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An Evaluation of Peer Mediated Social Skills Training for a
Child with Asperger's Syndrome and Peers

by

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A thesis submitted in partial fulfillment of
the requirements for the degree of
Master of Arts
Department of Child and Family Studies
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ABSTRACT

A lack of social skills is a major deficit for children with autism spectrum disorders and related disabilities. Peer mediated social skills training is an effective method to increase social skills for these children. The present study evaluated the use of two peer-mediated intervention procedures in promoting social interaction skills of a child with Asperger's syndrome and his three typical peers, in the context of an inclusive elementary classroom. A multiple baseline design across peers was used to evaluate the effectiveness of the interventions. A multiple probe design was used to evaluate the generalization and collateral effects of the intervention on the target child and a non-trained peer. Results indicated that a peer buddy system, when used alone, increased the levels of social initiation and response for the child with Asperger's syndrome as well as the three typical peers. When the buddy system was combined with individual training, the target child's and three peers' social interaction increased further. The target child's social interaction skills were generalized to interactions with a non-trained peer, which resulted in collateral increases in social interaction of the non-trained peer. The peer mediated intervention procedures implemented in this study appeared to be strong in terms of teacher and child acceptability.

Section 1

Introduction

The quality of social interactions and development of social relationships differ between children with and without autism spectrum disorder (Rogers, 2000; Odom & Strain, 1984; Weiss & Harris 2001). Research indicates that children with autism spectrum disorder (ASD) generally engage in less social interactions toward the same age peers which results in isolation and exclusion from peers (Fritz, 1990; Knapczyk, 1989). Social skills deficits, such as failure to build peer relationships, and impaired communication, are the cardinal feature of children with autism spectrum disorder (Goldstein, Schneider, & Thiemann, 2007). Despite the drastic differences in acquiring, utilizing and maintaining social relationships, social skills are a necessary component for all children. An extensive body of literature shows that children who have competence in social skills are successful in their environment (Brown, Odom, Holcombe, 1996; DiSalvo & Oswald, 2002). On the other hand, children who have continual peer interaction difficulties, as well as fail to establish positive peer relationships, are at elevated risk for later maladjustment (Brown, Odom, & Buysse, 2002).

Social skills are the foundation for many other areas of skill development for children with ASD (Brown, Odom, Holcombe, 1996). It is considered that a lack of social skills not only impedes social interactions, but may also hinder their long-term development and social communicative behavior of children with autism spectrum disorder, which will in turn expand the developmental gap between these children and

their typical peers (Hwang & Hughes, 2000). One of the barriers that negatively influence social development of children with autism spectrum disorder is the lack of peer involvement in the social interaction with them. Typical peers engage more with other typically developing peers far more often than their peers with ASD (Fritz, 1990; Knapczyk, 1989; Weiss & Harris, 2001).

Social skills are the ability to relate to others in a reciprocally reinforcing manner and the ability to adapt social behaviors to different contexts (DiSalvo & Oswald, 2002; Odom & Strain, 1984). Researchers have proven that prerequisite skills such as eye contact, orienting towards others, and responding to others can successfully be taught to children with ASD (Lovass, 1977). However, whether social skills could be successfully taught following acquiring prerequisite skills is still in question (DiSalvo & Oswald, 2002). Social skills deficits of children with autism spectrum disorder are often associated with problem behavior. It has been argued that children who lack social competence are particularly at-risk for developing problem behavior (Koegel, Koegel, & Surratt, 1992).

The literature indicates that most of the children with ASD present problem behavior such as aggression, noncompliance, property destruction, self-injury, and stereotypy (Gadow, Devincent, Pomeroy, & Azizian, 2004; Tonge & Einfeld, 2003). These problem behaviors are major barriers to effective education and social development (Horner, Diemer, & Brazeau, 1992). Because of the critical nature of social skills of children with ASD, many researchers and practitioners have advocated the integration of peer interaction intervention using peer mediated social skills training (Koegel, Koegel, & Surratt, 1992). It has been suggested that socially competent peers

can model and reinforce appropriate social behavior of children who have difficulty interacting with peers (McEvoy & Odom, 1987).

Peer Mediated Social Skills Training Interventions

A successful approach to teaching social skills to children with ASD usually involves the use of adult direction in structured conditions (Odom & Strain, 1986). Adults provide prompting and reinforcement to children with ASD, as well as to typical peers, to engage in appropriate social skills. Although adult directed approaches successfully increase social skills (Rogers, 2000), they rarely attend to the natural environment of social interactions and do not easily generalize to social interactions with peers (DiSalvo & Oswald, 2002). Therefore, using peers to teach social skills precludes the additional steps required to generalize to interactions with peers (Rogers 2000). Peer mediated social skills training involves training strategies or social behaviors to typical peers for use when engaging with their peers with ASD (Chung, Reavis, Mosconi, Drewry, Matthews, & Tasse, 2006). In peer mediated behavioral interventions a child or group of children are taught strategies to deliver instructional treatments. Although adults may monitor the intervention from close by, they do not usually intervene with the target children with ASD (Odom & Strain, 1984). Commonly, peer mediated social skills intervention procedures involve peers who are socially responsive and have good play skills (DiSalvo & Oswald, 2002; Brown, Odom, Holcombe, 1996). Direct teaching training procedures have been effective in teaching peers to utilize behavioral procedures during the social interaction situations with children with ASD (Chung et al, 2006; Owen-DeSchryver, Carr, Cale, Blakeley-Smith, 2008).

Research has demonstrated the effectiveness of different peer mediated social skills training approaches for children with ASD, such as, peer tutoring, group contingency, social skills groups, pivotal response training, and social stories for facilitating social interactions and relationships in children with ASD (DiSalvo & Oswald, 2002; Rogers, 2000). Peer tutoring involves pairing a peer as a tutor during natural interactions to facilitate social behaviors of children with ASD. Peer tutoring has been studied with high-functioning school-aged children with ASD (Kamps et al., 1994; Kamps, Dugan, Potucek, & Collins, 1999).

When group contingency is used, all children in a class are required to engage in a specified behavior in order to receive a reinforcer. The group contingency has been found to increase social interactions of children with autism spectrum disorder (Kohler et al., 2007). Lefebvere and Strain (1989) showed that group contingencies following social skills training targeting specific behaviors (e.g., saying peer name, asking for toy, listening and helping, etc) was effective in increasing the rates of social interaction. Pivotal response training involves using role-play techniques to teach peers how to provide peers with autism spectrum disorder with social reinforcement while modeling, expanding, and teaching appropriate social behavior (Pierce & Schreibman, 1995, 1997). Results of the studies in peer mediated social skills training indicate that peer training is a viable strategy for promoting social interactions between typical peers and children with autism spectrum disorder.

One of the limitations of existing studies in peer mediated social skills training is that it is not clear whether one approach over another is more effective. Although there are several approaches to peer mediated social skills training as described above, only

rarely have researchers compared peer mediated interventions. (Odom & Strain, 1986). More studies comparing different approaches or procedures are needed to determine which interventions are most effective, and for which outcomes (DiSalvo & Oswald, 2002). Likewise, existing literature reviews on peer mediated social skills training for children with autism spectrum disorder lack the information on how the peers were trained and what specific social skills were taught to the peers (McConnell, 2002; Rogers, 2000; DiSalvo & Oswald, 2002).

Buddy Skills System Intervention

Researchers and practitioners have strongly recommended that a primary educational goal for children with disabilities to be the promotion of friendship or social relationship (English, Goldstein, Shafer & Kaczmarek, 1997). Therefore, buddy systems are used often by teachers in an attempt to develop friendships among peers in their classrooms. However, in most classrooms students may be placed in groups without interaction skills being taught. Kamps et al. (2004) showed that placement in inclusive settings is not sufficient to promote social interaction between students with autism spectrum disorder and their typical peers. Due to their particular deficits, students with autism spectrum disorder may not participate in play activities with other students even when they are in close proximity to their typical peers.

