Using a Buddy Skills Package to Increase the Social Interactions Between a Preschooler With Autism and Her Peers

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The purpose of this study was to examine the impact of a buddy skills package on the social interactions between a preschooler with autism and her peers. Following baseline, the children participated in 8 sessions of training that focused on the strategies of Play, Stay, and Talk. An intervention consisting of teacher feedback, praise, and picture cards was then implemented to support peers' overtures to their classmate with autism. Teacher feedback and praise were terminated in a final maintenance phase, whereas the picture cards were still available as visual cues. A multiple baseline design indicated that the package increased peers' overtures to their playmate with autism, and these behaviors continued during the maintenance condition. The child with autism also directed more overtures to her peers, although she did not receive teacher support for this. Additional analyses indicated that children's interactions became longer and more reciprocal over the course of this study.

Finding ways to support the inclusion of preschool children with disabilities has been an exciting and monumental undertaking over the past 30 years (Guralnick, 2001; Odom & Karnes, 1988; Strain, McGee, & Kohler, 2001). A widely accepted tenet among early childhood researchers and practitioners is that positive inclusion outcomes require that children with disabilities can interact with and learn from their typically developing peers (Kohler, Strain, & Goldstein, 2005). In one of the very first studies examining the influence of peers' social behavior, Strain and Timm (1974) sought to increase the social interaction of a 3-year-old girl who exhibited a variety of behavioral difficulties. They compared two different experimental procedures. In one condition a preschooler with social and behavioral difficulties received teacher praise and physical contact for engaging in appropriate interaction with her peers. During a second phase, peers received teacher praise and physical contact for appropriate interaction with the child who displayed difficulties. Results indicated that both conditions were effective for increasing the focal child's social interactions with her peers. In a follow-up study, Strain, Shores, and Timm (1977) examined the impact of peer initiations on the social interactions of six preschoolers who displayed difficulties with their language and social interaction skills. Two typically developing preschoolers were taught to initiate play by directing comments (e.g., "Come play" or "Let's play ball") to their playmates with autism. Results indicated that peer initiations produced increases in the positive overtures of five children with autism. Furthermore, the extent or magnitude of effects depended on the social repertoire of the individual children with autism. Children who displayed some appropriate play and verbal skills at the beginning of the study demonstrated greater social behavior gains than children who lacked these skills.

Since these early investigations of peer social initiations, an abundance of research has continued to examine the efficacy of peer-mediated interventions for promoting behavior change in children with autism. McConnell (2002) reviewed 55 studies that examined five different types of interventions: ecological; collateral skills; child specific; peer mediated; and comprehensive procedures, which include components from several of these interventions. He concluded that peer-mediated procedures represent the largest and best developed interventions available for addressing the social interaction skills of young children with autism. In a similar review of evidence-based practices, Odom et al. (2003) concluded that peer-mediated procedures have a long history of support and are emerging as one of the more effective interventions available for addressing the social behavior of children with autism. In summary, peer-mediated procedures have been the subject of considerable research and are as ef-

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fective as child-specific interventions for improving social and communication outcomes for young children with autism (Odom & Strain, 1986).

One peer-mediated intervention that holds considerable promise for producing high-quality and lasting improvements in children's social interactions is the buddy skills package developed by Goldstein and his colleagues. In an initial study, Goldstein, Kaczmarek, Pennington, and Shaffer (1992) examined the effects of three peer-mediated strategies. Typically developing children were taught to maintain mutual or joint attention with their playmate with autism, to comment on the ongoing play activities, and to acknowledge their partner's efforts to communicate (Stay, Play, and Talk). The researchers used a 10-s interval system to record the sequence of focal child and peer overtures that occurred during 5-min play sessions. Results indicated that a package of adult training and visual cues/posters increased the facilitative strategies used by 10 typically developing peers. Furthermore, five children with autism who did not receive training and teacher support showed corollary increases in their social responses to peers' overtures. Finally, certain types of peer behaviors, such as comments and requests for action, had a high probability of generating a positive response from the children with autism.

