Note. Social validity ratings of randomly sampled preintervention and postintervention 5-minute video segments were completed by two independent professionals, who rated the questions on a scale from 0 (never) to 4 (always).

Finally, the length of each interaction between Adam and his peers increased from 20 seconds to 6 minutes. This interaction length greatly exceeds the typical peer-to-peer interaction length of 40 seconds as measured during baseline. As was the case with Adam's high rate of responding, however, this extended length of interaction was probably adaptive in helping to expose Adam to increased rates of social interaction with his preschool peers.

The type of play between Adam and his peers shifted toward cooperative and associative play following the intervention, indicating the interactions that were taking place were of substantial content and frequently involved Adam and his peers working together to accomplish a common goal. Not only did the frequency of initiations and responding increase, as mentioned above, but the quality of these interactions also improved greatly.

When we compared the rates of social behavior among typically developing peers to the information obtained by other researchers (Krantz & McClannahan, 1993), we found the data to be quite different. Specifically, the rates of responding to positive initiations in the current study (94.4% positive, 5% ignored, .6% negative) were

skewed more toward positive responding rather than ignoring of initiations, as seen elsewhere (52% positive, 44% ignored, 4% negative; Krantz & McClannahan, 1993). This marked difference is somewhat surprising, given that both studies were conducted with typically developing preschool children. We first hypothesized that the social skills training may have increased the social interaction among peers. Because all peer-to-peer measures were taken prior to any social skills training, however, this hypothesis was discarded. Future research looking at the variability of responding to positive initiations by typically developing preschool children may determine the cause of the noted discrepancy. These discrepancies also highlight the importance of measuring the baseline social skills of the specific peer group into which the target child is going to be introduced. Doing so will ensure that the target child is trained to emit the appropriate behaviors at the appropriate rate to remain engaged in social interactions with his or her specific group of peers posttreatment.

When the type of play among peers (see Figure 1) was compared to the type of play between Adam and his peers (Figure 2), the data indicated that Adam and his peers en-