Because of the importance of teaching skills to children in inclusive classrooms, researchers have utilized buddy systems to teach, monitor, and prompt social interactions among typically developing peers and their peers with autism spectrum disorder (Laushey & Heflin, 2000; English et al, 1997). The buddy system or buddy skills training is considered as a peer mediated social skills training approach where peers with and

without autism spectrum disorder are trained simultaneously (Goldstein, Kaczmarek, Pennington, & Shafer, 1992). All students are trained on three main components necessary for the success of the buddy system; play with, stay with, and talk with their buddy. The teacher or researcher provides initial class wide training on the three areas and then the students are placed in pairs during multiple activities throughout the day. The teacher or researcher monitors and rewards students for staying, playing, and talking with their peers. Typically developing peers are likely candidates to be buddies for the children in the class with ASD, because they are likely to model age appropriate social skills naturally. It is unlikely two children with ASD or a child with ASD and a peer without appropriate social interaction skills would be paired during buddy sessions. Laushey and Heflin (2000) implemented this buddy system by teaching the whole class the three specific buddy skills 15 minutes prior to playing in pairs with their assigned buddy. The skills were taught via direct teaching method using a script which involved the teacher training the entire class simultaneously on each skill (Laushey & Heflin, 2000). The class wide training approach was successful in increasing social skills for the child with ASD.

Target behaviors for children with ASD are typically chosen according to social significance. Social interaction skills such as asking for an object, responding to questions, seeking appropriate attention, waiting for turns, and looking at or in the direction of a peer have been targeted for intervention when implementing the buddy skills training (Laushey & Heflin, 2000). Researchers have found buddy skills training to be an effective method for increasing social skills of children with ASD and to have a

greater impact on overall interactions compared to just having the child with ASD in close proximity to peers during multiple activities (Laushey & Heflin, 2000).

Individual Training

Peer mediated approaches including the buddy skills training mostly target the whole group of children where skills are trained class-wide. The group-oriented intervention has practical value in an inclusive classroom context that increases generalization effects. However, it is possible that the group-oriented intervention alone may show less of an increase than when a group-oriented intervention is paired with individual training. Direct small group or individual training approaches have been implemented to teach children specific social skills using a script or social skills curriculum, as well as how to use those skills with peers (Weiss & Harris, 2001).

During this type of training children are usually pulled from the classroom or to an area in the classroom away from other distractions. The training consists of a group of 2 or 3 students, composed of one student diagnosed with ASD. Typical peers are chosen by the teacher according to a pre determined selection criteria. Kohler, Greteman, Raschke, and Highnam, (2007) chose typical peers that had a good attendance record, exhibited age appropriate play and social skills, and exhibited high levels of compliance with teacher direction. This differs from group-oriented peer mediated intervention in that participants are chosen based on specific characteristics and that direct teaching procedures are provided to individual children within the small group situations.

Like buddy skills training, children will learn necessary skills in order to engage in successful social interactions in the classroom. However, during direct individual or small group training a curriculum or script is used to teach specific interaction skills to

targeted children. One important consideration to increase social interactions between children with and without ASD is providing direct training to children with ASD during interactions with peers. Belchic and Harris (1994) suggested that training children with ASD to initiate and maintain social interaction with their peers is crucial, which can increase the reinforcement experienced by peers.

Direct teaching procedures often employ the use of prompting and reinforcement. (Rogers, 2000). Researchers have used additional procedures combined with direct teaching. For example, Morrison, Kamps, Garcia, and Parker (2001) used role play and visual prompting to teach both groups of children with and without ASD specific social skills. All skills were taught using a direct teaching method; however, once skills were taught role play and visual cues were used to assure the skill was acquired. Skills taught during direct teaching have been adopted from either a training script or from a published social skills curriculum (Kamps et al, 1992; Gonzalez-Lopez & Kamps, 1997).

One of the most important factors in individual social skills training is determining what skills are taught to the peers. Most research on peer mediated social skills training trained the peers to engage in some behavior that initiates social interaction with their peers with ASD (Owen-DeSchryver et al, 2008). There are many ways in which peers can initiate interaction with their same-age peers with ASD. Strain et al (1979) was one of the first to use peer mediated social skills training. In this study, they taught peers to initiate interaction by trying to induce participants to play with them. As research continued in this area, researchers expanded the necessary components used by peers to encourage participants to play with them. For example, Goldstein and colleagues

(1992) taught typical peers steps for initiating play which included approaching, saying the name, and talking with their peer with ASD.

Although initiations are the central focus for teaching typical peers social skills, researchers have focused some attention on teaching responses and social interactions as well (Kamps, et al 1992; Gonzalez-Lopez, 1997). Peers were taught to respond to initiations from their peers with ASD, which was classified as responding. Peers were also taught to initiate and respond with their peers with ASD multiple times, which was classified as an interaction (Knapczyk, 1989). Kamps et al (1992) used a 21 item scale to teach peer mediators the three skills listed above, initiations, responses, and interactions. The scale was a set of 21 skills that were taught and fell under the three categories listed above. Examples of some skills taught in this study included, initiating and interaction, responding to initiations, keeping an interaction going, giving compliments, taking turns, helping, and including others.

Morrison et al (2001) included many of the same skills in their study; however, the main focus was on verbal interactions. The skills taught in this particular study were requesting, commenting on, and sharing. Since Kamps et al (1992) used a 21 item scale there were more skills trained in that study; however, both studies focused on initiations, responses, and interactions. Although the skills trained to peers were at one time only initiations, researchers have increased the number and length of social interactions by training peers how to respond and interact as well (Owen-DeSchryver et al, 2008).

Buddy Skills System with Individual Training

In buddy skills training, the peers are trained to stay with their peer buddy with ASD. Peers were not taught specific interaction skills such as how to respond to an

initiation from their peers with ASD when playing with their buddy. However, in direct small group or individual training with a script or social skills curriculum, the children involved are trained on actual skills and how to use them with peers. Both buddy system and direct training methods involve typical peers and the peer with ASD at the same time, but the intensity of teacher involvement in teaching specific skills is different (Kroeger, Shultz, & Newsom, 2007).

Recent researchers have developed procedures to combine the two procedures to increase social skills. English et al (1997) combined both procedures by grouping typical and non typical children and teaching interaction skills. In this study the typical peers were trained separately in two groups. Two strategies were used to train the typical peers; (a) sensitivity training where the peers watched a video and asked to identify what the peers with disabilities wanted in the video, and (b) peers were trained on specific buddy strategies such as, stay, play and talk with peers. Peers were then placed in a buddy system following training and the class was taught play, stay and talk while grouped with their buddy. All children were reminded of the buddy strategies throughout the entire day. Kohler et al., (2007) implemented a similar strategy, but they included much more teacher involvement. A select group of students were trained on a slight variation of the stay, play and talk procedure. The researcher implemented the individual training sessions and then placed children in a buddy system. The teacher was trained and instructed on how to provide prompts, praise, and reinforcement to the children who implemented the strategies taught. Results of the study may have varied if the teacher had been involved in training.

Teacher Involvement in Peer Mediated Intervention

An evaluation of the research in the area of peer mediated intervention shows that regardless of which approach is used, teacher involvement with the training procedures as well as providing prompting and reinforcement is minimal. (Kohler et al 2007; Owen-DeSchryver et al, 2008). Laushey and Heflin (2000) used buddy skills training to teach social skills to the entire class. The researcher provided all of the training to the class as well as provided prompting and reinforcement for appropriate behavior. The teacher placed the students into groups according to similarities among the students. This was the maximum teacher participation, making teacher involvement far less than the researcher's involvement. Owen-DeSchryver et al, (2008) used an individual training approach to increase social skills. Although this study differs greatly in training method, the level of teacher involvement or interaction during intervention was very similar to those of other studies. In this study teachers selected the peers who were involved in the study instead of placing already chosen peers by the researcher into pairs. However, the teachers did not directly prompt the children with ASD and peers to engage in social interaction.