Given these encouraging results, Goldstein and his colleagues conducted several follow-up investigations of the buddy skills package. In one such study, English, Goldstein, Shafer, and Kaczmarek (1997) examined whether the effects of peer-mediated intervention would be enhanced if children with autism also received training in social or friendship skills. They compared two different training procedures. In the first condition, six typically developing "buddies" were taught to use the strategies of Stay with your friend, Play with your friend, and Talk with your friend. In the second dyadic training procedure, four children with autism (along with their typically developing peers) were taught to Stay and Play with their friend. Results indicated that the two procedures were equally effective for increasing the social behavior of both groups of children. In another study, Goldstein, English, Shafer, and Kaczmarek (1997) taught typically developing children to use the Stay, Play, and Talk strategies to interact with their playmates with autism. Children were sensitized to the communicative behaviors of children with autism and then encouraged to use their buddy strategies throughout the entire day. Results indicated that each typically developing child exhibited more social overtures and that these strategies were effective for generating positive responses from the children with disabilities. Finally, Tsao and Odom (2006) examined whether four typically developing children could use buddy skills to increase the social responses of their sibling with autism. Two children were older than their sibling with autism, whereas the other two were younger. Before each play activity, each sibling participated in a 10-min social skills lesson in which he or she learned to establish eye contact, suggest play activities, initiate conversations, offer or ask for help, and expand the content of his or her sibling's speech. Results indicated that three of the four typical children directed more social overtures to their sibling with autism and that all four target children also showed increases in social behavior. Furthermore, three of the four typical children exhibited more overtures in a generalization setting, although the children with autism did not show similar social responses in these untrained settings. Ensuring the generalization and maintenance of children's social interactions has been a long-standing concern for both researchers and practitioners in early childhood special education (Dougherty, Fowler, & Paine, 1985; Kohler & Fowler, 1985; Paine et al., 1982).

The purpose of this study was to examine the effects of a buddy skills package on the social interactions between a preschooler with autism and six of her typically developing peers. We designed this study to extend prior investigations of the buddy skills training in a number of important ways. First, the play activities consisted of groups of three (one child with autism and two different peers) rather than the dyads used in many prior investigations. In addition to examining the frequency and reciprocity of children's exchanges, we also determined whether these interactions involved two or all three children in the group. Second, we examined the length or duration of reciprocal interactions between the child with autism and her typically developing peers. Finally, the present study examined whether children continued to exhibit their social interactions after the withdrawal of adult support.

Method

Participants and Setting

One preschooler with autism and six of her typically developing classmates participated in this study. All seven children were enrolled in a half-day inclusive preschool for children with special needs and typical youngsters. The child with autism was enrolled in both the morning and afternoon sessions of the preschool.

Lexie was a girl 4 years 9 months of age who received a confirmatory diagnosis of autism at the age of 2 years 8 months. A child psychiatrist made this diagnosis using criteria from the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 1994) after observing that Lexie engaged in significantly delayed and deviant communication and social interaction, preoccupation with objects, and repetitive behaviors. Teachers' reports indicated that Lexie exhibited some age-appropriate play skills, but

most of her play was isolated rather than involving close proximity, joint attention, and social interaction with peers. Although Lexie also used some language, her comments were often rote, repetitive or echolalic, and unrelated to the topic being discussed. Lexie typically avoided interactions by ignoring peers' initiations, pushing children away, or leaving the area altogether. However, she was responsive to physical contact and often imitated the actions of shaking hands or giving hugs to peers.

One preschool teacher and six typically developing children also participated in this study. The teacher had 20 years of experience in early childhood special education and had taught in the inclusive preschool for 5 years. All of the typically developing youngsters (five girls and one boy) were 4 years old. Each child had good attendance in preschool, exhibited age-appropriate play and social skills, and exhibited high levels of compliance with teacher directions. For the purposes of this study, the six typically developing children divided into three play triads that each consisted of Lexie and two peers.

The three playgroups participated in experimental sessions on 3 days a week for 10 min. Each triad participated in a total of 33 sessions within the activities of Mr. Potato Head, birthday party, doctor's office, and grocery store. We used two criteria for selecting these four activities. First, each of the activities was recommended in prior research that examined the buddy skill intervention that we employed in this study (English et al., 1997). In addition, the teacher also noted that the activities generated high levels of interest from Lexie and her classmates. Each activity included numerous materials; multiple and varied roles for children's participation; and a specific plan for the teacher to arrange, introduce, and conduct the center (a further description of each activity can be obtained from Frank W. Kohler). The four activities rotated daily and occurred on an equal number of occasions throughout the various experimental conditions of this study.