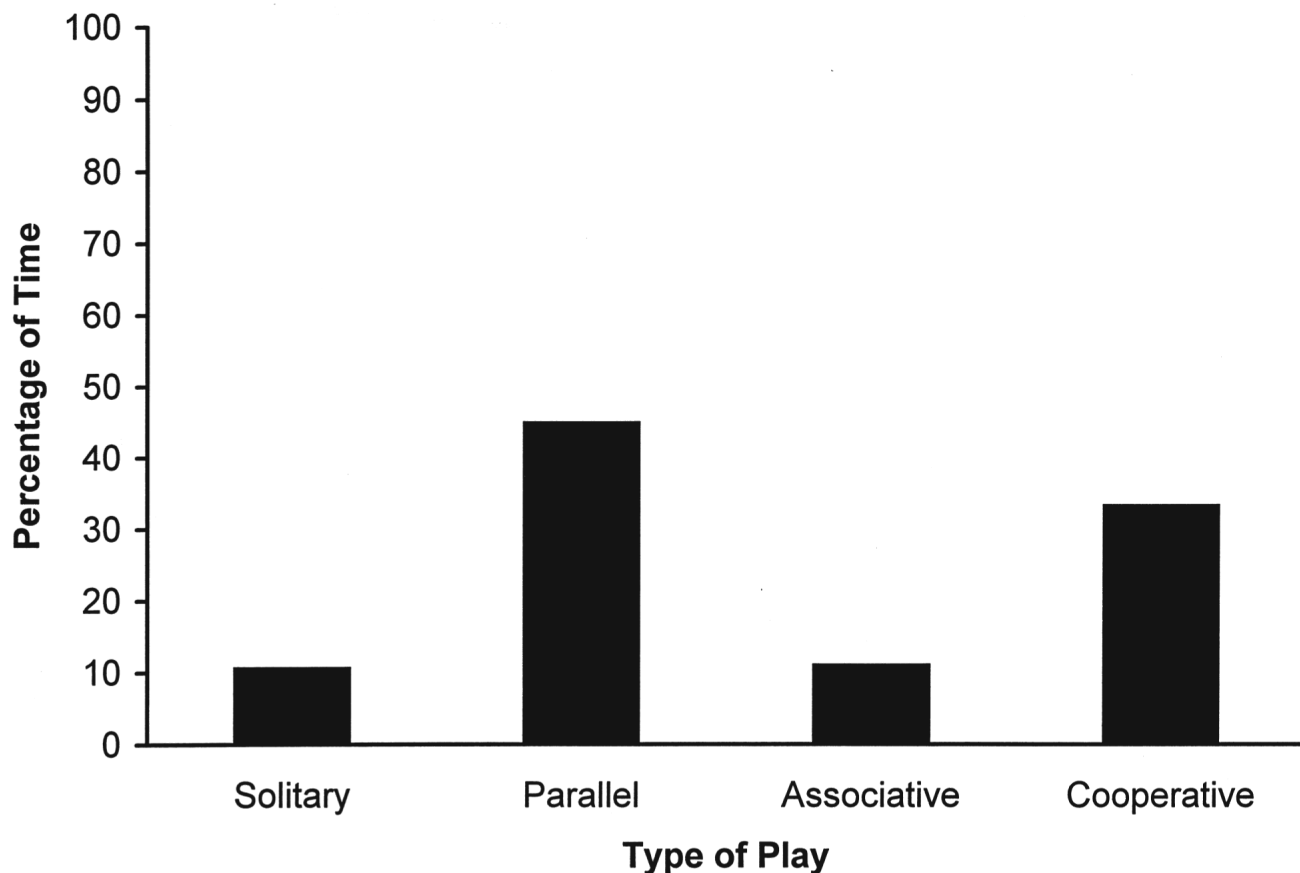
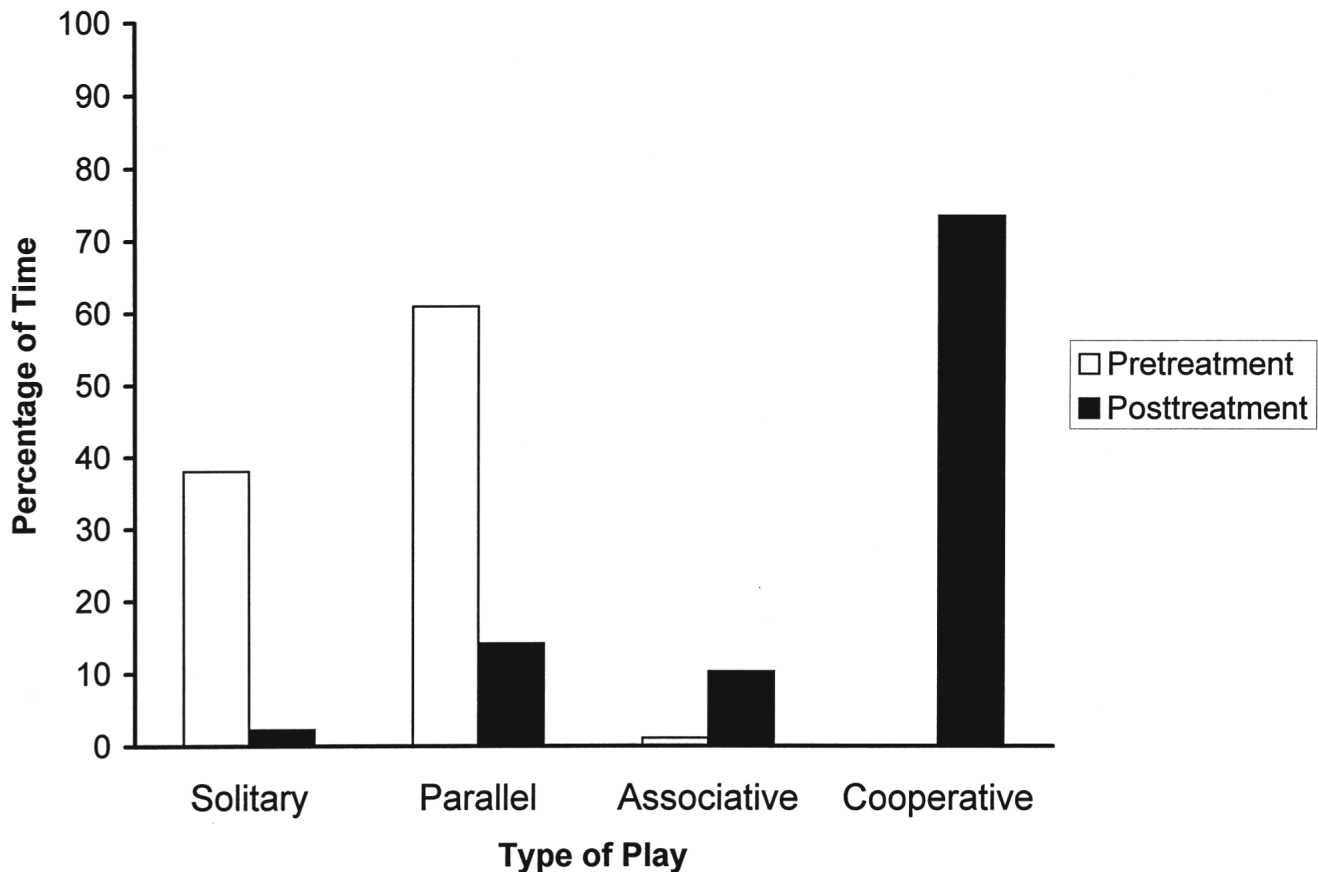


Figure 1. Type of play exhibited in peer-to-peer social interactions.