Multiple studies have involved teachers providing reinforcers for appropriate behavior as well as being involved in peer training. English et al. (1997) utilized researchers during the training process like the previous two studies; however, the teacher provided praise and tangible reinforcers (stickers) when the peers, target child, or buddy pairs engaged in targeted skills. Gonzalez-Lopez et al (1997) and Kohler et al (2007) used the most teacher involvement by having the teachers conduct the training as well as providing reinforcers. Gonzalez-Lopez et al (1997) used the individual training method

with a training script. The training script consisted of five target social skills to teach children. The script provided the teachers with a description of the skills, target behaviors of children with ASD, and directions for how the teacher should teach the skills to the children. Teachers were also involved in providing stickers to groups that were using the trained skills. Kohler et al (2007) used a combination of individual training and buddy skills training in which teachers were involved in both conditions. The teacher conducted 8 training sessions with the child with ASD and two typical peers. Training consisted of the teacher introducing a skill, modeling the skill and providing praise when the students practiced the skill correctly. When the buddy system was in place the teacher provided textual prompts and praise during activities.

Generalization and Maintenance

Individuals diagnosed with ASD often have difficulty generalizing learned skills to new settings, as well as, using newly acquired skills in the presence of novel people and stimuli (Handleman, 1999). For example, skills taught in one environment may not generalize to an environment where intervention was not in place. In order to increase generalization across environments, skills should be taught in multiple environments and measured in the most naturalistic environment (Morrison et al, 2001). Morrison and colleagues collected generalization data during lunch and recess. They collected data on site using partial interval recording four times during recess and four times during lunch. They chose lunch and recess because they found them to be the most naturalistic environments for socialization to occur (Morrison et al, 2001). Using a peer mediated approach; skills taught to peers may be used with the peer trainer but may not spontaneously occur with other peers. Therefore, using multiple peers as trainers and

adding a rotation of peers during buddy time will help increase the likelihood of skills occurring across multiple peers (Laushey & Heflin, 2000; English et al, 1997). Although these researchers stated that generalization occurred naturally due to using multiple peers, they did not conduct generalization probes to evaluate generalization effects, their conclusion lacks scientific evidence. Despite the importance of generalizing skills to multiple settings and peers, most researchers in peer mediated social skills training have failed to examine this area (McConnell, 2002; Rogers, 2000; DiSalvo & Oswald, 2002).

Maintenance probes are equally as important to determine if the skills have been maintained over a period of time. It is more likely for maintenance to occur if the context for training corresponds to the conditions naturally occurring in performance settings (Knapczyk, 1989). Maintenance probes, also known as follow up probes; typically occur after an elapsed period of time following completion of intervention. Kamps and his colleagues (1992) conducted follow up probes one month following the completion of intervention, whereas Laushey et al. (2000) conducted follow up probes for the participant during the next school year. Therefore, follow up probes can be conducted at any time following intervention. Although maintenance probes are beneficial for further validation of the results of a study, only limited studies included maintenance probes (Knapczyk, 1989; Kamps et al, 1992; Laushey et al, 2000). Kohler et al. (2007) added maintenance as a condition with no time delay like the previous two studies (Kohler et al, 2007). During the maintenance condition, children continued to engage in the buddy system, however the reinforcers, praise, and feedback were removed. The maintenance of skills taught during peer mediated interventions are vitally important. Kohler et al. (2007) found that even when skills reach their highest level during intervention there was still a

slight decrease when reinforcement was removed. One interesting note is that reciprocal interactions did not decrease. So it is possible that when skills are trained to be topographically similar to actual reciprocal interactions it more likely that those skills will maintain. In order to prove this and increase our knowledge on how skills are maintained, it is vitally important to conduct at least a few maintenance probes and at most add maintenance as a condition to as many peer mediated interventions as possible.

Social Validity and Treatment Integrity

Researchers in the area of peer mediated social skills training have rarely discussed social validity and treatment integrity (e.g., DiSalvo & Oswald, 2002; McConnell, 2002; Rogers, 2000). The ultimate goal of social validity measures is to help choose and guide program development and interventions (Cooper, Heron, & Heward, 2007). Social validity measures also extend knowledge for future research (Laushey & Heflin, 2000). The most prevalent method for measuring social validity is via questionnaire, which asks how valid participants and/or teachers perceived the intervention. However, there are different methods for measuring social validity other than a questionnaire. For example, Laushey and Heflin (2000) measured social validity using a focus group which included members of the immediate community and families of the participants. The group was asked to validate the social significance or the dependent variables and agreed that the intervention designed was realistic and practical. English et al (1997) measured the social importance of treatment gains by using subjective ratings. Subjective observers viewed video tapes before and after treatment and observers were asked to rate the quality and quantity of social interactions.

Social validity can be measured at either the beginning, during, or the end of a study. Gonzalez-Lopez & Kamps (1997) used a questionnaire to measure social validity that was given to the teachers at the end of the study. Laushey and colleagues measured social validity before and throughout the study. Previous researchers in this area have measured social validity using different formats or methods , but mostly each choosing only one of the three times during the intervention process. It is important for future research that social validity is measured with at least one of the above methods. It is also important the social validity to be measured at least once during the intervention phases to determine whether modification of the intervention is necessary. Social validity should also be measured at the end of the study to determine whether teachers/children value the intervention and whether modification of the intervention is necessary.

Treatment integrity measures the extent to which the independent variable is implemented or carried out as planned (Cooper, Heron, & Heward, 2007; Weiss & Harris, 2001). Without treatment integrity it is difficult for a researcher to find their results completely valid. The reason for this is that if the experiment was successful but the researcher is unsure if the plan was implemented correctly it could be likely that the results were due to a confounding variable. Low treatment integrity would make it very difficult to report the results of a study with confidence. In order for a researcher to be fully confident that the intervention was implemented correctly or as planned, treatment integrity should be assessed. Despite this need it is an infrequent measure among researchers implementing peer mediated interventions.

When treatment integrity is assessed it is likely to be done so with a checklist. Gonzalez-Lopez & Kamps (1997) used the traditional form of measuring integrity by

using a 17-item checklist that the observers filled out to measure the teacher's behavior. Laushey and Heflin (2000) also measured treatment integrity by using direct observation procedures. They measured the teacher's implementation by observing graphs to assure that children were being rotated, observed pairs of children to be sure they were following what was taught, and talked to the teachers at least once a week to answer question. They did not use one of the traditional forms of treatment integrity such as a checklist or interval data collection.

As discussed above, future research would benefit from further assessment of the generalization and maintenance of skills taught. Researchers could look into what and how skills are taught and which are more or less likely to generalize and maintain over time. Another area for future research is a focus on social validity and integrity measures. These measures allow for a better understanding of the effectiveness of each intervention and can give insight for future studies. Teacher involvement is another area in which researchers can expand. Involving teachers to implement interventions, providing praise, feedback, and reinforcement would be a great way to increase generalization and implement interventions in a more naturalistic environment. Furthermore, researchers should facilitate teacher involvement in the process of designing the intervention procedures. In most of the studies discussed above (e. g., Chung et al., 2007; Goldstein et al., 1992; English et al., 1997; Laushey & Heflin, 2000), the researchers did not involve teachers in identifying peer target skills and in identifying effective buddy skills training procedures.

Although buddy system and individual training approaches are effective ways to teach specific skills to peers and children with ASD, specific intervention procedures

should be developed jointly with the classroom teachers based on teacher and peer skills levels to implement the procedures to increase the socially validity of intervention (Gonzalez-Lopez & Kamps, 1997). One final implication for future research is comparing interventions to see which, if any, are more effective. Although some studies (e. g., English et al., 1997; Kohler et al., 2007) combined the buddy system with individual training in involving peers, researchers have not investigated whether one intervention over another is more effective, or combining the buddy system with individual training is more effective than buddy system only in improving social skills of children with ASD.

Purpose and Research Questions

The purpose of this study was to determine the effectiveness of peer mediated social skills training in increasing social skills of a child with Asperger's syndrome and three typically developing peers in an inclusive elementary classroom. The study extended the literature in multiple ways by: a) comparing the buddy system alone condition with a combined buddy system augmented with an individual training condition; b) involving the target child's classroom teachers and paraprofessionals during all aspects of training and implementation; and c) assessing generalization, social validity, and treatment integrity. The current study addressed the following questions: a) will the buddy system intervention implemented to the whole class increase social interaction skills of a child with Asperger's syndrome and three typical peers; b) will the additional individual social skills training paired with the buddy system be more effective; and c) will the target child's social interaction skills be generalized to situations with a non-

trained peer and will it result in collateral increases in social interaction of the non-trained peer?