Experimental Measures

We used a 10-s partial interval time-sampling system to code two categories of child behaviors. We scored peer social overtures whenever a typically developing youngster directed a positive social behavior to Lexie. This category included positive comments or intentional physical contact, such as hugging or shaking hands, and exchange of materials. Observers recorded the separate overtures of each peer within a play triad. We scored focal child overtures whenever Lexie directed a positive social behavior to either of the typically developing children in her playgroup. This category included the same range of behaviors defined for peer social overtures, and observers did not note which peer was the recipient of Lexie's overture.

This coding system enabled us to examine the frequency, reciprocity, and length of children's social interactions. We conducted these analyses by examining the completed data sheets and identifying occurrences of a coded social overture from either Lexie or a peer (frequency). We considered the episode a reciprocal interaction if both Lexie and her peer(s) contributed by exhibiting a behavior during the same or the next 10-s interval. For example, we marked an interaction as reciprocal if a peer directed an overture to Lexie during Interval 1 and she then exhibited an overture during Interval 2. Once we had coded the exchanges, we determined the length of reciprocal exchanges by counting the number of consecutive 10-s intervals that contained an overture from either Lexie or one or both of her peers.

We conducted interrater agreement checks for both focal child and peer social overtures during at least 10% of sessions conducted across all phases. We calculated interrater agreement by dividing the total number of agreements on the occurrence of a specific category by the total number of agreements plus disagreements. Agreement averaged 91% overall, with a range of 88% to 94% across the various experimental conditions. Agreement on peers' social overtures averaged 92%, with means of 89%, 90%, and 95% for the three play triads. Interrater agreement on Lexie's social overtures was also high, averaging 90%, with a range of 86% to 95% across the three play triads.

Experimental Design and Conditions

We used a multiple-baseline-across-subjects design to examine the effects of three experimental conditions on Lexie's and her peers' social overtures. All three play triads started with a baseline phase. Group 1 (Lexie and two peers) participated in buddy skills training after six sessions, whereas Groups 2 and 3 continued baseline. Following eight sessions of training, Group 1 participated in a social skills intervention and then a maintenance phase. In this way, the three groups entered the various experimental phases in an alternating or staggered manner. The following sections describe each experimental condition.

Baseline. Lexie and her peers participated in the 10-min play sessions on 3 days per week. The teacher was responsible for overseeing the session and intervened only if children attempted to leave the activity, directed aggression or negative behaviors to peers, or used materials in a destructive or harmful fashion. Children did not receive any specific instructions, models, or support for positive social interactions.

Buddy Skills Training and Intervention. Lexie and her peers participated in a variation of the buddy skills

procedure described by English, Goldstein, Kaczmarek, and Shafer (1996). Training occurred for 15 min on 8 consecutive days and focused on sharing and requesting materials and providing play suggestions to other children, initiating and responding to others, participating in conversations, giving compliments and assistance, and showing affection. Each training session consisted of Lexie and her two peers and occurred within one of the four activities that were implemented in this study (all formal data collection ceased during the training period). Training consisted of three components: (a) The teacher introduced and modeled the skill for all three children, (b) the two typically developing peers practiced the skill with each other, and (c) the peers practiced the skill with Lexie. The teacher provided prompts and praise and made ongoing reference to four 5-inch × 7-inch cards that illustrated the strategies of standing close to your friend, saying your friend's name, touching your friend's arm, and exchanging toys. The typically developing children were taught and prompted to use the strategies of Stay, Play, and Talk whenever they interacted with Lexie. Although Lexie participated in buddy skills training, the primary focus of these sessions was to teach the typically developing peers to direct positive overtures to her.

After training, each playgroup participated in a social skills intervention while formal data collection was resumed. The teacher posted the four strategy cards in the activity and also created a Happy Face Chart to provide typically developing peers with a smiley face each time that they interacted with Lexie. The teacher prompted peers to look at one of the cue cards if they did not direct an overture to Lexie for 60 s. These prompts were usually gestures rather than verbal reminders (e.g., pointing to a cue card). Each typically developing child also received teacher praise (privately) after the activity if he or she earned a predetermined number of happy faces. The teacher did not provide any prompts or support to Lexie for her social exchanges during this condition.

Maintenance. Children continued to engage in the 10-min play activities, and the four strategy cards remained in place to cue or prompt appropriate interactions. However, the Happy Face Chart was removed, and children did not receive any teacher praise or feedback for their social overture efforts.