**Figure 2.** Type of play exhibited in social interactions between Adam and his peers.

gaged in more advanced forms of play posttreatment than is typical of children at this age. Given the large social skills deficits for Adam that were observed at baseline, these changes that were not only in quantity of play but also in quality of play are noteworthy and substantiate the clinical significance of the findings.

The ratings of the two professionals did not indicate complete remediation of Adam's social skills deficits; however, they did note great improvement. Adam moved from never playing with his peers to sometimes or often playing with them. During baseline, the peers never invited Adam to play, but by the end of the study, Adam was rarely or often invited to play. Although these ratings are not ideal, they do show that professionals familiar with teaching and autism did see improvement in the social behaviors demonstrated by Adam and his peers. These ratings also support the clinical significance of the observed changes in Adam's social behavior posttreatment.

There were several strengths to the current study. First, one measurement system was used to measure the social behavior of typical preschool children and of the child diagnosed with autism. Second, a simple social skills intervention was conducted that involved training of a select

group of peers and the target child. The clinical significance of the observed results was assessed by comparing the posttreatment gains made by the child diagnosed with autism to the typical social behavior among his peers. In addition, two professionals provided ratings of randomly selected videotape segments that supported the clinical validity of the observed social skills gains.

There are also several limitations to the current study. First, the original multiple-baseline design was abandoned in order to optimize the clinical outcome for Adam and his peers, making experimental control difficult to demonstrate. Second, the use of only one participant with autism in a single preschool setting leaves open the possibility that these results may not generalize well to other children with autism or to other preschool settings.

Despite these limitations, the current study is still a valuable contribution to the literature and to teachers and other professionals who are working on integrating children with autism into preschool classrooms. These results suggest that very brief sessions focused on training social skills for peers and a target child will likely increase the rate of prosocial behavior between the target child and his or her peers. Even more important, however, the results sug-

gest that the social behavior among typically developing preschool children should be measured prior to intervention in the specific integration setting. These data can then be used as a goal that constantly guides the specific areas of intervention for children in need of social skills training.

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### REFERENCES

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

- Kamps, D. M., Potucek, J., Lopez, A. G., Kravits, T., & Kemmerer, K. (1997). The use of peer networks across multiple settings to improve social interaction for students with autism. *Journal of Behavioral Education*, 7, 335–357.
- Koegel, L. K., Koegel, R. L., Frea, W. D., & Fredeen, R. M. (2001). Identifying early intervention targets for children with autism in inclusive school settings. *Behavior Modification*, 25, 745–761.
- Kohler, F. W., Strain, P. S., & Shearer, D. D. (1992). The overtures of preschool social skill intervention agents. *Behavior Modification*, 16, 525–542.
- Krantz, P. A., & 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.
- Lee, S., & Odom, S. L. (1996). The relationship between stereotypic behavior and peer social interaction for children with severe disabilities. *Journal of the Association for Persons with Severe Handicaps*, 21(2), 88–95.
- Lord, C., & Hopkins, J. M. (1986). The social behavior of autistic children with younger and same-age nonhandicapped peers. *Journal of Autism and Developmental Disabilities*, 16, 249–262.
- Lovaas, O. (1987). Behavioral treatment and normal educational and intellectual functioning in young autistic children. *Journal of Consulting and Clinical Psychology*, 55(1), 3–9.
- McGee, G. G., Almeida, M. C., Sulzer-Azaroff, B., & Feldman, R. S. (1992). Promoting reciprocal interactions via peer incidental teaching. *Journal of Applied Behavior Analysis*, 25, 117–126.
- Pierce, K., & Schreibman, L. (1997). Multiple peer use of pivotal response training to increase social behaviors of classmates with autism: Results from trained and untrained peers. *Journal of Applied Behavior Analysis*, 30, 157–160.
- Roeyers, H. (1996). The influence of nonhandicapped peers on the social interactions of children with a pervasive developmental disorder. *Journal of Autism and Developmental Disorders*, 26(3), 303–320.
- Roff, M. (1961). Childhood social interactions and young adult bad conduct. *Journal of Abnormal and Social Psychology*, 63, 333–337.
- Strain, P. S. (1981). Peer-mediated treatment of exceptional children's social withdrawal. *Exceptional Education Quarterly*, 1, 83–95.
- Strain, P. S., & Odom, S. L. (1986). Peer social initiations: Effective intervention for social skill development of exceptional children. *Exceptional Children*, 52, 543–552.
- Strain, P. S., Odom, S. L., & McConnell, S. (1984). Promoting social reciprocity of exceptional children: Identification, target behavior selection, and intervention. *Remedial and Special Education*, 5(1), 21–28.
- Tremblay, A., Strain, P. S., Hendrickson, J. M., & Shores, R. E. (1981). Social interactions of normal preschool children. *Behavior Modification*, 5, 237–253.
- Weiss, M. J., & Harris, S. L. (2001). Teaching social skills to people with autism. *Behavior Modification*, 25, 785–802.

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