Section 2

Method

Participants

One child with Asperger's syndrome and four of his typically developing classmates participated in the study. Gabe was a 7 year old boy with a primary diagnosis of Asperger's syndrome. He had an intermediate verbal repertoire and did not use verbal language skills to initiate social interaction with peers, nor did he typically attend to initiations from peers. He had been served at the school for one year and previously attended a school for autism for two years. Three typical peers: Angie, 8, was in her first year attending this school and the teacher reported excellent social skills. She was familiar with a diagnosis of Asperger's Syndrome because she had an older brother diagnosed with this diagnosis. Corey, 7, the teacher also reported that Corey had great social skills and considered the participant one of his friends in the classroom, and were therefore frequently paired during work activities. Lacy, 9, was in her second year attending the school and the teacher reported she was able to apply skills very quickly. All three peers met the following criteria: (a) were socially responsive with average communication skills; (b) had a good attendance, (c) were able to follow teacher direction, (d) had good play skills, and (e) were willing to participate (Brown, Odom, Holcombe, 1996; DiSalvo & Oswald, 2002). A fourth peer Shannon, 8, who also met the criteria, but who rarely interacted with Gabe was selected to assess the collateral effects of the intervention. Consent was obtained by the lead therapist. The lead therapist met with the

four participants and read through the consent form using a script. The lead researcher allowed the students to ask questions and made sure they understood the intervention procedures. At this time each student gave verbal assent. The parental consent form was sent home once child assent was obtained, intervention procedures did not begin until consent forms were returned by all participants.

Setting

The study took place in a private elementary school classroom that included 18 typically developing children and two children diagnosed with Asperger's syndrome. The school was located in a large metropolitan city, and implemented a curriculum based on Montessori philosophy and pedagogy. The classroom was staffed by, two teachers and three paraprofessionals who rotated responsibilities for working with Gabe in the mornings. The two classroom teachers were females aged 30-40 years old with 5-6 years experience working at the Montessori school and with children who have disabilities. They both had teaching certificates in special education. Both classroom teachers also signed consent forms prior to the beginning of intervention. The three paraprofessionals who worked with Gabe were all female aged 20-25 years old with 2 years experience working with children with autism spectrum disorders and related disabilities and were enrolled in a master's program at the time of the study. The classroom activities consisted of self directed activities on the part of the child and observation on the part of the teacher. Therefore, lecturing and whole class lessons were not used as an instructional approach. The classroom had 4 tables that seat 4-5 children. Children worked on math, science, reading, and writing in the morning. Then the class has lunch, recess and physical education, and additional learning activities in the afternoon. The classroom was

equipped with multiple games, toys, art supplies, books, and other academic materials. The intervention was implemented during recess in an outside play area with a jungle gym, basketball court, and picnic tables.

Dependent Measures

Two categories of child social interaction skills were measured: social initiation and social response. *Social initiation* was defined as a positive social behavior that begins an interaction (e.g. tapping a peer on the shoulder, saying a peer's names, asking to play with an activity ("Do you want to play with me?", "Can I have the red block?", "Do you want to blue car?"), asking for help, offering help, handing an activity material to a another child, questioning, praising ("You did it!", "Almost there!" "Wow, good job", "You did that all by yourself!"), commenting on the child's activity ("Looks like fun", "Uh oh that block is going to fall!", "You only have one problem left!"), greeting a peer, and requesting attention from a peer ("Hey", "Look", "See This?") (Davis, Langone, & Malone, 1996). *Social response* was defined as a positive social behavior made toward a child that are preceded by an initiation from that child within 3 seconds of the initiation (e.g. looking toward a peer upon hearing name, answering a question about an activity or the child, taking toy from peers, complying with another student's request to play or help with an activity) (Davis et al., 1996). For the peers, social initiation directed toward the child with Asperger's syndrome, Gabe, and responses to initiations made by Gabe were measured. Social initiations directed toward the typical peer as well as the responses to the initiations from the typical peers were measured for Gabe.

Data Collection and Interobserver Agreement

A 15-s partial interval recording system was used to score occurrences of all social interactions. An interval was scored as an occurrence if any instance of defined topography of each target behavior was displayed during the preceding 15 seconds. The target behaviors were scored independently, therefore it was possible to record an interval containing all types of social interactions. Data collection during all sessions was collected by the lead researcher. The researcher and a graduate student working toward a master's degree in mental health counseling participated in the data collection training. Upon attaining a minimum criterion of 90% inter-observer agreement in training, the second observer independently and simultaneously recorded data for all participants during a minimum of 30% of all sessions across phases, participants, and target behaviors. Agreements were calculated by dividing the total numbers of agreements by the number of agreements plus disagreements, multiplied by 100 to yield percentage. The mean interobserver agreements for social interactions across the experimental conditions were as follows: Angela 95%, which ranged from 92% to 99%, Corey 92%, which ranged from 87% to 86%, Lacy 92% which ranged from 86% to 97%, and Shannon 94%, which ranged from 92% to 96%, respectively.

Treatment Integrity

Treatment integrity was assessed using a procedural rating scale during both phases of the intervention by the graduate student. It was defined as an adherence of the training and implementation procedures by implementers. For the first phase of the intervention, a 12-item scale with a 3-point rating system (1 = never implemented, 2 = partially implemented, 3 = fully implemented) was used to measure the treatment

integrity. The treatment integrity scale included items that described the features for the peer buddy system training and implementation by teaching staff. The scale contained 4 items explaining procedures and providing rationale (e.g., explains and displays the buddy board, provides rationale for the skills), 6 items assessing the correct implementation of training procedures (e.g., reminding students of previous skills, providing a two minute warning), and 3 items measuring the use of prompting and reinforcement techniques. The same scale was used for phase two with the addition of three items, consisting of a total of 15 items. The additional items described the features for the individual training intervention (e.g., role playing the skills with the participants, having the participants role play with each other). Treatment fidelity was measured during 30 % of the sessions. The results of both fidelity assessments indicated that the implementer did adhere to all treatment procedures scoring a 3 (fully implemented) for all questions on the 12 item scale each time the fidelity scale was assessed. Interobserver agreement checks were conducted on 50% of the treatment fidelity observation sessions by the graduate assistant and researcher. Interobserver agreement was obtained using a point-by-point method by dividing the total numbers of agreements by the number of agreements plus disagreements, multiplied by 100 to yield percentage. The mean interobserver agreements were 100% during phase one and 100% during phase two.

Social Validity

Two social validity surveys, adapted from the intervention rating scale by Martens, Witt, Elliott, & Darveaux (1985), (one for classroom staff and one for children) were conducted at three points in time during the study: during phase one, during phase two, and at the end of intervention. Two teachers and two paraprofessionals (classroom aides)

filled out the teacher social validity survey designed to assess the opinion of effectiveness of the procedure, the ability to perform the intervention procedures, and the likability or usability of the procedures. The teacher rating scale consisted of 10 items that were rated on a 5-point scale, where 1 = strongly disagree, 3 = neutral, and 5 = strongly agree. Three typical peers filled out the child social validity form that focused on assessing the acceptability, effectiveness, and likability or usability of the intervention procedures. The child rating scale consisted of 10 yes and no questions which were answered verbally by the children and recorded by the lead researcher.

Experimental Design and Procedures

A multiple baseline across peers design with an ABC sequence of phases were used to evaluate the impact of buddy skills training (A = baseline, B = buddy skills training, C = buddy skills training plus individual social skills training). Once baseline for the first peer was stable, phase one of the intervention procedures was introduced. The second and the third peers continued with baseline when the first peer and the target child dyad were introduced to the intervention. When baseline data for the second peer was stable, and the intervention data was stable for the first peer and the target child, the intervention was introduced to the second dyad. The intervention was implemented for the third dyad following the same sequence as the second dyad. Phase one and phase two interventions were implemented across all dyads until stable patterns in each target behavior were observed across children.

Baseline

During baseline, the child with Asperger's syndrome was placed with each peer for 10 minutes of the 30-40 minute recess with no direct instruction to engage with peers.

Recess was located in an outside play area with a jungle gym, basketball court, and picnic tables. No instructions regarding social interactions were given by the classroom teacher, except for children to play nicely with their peer. Children were able to play where ever they would like in the play area with whichever friends they choose, there was no instruction given to remain with their buddy or engage in any type of social interaction. Data was collected for 10 minutes after the first 5 minutes of recess so children could settle into recess.