Results

Frequency of Children's Social Overtures

Figure 1 shows the daily percentage of social overtures that typically developing peers directed to Lexie during the three experimental conditions. Each group directed very few overtures to Lexie during the initial baseline (range = 0%–15%). The buddy skills training and social skills package produced immediate and large increases in peers' social overtures, however. Group 1 increased to a mean of approximately 37% per session, whereas the peers in Groups 2 and 3 directed social behaviors to Lexie during 37% and 41% of the intervals, respectively. As shown in Figure 1, the typically developing children continued to exhibit high levels of overtures during maintenance (*M*s = 32%–41% for the three groups). In accordance with the procedures described earlier, the teacher provided very few verbal prompts for children to interact during the intervention or maintenance phases (total of two–four prompts for each group during the two phases).

Figure 1 also illustrates the daily percentage of social overtures that Lexie directed to the two peers in each playgroup. After exhibiting very few overtures during baseline, Lexie's percentage of social behaviors increased to means of 5% in Group 2 and 14% in Group 1 during intervention. Despite some day-to-day variability, Lexie continued to exhibit higher levels of overtures during maintenance. In fact, her social behaviors in Group 2 increased from a mean of 5% (during intervention) to 11% in maintenance, whereas the overtures in Groups 1 and 3 remained similar to their intervention levels.

We also examined the amount of social interaction that children displayed during the four different play activities. Table 1 presents the mean percentage of overtures exhibited by Lexie and her peers (by activity type) for each condition. As the table shows, there were no large disparities between the activities. Although children's overtures increased during intervention and maintenance, the four activities generated similar levels of behavior from both Lexie and peers.

Children's Involvement in Social Interactions

We examined the distribution of overtures exhibited by the two typically developing children in each playgroup. The peers in Group 1 exhibited social overtures during 21% and 18% of intervals during the intervention and maintenance conditions, respectively. However, one child was responsible for approximately 75% of these behaviors. In contrast, the peers in Groups 2 and 3 displayed a similar proportion of overtures during the intervention and maintenance phases. We also examined the interactions that involved Lexie and both of the peers in each playgroup. As shown in Table 2, a low percentage of interactions involved all three children during baseline (20% for Group 2 and 0% for Groups 1 and 3). However, each group showed increases in this measure during the intervention and/or maintenance conditions. For example, 42% of the reciprocal exchanges in Group 1 involved Lexie and both peers during intervention, whereas 24% and 55% of reciprocal exchanges in Groups 2 and