Teacher Training

One two-hour training session was conducted with the two classroom teachers to explain the intervention procedures and go over the training manual. This training consisted of the lead researcher explaining the training manual, the purpose of the intervention, and the roles of the teachers. The roles of the classroom teachers were to provide training to children, to facilitate child implementation of the peer-mediated strategies by providing prompts and reinforcement, and to monitor the children's implementation. An additional training was conducted with the two paraprofessionals (classroom aides) individually to go over the purpose of the study, intervention procedures, and their roles. The paraprofessionals' role was to assist in training procedures by conducting role plays and providing prompting and reinforcement during training, and to provide prompts and reinforcement to children during implementation of the strategies. These training sessions were conducted to ensure proper teacher implementation and understanding of the procedures.

Intervention Procedures

The intervention consisted of two phases: one phase with peer buddy system procedure alone and one phase with the combined peer buddy system and individual social skills training procedures. For each phase, researcher and classroom staff jointly provided the training to the children and had the children implement the peer-mediated strategies. Classroom staff members were provided with a manual aimed at assisting them in implementing training.

Phase 1: Peer Buddy System. The buddy system approach by English, Goldstein, Kaczmarak, and Shafer (1996), which was found to be effective in increasing social interactions of children with and without disabilities, was implemented in the first phase of the intervention. In order to promote generalization, English et al.'s procedures were modified slightly by adapting the procedures used by Laushey and Heflin (2000). The peer buddy system intervention procedure was designed to teach children three target skills: (a) playing with, (b) staying with, and (c) talking with their peers. The specific training and implementation procedures were as follows:

The peer buddy system was taught to all students in the classroom including the child with Asperger's syndrome. Training was conducted by the lead researcher with the collaboration of the teacher. During training, the students were divided into two groups. The peers who were in the baseline condition did not participate in the training; instead they participated in a free play with the other classroom teacher in a designated area in the classroom. The second and third peers participated in the training once they maintained a stable baseline, and peer one (and peer two) maintained a stable intervention during at least 5 sessions. Training occurred according to the following buddy skills

script, which was dispersed over three 10-minute sessions for 3 consecutive sessions. The buddy skills training was provided before recess, toward the end of lunch.

(a) *Session 1: Stay With.* At the beginning of the training, the researcher explained the importance of playing with peers in the classroom. The teacher (head or assistant teacher) and researcher jointly explained that in order for everyone to get the chance to play with everyone they would have a buddy system during recess. A buddy chart, which visually grouped the students into pairs for recess, was shown to children. The teacher and researcher explained that there are three important rules to follow when grouped with their buddy during recess and then explained rule one, “Staying with your buddy”. It was explained that this means to stay in the same area as your buddy and take turns with your buddy. The teacher or paraprofessional modeled this for the class and then had two students come to the front of the class and model the behavior for the class.

(b) *Session 2: Play With.* The researcher began again by explaining the importance of playing with all of the students in the classroom. The researcher showed the class the buddy chart which visually grouped the students into different pairs than the last training session for recess. The teacher and researcher jointly explained that there would be another important rule to follow when grouped with their buddy during recess and explained rule two, “Play with your buddy”. It was explained that this meant not only to stay in the same area as their buddy but also to play with the same play materials and activities. The teacher and researcher explained some scenarios in which this would take place. The following specific play skills were introduced: joining with their buddy if they were playing with something, taking or offering a toy to buddy, helping buddy with play, and asking if they would like to play or need help. The teacher or a paraprofessional

modeled playing with a buddy using the skills to the class and then had two students come to the front of the class to demonstrate playing with their buddy to the entire class.

(c) *Session Three: Talk With.* As with sessions one and two, the researcher began again by explaining the importance of playing with all of the students in the classroom. The researcher reminded the class of the buddy chart, which visually grouped the students into pairs for recess, and were different groups from the previous day. The teacher and researcher explained that there was the third important rule to follow when grouped with their buddy during recess and explained rule three, “Talking with your buddy”. It was explained that this meant not only to stay with and play with their buddy but it would be important to talk to them as well. The teacher and researcher provided some scenarios and gave the class examples of topics that could be mentioned during play. It was explained that even if their buddy did not talk to them, it would still be important to talk to them. The teacher or aide and the researcher modeled talking with a buddy to the class and then had two students come to the front of the class to demonstrate talking with their buddy to the entire class.

After each training session, the individual peer went immediately to recess and paired with the target child. The group of children who did not participate in the training in each session remained in the classroom with a teacher. They participated in a free choice activity. During recess, the classroom staff (mostly two paraprofessionals) took turns providing prompts and reinforcement to the participating children. Staff was asked to provide the children with frequent verbal prompts (about every 3 minutes) and immediate verbal complements for engaging in the targeted skills. The researcher provided verbal complements to the children at the end of each session for the purpose of

providing positive feedback on their play. The children were reminded of the buddy skills every time immediately before going to recess. During this phase, data was collected by the researcher as well as by a research assistant when interobserver agreement was collected. Data collection on social interactions of both peers began after five minutes of getting settled at recess and continued for 10 minutes.

Phase 2: Buddy System plus Individual Training. During phase two of the intervention, the peer buddy system with individual social skills training intervention was implemented. The direct individual social skills training procedures were based on a set of procedures established in previous research (Kamps et al., 1992; English et al, 1996; 1997; Strain 2003). The individual training procedures focused on teaching social play skills with emphasis on social initiation and social response skills. Social initiation such as tapping a peer on the shoulder, saying a peer's names, asking to play, giving choices, turn taking, and sharing were taught. Social response skills focused on teaching more complex response social skills such as giving assistance, commenting on an activity, complimenting (verbal praise) a peer, and asking and answering questions.

Phase two training sessions were provided during three 10 minutes sessions. During the first session, the children were taught the social initiation skills. During the second session, the children were taught the social response skills. The final training session was a review of the first two sessions to remind the children of what skills have been learned. When skills were not acquired, the lead researcher and/or the aide reviewed and practiced with the pair again. Training during this phase was also provided jointly by the researcher and the classroom staff. Each training session consisted of each typical peer being paired independently with the child with Asperger's syndrome. The training

took place on the picnic table immediately outside of the classroom door, free from distractions and other classmates.

All individual training sessions were conducted using the following format: (a) *introducing target behaviors*: explaining the target skill, its importance, and when it is used; (b) *modeling*: demonstrating each skill for the children; (c) *role play*: having typical peers practice the skills with an adult as well as with the child with Asperger's syndrome while providing verbal prompts; and (d) *contingent praise and corrective feedback*: providing praise or corrective feedback contingent upon the children's performance. The lead researcher and the aide modeled and role played the skill as many times as necessary until the students were able to perform correctly without prompts.

After each training session, the pair of students went to the free outside play activity (recess). When the intervention was introduced to all three peers, each of the three peers was paired individually with the target child for 10 minutes during the recess time. At the beginning of recess, children were reminded of the skills they had learned during the peer buddy skills training and individual training sessions. The classroom staff provided frequent verbal prompts (about every 3 minutes) and verbal positive praise to the children, motivating them to continuously interact with their buddy. The number of prompts to peers were reduced as the intervention progressed. The researcher also provided verbal positive praise to the children at the end of each session for the purpose of providing positive feedback on their play. The same data collection procedures that were used for phase one were used in phase two of the intervention

Additional Training and Support Procedures

On-going technical assistance was provided to the teacher throughout both training phases to promote and monitor intervention. One additional booster session was provided to each participant on the fifth session during phase two of the intervention. These sessions consisted of the researcher providing a 10 minute review and reminder of the skills with children. The booster sessions were conducted immediately before recess. This was done to assess the knowledge and understanding of the skills that were trained two sessions after the training had been complete. Feedback meetings with the teachers were also provided. These meetings involved one teacher and the researcher and were conducted once every week to go over any questions or concerns regarding the intervention procedures. This meeting also consisted of reviewing treatment fidelity and the children's progress data as well as any goals for the students for the following week.

Generalization

Data on the target child and the fourth peer participant who did not participate in the intervention was collected to assess the generalization and collateral effect of the intervention on the children's behavior. The generalization probe data were collected during 30% of the sessions across experimental conditions. Generalization probes were conducted at least once every 4 sessions with the non-targeted peer paired with the child with Asperger's syndrome during recess. Data collection for the fourth participant was the same as for the other three peers, which measured social initiation and social response using a 15 second interval recording system for 10 minutes. The data was collected by the lead researcher and the research assistant. Since this child was aware that all of the

children in the classroom participated in the training, she received the peer buddy skills training after all of the generalization data was collected.

Data Analysis

The data were analyzed visually. Changes in level were analyzed by comparing mean percentage of intervals across baseline, phase one, and phase two conditions for each child. Variability and trend were analyzed by methods recommended by Tawney and Gast (1984). Data were considered stable when 80%–90% of data points fall within a 15% range of the mean.

Section 3

Results

Social Interactions of the Child with Asperger's Syndrome

Figure 1 depicts the percentage of intervals of Gabe's social initiations and responses with all three peers during baseline and both phases of the intervention. The square data series represents the percentage of intervals in which Gabe engaged in the social interaction, consisting of social initiations and social responses. As can be seen in the graphical data, Gabe's social initiations and responses are primarily dependent on participation from the peer buddy. Gabe's results are similar to those of each peer explained below. Gabe did not engage in any interaction with any of the three peers during baseline. During the first phase of intervention, Gabe's mean percentages of social initiations were 14% with Angie, 17% with Corey, and 15% with Lacy. Social responses were similar to initiations with a mean percentage of 11% with Angie, 17% with Corey, and 14% with Lacy. The data shows that the peer buddy system produced an immediate increase in Gabe's levels of social interactions across all three peers and remained stable as sessions progressed.

As shown in the data for the peer buddies, Gabe's social behavior showed a greater increase during phase two of the intervention when the combined buddy system and individual social skills training intervention was introduced. Gabe's mean percentages of social initiations were 39% with Angie, 37% with Corey, and 57% with Lacy. Gabe's mean percentages for social responses during phase two of the intervention

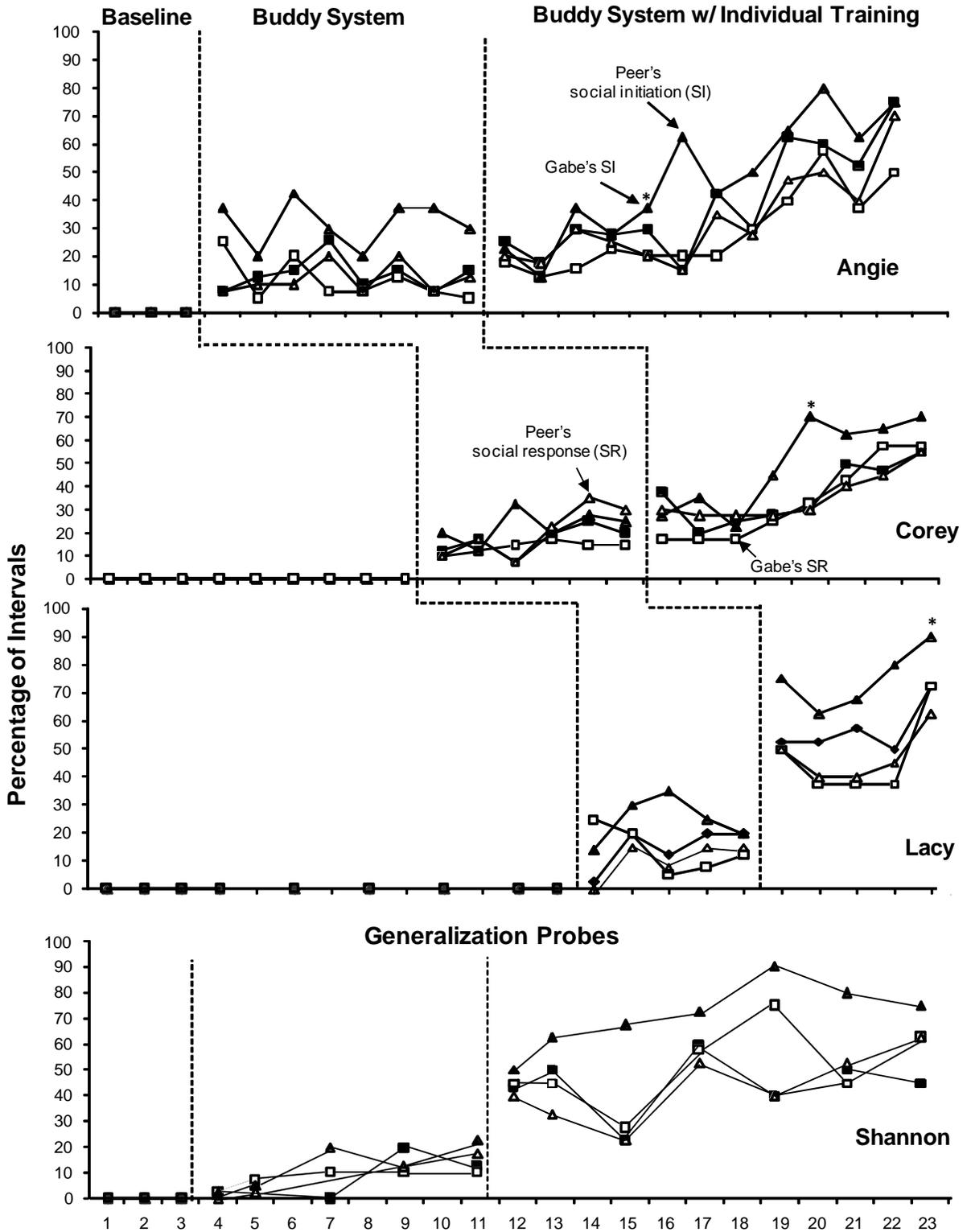
were 29% with Angie, 33% with Corey, and 47% with Lacy. As shown in the data, Gabe's social initiations and social responses continued to increase over the course of the phase two intervention. In particular, Gabe's social interactions increased dramatically during interaction with Lacy when individual training was provided. The results indicated that Gabe's social behavior increased during both phases of intervention; however, a greater increase was shown for social behavior during phase 2 of the intervention.

Social Interactions of the Peers

The results of each peer participant's social behavior during all phases of the intervention are also displayed in Figure 1. The triangle data series depicts the percentage of intervals in which the peers engaged in social interactions directed toward Gabe. Results indicated that implementation of the buddy system was effective in promoting the peers' social interactions and responses with Gabe. During baseline, each peer directed zero attempts of interaction towards Gabe, nor did Gabe make any attempts for interaction toward any of the peers. The buddy system phase produced an immediate increase in both social initiation and social response of all 3 peer buddies. Compared to social responses, social initiations from the peer to Gabe showed the greatest increase for all of the peer buddies during the first phase of intervention. Angie's mean percentage for social initiations during phase one was the highest of all three peers with a mean percentage of 32% for social initiation and 12% for social response. Corey also showed an increase during phase one with a mean percentage of 23% for social initiation and 20% for social response. Lacy's average was similar to Angie and Corey's with a mean percentage of 25% for social initiation and 11% for social response. Although there were a few sessions when the social initiation decreased across children, the variability of the

data was relatively low, and the overall increased levels of the social initiation across the children remained during phase one intervention.

Results indicated that there was a greater yet more gradual increase in social behavior for Angie and Corey during interaction with Gabe, when the combined buddy system and individual training intervention was introduced during phase two. Angie's mean percentages during phase two were 39% for social initiation and 33% for social response. Corey showed similar results with a mean percentage of 50% for social initiation and 35% for social response. Lacy showed a much greater increase from phase one to phase two with 75% for social initiation and 48% for social response. Consistent with Gabe's social behavior, all three peer buddies showed an increase in social behavior during both phases, with an overall larger increase during phase two of the intervention for all three peer buddies, even though the increase was gradual for two of the three participants.



Note: Stars indicate the sessions with booster training.

Figure 1: All four peer (including generalization data) and target child social interactions.