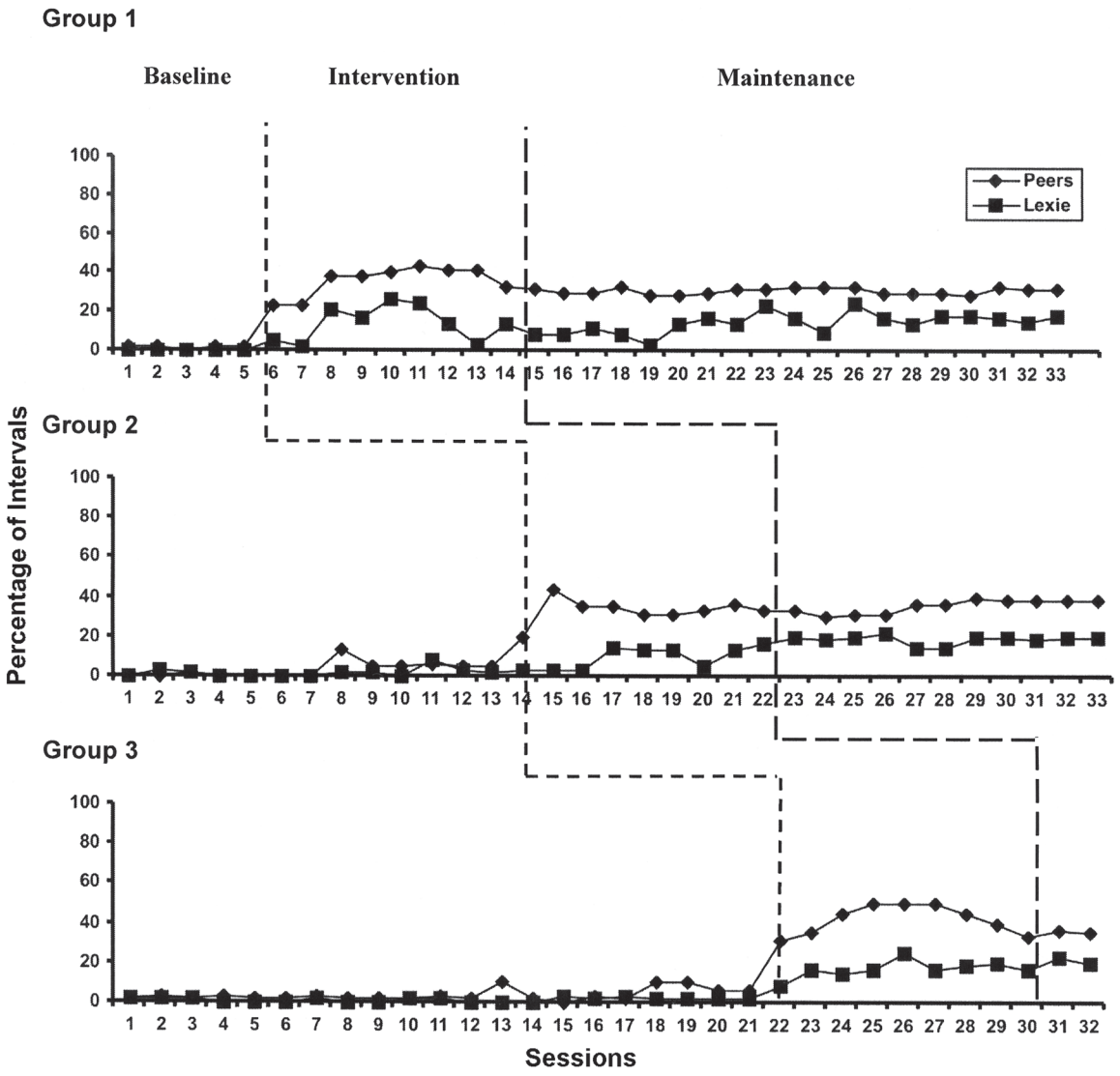

FIGURE 1. Percentage of social interactions between Lexie and her peers in each playgroup.

3 involved all three children. Finally, 34% to 60% of the interactions involved Lexie and both her peers during the maintenance condition.

Reciprocity and Length of Children's Social Interactions

Table 2 summarizes the reciprocity and length of interactions for each playgroup. Lexie and her peers exchanged very few social overtures during baseline (range = 1–2.33 episodes per session). Moreover, a low percentage of these episodes were reciprocal or consisted of responses from both Lexie and peers (0% for Group 1 and 14%–20% for Groups 2 and 3). The quality of children's interactions changed during the intervention phase, however. The mean number of episodes increased to 12 to 13 per session, and a higher proportion of these involved reciprocal participation from both Lexie and her peers (range = 27% for Group 2 to 40% for Group 3). Many reciprocal interactions involved all three children in the playgroup. Finally, the average length of exchanges involving all three children was consistently longer than the length of those involving Lexie and only one peer (see Table 2).

Maintenance of Children's Social Interactions

Table 2 also shows the quality of children's exchanges during maintenance. As the table indicates, the mean number of episodes per session decreased for Groups 1 and 3, but the proportion of reciprocal interactions in-

TABLE 1. Mean Percentage of Overtures Coded for Lexie and Peers During Four Different Play Activities

	Baseline (%)		Intervention (%)		Maintenance (%)	
Activity	Lexie	Peers	Lexie	Peers	Lexie	Peers
Mr. Potato Head	1.00	4.00	11.00	37.00	19.00	35.00
Birthday party	1.30	3.50	20.00	40.00	17.00	33.00
Grocery store	0.70	2.10	7.00	26.00	17.00	33.00
Doctor	0.70	2.10	12.00	41.00	11.00	31.00

TABLE 2. Summary of Social Interaction Data for Each Group and Experimental Condition