Generalization to Non-Trained Peer and Collateral Effects

Figure 1 also depicts the probe data on levels of social interaction for Gabe and for the non-trained peer, Shannon, when they were paired during baseline, phase one, and phase two conditions. The results indicated that Gabe's patterns of target behaviors during interaction with Shannon were similar to those during interactions with other targeted peers. During baseline Gabe engaged in no social interactions with Shannon. However, Gabe's mean percentages of intervals of social initiations and social responses toward Shannon were 8%, respectively, during phase one of the intervention when the peer buddy system was introduced to the other participants. Shannon's results were similar to the three trained peer buddies as well as the results for Gabe. During baseline Shannon showed no interactions with Gabe. When the peer buddy system was introduced, Shannon's mean percentages of social initiations and social responses toward Gabe increased to 14 % and 6.5 %, respectively. During phase two, when both buddy system and individual training were implemented for the other participants, both Gabe's and Shannon's target behaviors directed toward each other further increased. Their social initiations and social responses continued to increase over the course of the implementations of phase two to the three peer buddies, with a mean percentage of 71% for social initiations and 43% for social responses for Shannon, and 45% for social initiations and 51% social responses for Gabe.

Social Validity

The results of the teaching staff ratings on the social validity surveys are presented in Table 1. As shown in Table 1, both groups of teachers and paraprofessionals found both intervention procedures to be effective and acceptable. All items on the scale were rated between 4 and 5 by both groups. The teachers provided a mean rating of 4.2

across items at Time 1 (during phase one), 4.2 at Time 2 (during phase two), and 4.2 at Time 3 (at the end of intervention). The paraprofessionals provided a mean rating of 4.0 across items at Time 1, 4.3 at Time 2, and 4.4 at Time 3.

Table 1: Social Validity Questionnaire Results for Teachers/Paraprofessionals

Item	Teachers			Paraprofessionals		
	Time1	Time 2	Time 3	Time 1	Time 2	Time 3
1. I have noticed an increase in social behavior for my student with Asperger's Syndrome	4.0	4.0	4.0	4.0	4.0	4.0
2. I have noticed a decrease in problem behavior for my student with Asperger's Syndrome	4.5	4.0	4.0	4.0	4.0	4.5
3. I felt comfortable implementing the procedures with my class	4.0	4.0	4.0	4.0	4.0	5.0
4. I feel that I would be able to use the skills I learned in the future	4.0	4.0	4.0	4.0	4.0	4.5
5. The buddy skills intervention was an effective method for increasing children's social skills	4.0	4.5	4.0	4.0	4.0	4.0
6. The buddy skills intervention plus training intervention was an effective method for increasing children's social skills	N/A	5.0	4.0	N/A	4.0	5.0

7. I would be willing to use this intervention with my classes in the future	4.0	4.0	4.0	4.0	5.0	4.0
8. I feel that other teachers would benefit from using this intervention	5.0	5.0	5.0	4.0	4.5	4.0
9. I enjoyed the procedures used in this intervention	4.5	4.0	4.0	4.0	5.0	4.0
10. This intervention had an overall positive effect on recess time	5.0	5.0	5.0	4.0	4.0	4.5
Average across participants and items	4.3	4.4	4.2	4.0	4.3	4.4

Table 2 displays the answers for the social validity questionnaire by three participant peers. As displayed in the table, all three of the participants found the intervention highly acceptable and something they enjoyed, and would like to do again. All peers answered yes to all of the questions during both phases except one child answered no to one of the questions during phase 2.

Table 2: Social Validity Questionnaire Results for Typical Peers

Item	Time 1		Time 2		Time 3	
	Yes	No	Yes	No	Yes	No
1. I enjoyed being paired with a buddy	3	0	3	0	3	0
2. I feel like I have made new friends	3	0	3	0	3	0
3. I understood how to initiate play and respond to my friend's social initiations during training	3	0	3	0	3	0

4. I understood how to initiate play and respond to my friend's social initiations after training was over	3	0	3	0	3	0
5. I wanted to play/work with my friends more after training	3	0	2	1	3	0
6. I noticed more of my friends playing together	3	0	3	0	3	0
7. I would tell my other friends to be involved in this type of training	3	0	3	0	3	0
8. I think my friend Gabe plays more with his friends now	3	0	3	0	3	0
9. I would like to continue to use the skills I learned	3	0	3	0	3	0
10. I feel like I would be willing to play with others that may not talk as much as I do	3	0	3	0	3	0

Note: The number represents the number of children that answered yes or no.

Section 4

Discussion

This study evaluated the efficacy of two peer-mediated intervention strategies in enhancing the social interactions of a child with Asperger's syndrome and his typically functioning peers. The study took place in an inclusive classroom which consisted of typically functioning students as well as students with diagnoses on the autism spectrum. The resulting data suggested that implementing a peer buddy system alone can promote positive behavioral outcomes with respect to social interaction for a student with Asperger's syndrome as well as his typically functioning peers; however, greater results can be achieved when individual training is provided. The combination of the peer buddy system and individual training conditions proved to be the most efficacious method of evoking greater social interaction behaviors in the primary target child and his peers. In this phase, all of the participant's social interactions continued to increase gradually in frequency throughout the remainder of the study.

The peer-mediated intervention methods expressed in this study also demonstrated strong social validity. The teaching staff included two teachers and two paraprofessionals, all of which expressed great satisfaction with the process and outcomes of the intervention procedures. Equal social validity ratings were achieved for the buddy system alone and the buddy system plus individual training intervention

procedures. Additionally, the typically functioning students verbally expressed high levels of satisfaction during both intervention phases.

The peer buddy system used in this study included a class-wide training session during which the students were taught how to “stay with”, “play with”, and “talk with” their peers. Additionally, the students were taught how to prompt and reinforce these target skills during implementation. The individual training sessions involved teaching the child with Asperger’s syndrome and his peers specific social initiation and social response skills. Systematic prompting and reinforcement procedures were used by the classroom staff during implementation to help the children learn the new skills. The individual social skills training used in this study added to the buddy skills system a gradual, yet greater increase in social interaction for all participants. The findings were consistent with previous research which states that using a buddy system can be effective in increasing social skills of children with disabilities (English et al., 1997; Goldstein, Shafer & Kaczmarek, 1997; Laushey & Heflin, 2000; Kohler et al., 2007). The findings were also consistent with previous research that using peer mediators can increase social skills in children with autism and related disorders (DiSalvo & Oswald, 2002; Chung, Reavis, Mosconi, Drewry, Matthews, & Tasse, 2006).

The present data support the contention of previous researchers (Chung, Reavis, Mosconi, Drewry, Matthews, & Tasse, 2006; Goldstein, Schneider, & Thiemann, 2007) that, for children with very limited social and communication skills who have not responded to group-oriented buddy skills training, more intensive individualized social skills training or intervention is needed to maximize treatment gains (Weiss & Harris, 2001). The use of peer buddy system combined with individual training accounted for a

greater increase in social interactions of the child with Asperger's syndrome and the three peers in this study. The peers in the study reported being very excited to be paired with the target child and tried to continuously interact with him during both phases.

However, it was apparent that with only buddy skills training alone in a group setting, peer children's social interactions did not increase greatly. The peers were staying with their buddy but seemed to have difficulty interacting with the child with Asperger's syndrome. Once the peer buddy skills training was combined with individual training, the peer children gradually appeared to become more proficient at interacting with the target child. After a few sessions, Gabe, the target child, also began to facilitate play ideas and communication. As the intervention progressed, Gabe began to request to be paired with a specific buddy. One of Gabe's favorite activities to engage in was playing in the sand box. Occasionally, Gabe would ask his buddy if he wanted to play in the sand box; an initiation that proved effective as they both enjoyed "building bricks" in the sand from that point forward. This is merely a snapshot of the social interest that Gabe developed throughout the study. As the study progressed, Gabe routinely asked his buddy questions and began to reciprocate communication with his peers.