Social interaction	Baseline	Intervention	Maintenance
Group 1			
Mean number of total interaction episodes per session	1.0	13.0	8.7
Episodes that involved a reciprocal exchange (%)	0	37	54
Reciprocal exchanges that involved all three children (%)	0	42	34
Mean duration of reciprocal interactions (seconds)	0	26	32
Mean duration of reciprocal interactions that included all three children (seconds)	N/A	37	39
Group 2			
Mean number of total interaction episodes per session	1.9	12.0	11.0
Episodes that involved a reciprocal exchange (%)	20	27	50
Reciprocal exchanges that involved all three children (%)	20	24	49
Mean duration of reciprocal interactions (seconds)	30	19	33
Mean duration of reciprocal interactions that included all three children (seconds)	30	27	40
Group 3			
Mean number of total interaction episodes per session	2.3	12.9	7.3
Episodes that involved a reciprocal exchange (%)	14	40	79
Reciprocal exchanges that involved all three children (%)	0	55	60
Mean duration of reciprocal interactions (seconds)	14	30	44
Mean duration of reciprocal interactions that included all three children (seconds)	N/A	38	55

Note. N/A = not applicable.

creased for all three playgroups. For example, the percentage of reciprocal interactions in Group 1 increased from a mean of 37% in intervention to 54% during maintenance. Similar increases occurred for Groups 2 and 3. The percentage of reciprocal exchanges involving all three children ranged from 34% for Group 1 to 79% for Group 3 (see Table 2). Furthermore, the length of reciprocal interactions surpassed intervention levels for all three playgroups. For example, the length of the reciprocal exchanges in Group 2 increased from 1.92 intervals in intervention to 3.32 in maintenance, whereas those in Group 3 increased from 3.0 to 4.4 intervals. Finally, the overall length of reciprocal interactions involving all three children exceeded the length of those involving Lexie and only one peer for all three playgroups.

Discussion

The purpose of this study was to examine the impact of a buddy skills package on the social interactions between a preschooler with autism and her typically developing classmates. We can summarize the results as follows. First, a package consisting of training, teacher support, and visual cue cards produced increases in the frequency of social overtures that peers directed toward their playmate with autism. Second, the girl with autism also directed more overtures to her peers, even though she did not receive direct teacher support for this. Third, the children continued to engage in high levels of exchanges during a maintenance condition when teacher support was discontinued. Finally, Lexie and her peers showed

several corollary improvements in their interactions during the intervention and maintenance phases. For example, an increasing number of interactions involved two and even all three children in the group. In addition, the length of social interactions increased, and exchanges that involved all three children were longer than those that involved only two youngsters. We discuss each of these results next.

First, the package consisting of training, visual cue cards, and teacher prompting and praise produced increases in peers' overtures to their classmate with autism. Peers' overtures increased from means of less than 5% during baseline to 20% or more during intervention. Moreover, these results were accompanied by increases in the target child's overtures. Lexie directed very few behaviors to her peers during baseline, but her percentage of overtures ranged from 5% to 10% during the intervention phase. Although her overtures were somewhat inconsistent and sporadic, they did surpass baseline levels and occurred in the absence of any teacher support. Finally, both Lexie and her peers continued to exchange higher levels of social overtures during a maintenance condition when teacher praise and prompting were discontinued. Peers' overtures remained very stable during maintenance, whereas Lexie's behaviors showed slight increases in two of the three playgroups.

These results support and extend the existing literature in a number of important ways. As noted earlier, prior studies have demonstrated that typically developing preschoolers can readily learn to use the Stay, Play, and Talk strategies to increase the overtures of young children with autism (English et al., 1997; Goldstein et al., 1997; Goldstein & Ferrell, 1987). For example, English et al. (1997) compared an intervention focusing on peers' use of buddy skills with a phase in which both peers and children with autism received training and support for their exchanges. Results indicated that children with autism exhibited a similar level of social overtures during both conditions. Five of six typically developing children in the present study increased their use of buddy skills after training, and the child with autism (who did not receive the same training and support) also exhibited more overtures. Moreover, all of the children continued their interactions in the presence of cue cards only. Although English and her colleagues (1996) recommended fading of teacher prompts and reinforcement, only the Tsao and Odom (2006) study examined whether children who receive buddy skills training can sustain their interactions in the absence of support. Therefore, the results of the present study support the efficacy of buddy skills training for producing lasting improvements in the interactions between children with autism and their peers.

A growing number of studies have indicated that children with autism are often unresponsive to the overtures of their typically developing playmates (Goldstein & Kaczmarek, 1992; Kohler, Strain, & Shearer, 1992). In accordance with this finding, some researchers have focused on identifying peer behaviors that have a positive communicative function or a high probability of generating a positive response from children with autism. For example, Goldstein et al. (1992) examined the conditional probability of several behaviors that are included within the buddy skills package. Results indicated that peer comments and requests for action had the highest likelihood of generating a positive response from five children with autism who did not receive social skills training. Although we did not conduct a probability analysis in the present study, we did identify occurrences of peer overtures and then determined whether Lexie exhibited a behavior during the same or next interval. This analysis suggests that Lexie was largely unresponsive to peers' overtures during baseline and the initial stages of intervention. For example, she responded positively to only 29% (average) of peer behaviors during the first four sessions of intervention conducted with each playgroup. However, Lexie made slow and steady improvements over time, responding positively to 42% of overtures during Intervention Sessions 5 through 8 and then 61% during the maintenance phases (average for all three playgroups). These findings support earlier research that has demonstrated the benefits of teaching children to use the Stay, Play, and Talk strategies. These skills are effective for soliciting positive responses from children with autism and can be sustained in the absence of teacher support. Although we did not collect data on the types of strategies that peers actually used, anecdotal records from the teacher and the data collectors suggested that play organizers and share offers/requests occurred most often.

Another important finding of this study relates to the reciprocity and length of children's interactions. Our coding system recorded focal child and peer overtures that occurred within the same or consecutive 10-s intervals. This duration is longer than the intervals utilized in many earlier studies that have examined the topography, length, and frequency of children's social interactions (Odom, Hoyson, Jamieson, & Strain, 1985; Strain et al., 1977). Nevertheless, this system yielded results that are supportive of prior studies that have examined the effects of peer-mediated interventions on children's social exchanges. For example, from one fourth to one half of reciprocal interactions that occurred during intervention involved all three children (in contrast to only one peer and the child with autism). Groups 2 and 3 actually showed increases in the proportion of interactions that involved all three children from the intervention to maintenance conditions. In addition, the interactions that involved all three children were consistently longer than those that involved Lexie and only one peer. Although we based our analysis of interaction length on 10-s intervals, the data suggest that the goal of generating long

and rich interactions can be reached by having two (rather than one) peers participate in play sessions with children who display social skill difficulties. Although many social skill interventions have encompassed dyads of one child with autism and a peer, our results suggest that optimal gains can be reached with groups of three children (Odom, Kohler, & Strain, 1987).

Future Research

The results of this investigation suggest two areas for future exploration. First, there is a need to conduct more elaborate and sophisticated analyses of children's social interactions. Some researchers have developed coding protocols for examining the discrete parts or elements of children's social interactions (Odom et al., 1985; Strain et al., 1977). These coding systems, which use 5-s intervals and distinguish between initiations and responses, enable a more finely grained analysis of the frequency, reciprocity, and length of children's social interactions. Other researchers have transcribed children's interactions and coded the individual components of language and social overtures (Craig-Unkefer & Kaiser, 2002, 2003; Miller & Chapman, 1985). These studies have provided valuable information about the overall quality of children's exchanges and the specific overtures that lead to improvements in interaction length, reciprocity, and duration. Second, researchers might continue to examine the efficacy of buddy skills training for promoting exchanges that are independent and sustainable over time. Although teacher prompting and reinforcement were eliminated during the maintenance phase of this study, the picture cards did provide some support for children's exchanges. Although an abundance of studies have demonstrated the effectiveness of peer-mediated interventions for increasing children's social interactions, there is still a pressing need to examine whether these changes are durable over time or extend to untrained settings and peers (Kohler & Strain, 1990; McConnell, 2002). Research that continues to examine the frequency, reciprocity, length, and independence of children's social overtures will make great strides in promoting the generalization and maintenance of children's social interactions.

Conclusion

This study supports a growing literature that has examined the efficacy of teaching buddy skills to typically developing preschoolers. The Stay, Play, and Talk strategies are easy for children to learn and have a positive communicative function on the social responses of children with autism. Our results indicate that peers in one playgroup displayed an unequal proportion of behaviors, with one child being responsible for nearly 75% of the overtures. Ensuring children's high-quality effort has been a challenge in prior peer-mediated studies and might be amended by providing greater levels of support and reinforcement during the training and intervention conditions (Goldstein & Kaczmarek, 1992; Strain, Kerr, & Ragland, 1981). Future research should continue to examine, refine, and improve the peer-mediated procedures that experts first established more than 30 years ago. ◆

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