The present data suggest that the use of target child-peer dyad during individual training is an effective way to maximize intervention effectiveness (Goldstein et al 1992; Kamps, et al 1992; Gonzalez-Lopez, 1997, Laushey, & Heflin, 2000). The data also suggest that using social skills script, modeling, role play, prompting, and reinforcement during training are effective in promoting peer children's social interaction skills (English et al., 1997; Kohler et al., 2007; Weiss & Harris, 2001). During buddy skills training, the entire group, including the peers and Gabe were very attentive and exhibited the skills

taught. Just as he did during class time, Gabe had a difficult time focusing during the second phase: individual training. However, he was responsive to prompting to role play and to use new skills when he was on the playground. Lacy, the third peer, had the largest increase in social behavior after phase two training. This could have been due to the fact that she used the skills verbatim as written in the script compared to other two peers. Another reason a much larger increase was shown for Lacy could have been that she was not as easily distracted as the other two participants during implementation. Peers were more likely to approach Angie and Corey during implementation and they were easily distracted when this occurred. This distraction interfered with their interactions with Gabe. Lacy, on the other hand, was not as regularly approached nor was she as distracted when classmates did approach.

The use of peers as intervention agents could have a significant impact on the support of children with autism spectrum disorders (ASD) within inclusive settings. Peer-mediated procedures enable children with ASD to be a part of the natural school climate and foster greater school success as proven in this study and in the literature. The inclusion of multiple peers as opposed to a single peer may have likely contributed to the positive findings in this study. Having multiple peers supporting one classmate with a disability may enhance the social interaction skills of the children with ASD and the motivation for the typical peers (Laushey, & Heflin, 2000; Lee, Odom, & Loftin, 2007).

One very important aspect of the present study is its generality. The generalization data indicated that the peer-mediated intervention strategies used in this study were effective in promoting the generalization of newly acquired skills to interactions with a non-trained peer. It was found that once Gabe learned to use social

initiation and social response skills with the three trained peers, he began to use the skills during interactions with a non-trained peer. Furthermore, Gabe's increased social interaction skills resulted in collateral increases in social interaction of the non-trained peer.

Limitations of the Study

Despite the very favorable results achieved in this study, there are several issues that must be addressed in interpreting the results of the study. The first is the external variables that were difficult to control. Examples of extraneous variables in this study included the high expectations for the typical peers. Although the peer buddies rotated and were not paired with the target child more than once a day, it was noticeable that they were getting fatigued by being paired with the child with Asperger's syndrome so many times in one week. If the children were paired with the target child less than three times a week, rather than once every day, we may have seen an even greater increase in social interaction. Another example of an extraneous variable in this current study was the limited number of activities the target child liked to engage in on the playground. One activity that the child enjoyed playing was "hide and seek". However when taking 15 second interval data on social interactions hide and seek was a major limitation. Once this was observed as presenting difficulty in observing the children's interactions, children were prompted to play a different game during the 10 minutes and then they could play hide and seek. A second limitation of the study was the continuous use of prompting and reinforcement up until the conclusion of the study. Even though the frequency of prompting and reinforcement was faded over the course of the intervention, prompting and positive praise were still used at the end of the study. This leads to a third limitation

of the study which is the lack of follow-up data. This was due to the termination of the school year. Follow up data would need to be collected to assess maintenance of the skills taught and measured without the use of prompting and reinforcement to assess whether the skills have been truly acquired over time.

A fourth limitation of the present study is its limited generality in terms of environments. The data reported in the study were restricted to a single classroom routine, mainly focused on social interaction among children during recess. Data were not collected on the children's social behaviors during academic activities or during other similar play time in the classroom routines. Documenting this generalization outcome will advance the adoption of peer-mediated social skills intervention by teachers in the inclusive settings (Luiselli, McCarty, Coniglio, Zorrilla-Rameriz, & Puhiam, 2005). The generality of the conclusions may also be limited by selection factor. The school in which the present study was conducted at was a private school committed to inclusive education for children with disabilities. All teachers, the administrator, and the parents agreed to participate, and were very enthusiastic on receiving support from the researcher.

Contributions

Despite its limitations, this study offers a significant contribution to the growing body of research related to the social behavior of children on the autism spectrum. It also generously donates to the validity of the methods and procedures employed by the field of applied behavior analysis. This study adds to the literature in a meaningful way in that it experimentally compared and contrasted the efficacy of two distinct methods.

Comparative studies like this one are important for enabling researchers and practitioners to select the most appropriate intervention method in their work. (DiSalvo & Oswald). As

discussed previously, very few studies compared peer-mediated procedures. The second contribution of the study is the demonstration of collateral effects. The study demonstrated the improvement of social interaction skills for a non-trained peer, which resulted from the target child's generalization of the skills trained to that non-trained peer. This collateral effect of the intervention has rarely been reported in the literature. As discussed by several researchers (DiSalvo & Oswald ; McEvoy & Odom, 1987; Kohler et al., 1997), generalization of improvements in social interaction through peer-mediated intervention have been less pronounced. The third contribution of the study is that the entire classroom staff was involved in the implementation of the intervention. This study is one of the few studies that both teachers and paraprofessionals were involved in delivering training to children and prompted children to implement the peer-mediated strategies. Although the researcher provided training to the classroom staff, the researcher's involvement during the intervention was minimal, limited to aiding training procedures, providing feedback on performance of the classroom staff and progress of the children. As evidenced in the previous studies (Kroeger, Shultz, & Newsom, 2007, Laushey, & Heflin, 2000), it is particularly essential to involve paraprofessionals to increase the effectiveness of the intervention for children with disabilities.

Implications

This study suggests several implications for implementing peer-mediated approaches in inclusive settings. The results support previous research on the usefulness of providing teachers and peer children with a manual or script to support their implementation of peer-mediated intervention (Weiss & Harris, 2001). Although the teacher manual used in this study was not validated, the supplementation of the manual

may increase the accountability of all participants and allow for clarification of the intervention procedures. It is recognized that promoting active teacher involvement in implementing the peer-mediated intervention during recess in particular at the end of the school year may be impractical in everyday practice. Due to the fact that the study addressed recess, a routine that usually presents challenges for children with ASD and typical peers to create social opportunities due to unstructured play, teacher involvement in this study was limited to providing positive praise to children. Their involvement during peer children's implementation of the peer strategies was minimal compared to paraprofessionals.

The researcher in this study provided training to classroom staff before they implemented the intervention and supported the staff in the process of implementing the intervention in the form of modeling peer training, providing positive praise to children for their engagement in social interactions, and promoting staff's accurate implementation by providing weekly feedback. As stressed by researchers, this study suggests that assessing treatment fidelity and providing feedback on teacher performance are essential in order to promote teacher accurate implementation of the intervention. In this study, social validity was assessed at three points in time: during phase one of the intervention, during phase two, and at the end of the intervention. These multiple social validity assessments were an effective way to help the researcher and classroom staff review and modify the intervention procedures during implementation of the intervention.

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Appendices

Appendix A

Teacher Social Validity Rating Scale

1. I have noticed an increase in social behavior for my student with Asperger's Syndrome.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

2. I have noticed a decrease in problem behavior for my student with Asperger's Syndrome.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

3. I felt comfortable implementing the procedures with my/the class.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

4. I feel that I would be able to use the skills I learned in the future.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

5. The buddy skills intervention was an effective method for increasing children's social skills.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

6. The buddy skills intervention plus training intervention was an effective method for increasing children's social skills.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

Appendix A (Continued)

7. I would be willing to use this intervention with my classes in the future.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
2	2	3	4	5

7. I feel that other teachers would benefit from using this intervention.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

8. I enjoyed the procedures used in this intervention.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

9. This intervention had an overall positive effect on recess time.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

Appendix B

Peer

1 2 3

Social Validity – Peer Interview Questions

Questions will be read to each child individually, researcher will fill out the questionnaire with the child's responses.

1. I enjoyed being paired with a buddy. YES NO
2. I feel like I have made new friends. YES NO
3. I understood how to initiate play and respond to my friend's social initiations during training. YES NO
4. I understood how to initiate play and respond to my friend's social initiations after training was over. YES NO
5. I wanted to play/work with my friends more after training. YES NO
6. I noticed more of my friends playing together. YES NO
7. I would tell my other friends to be involved in this type of training. YES NO
8. I think my friend Gabe plays more with his friends now. YES NO
9. I would like to continue to use the skills that I learned. YES NO
10. I feel like I would be willing to play with others that may not talk as much as I do.
YES NO

Appendix C

Treatment Integrity – Phase 1

Training Form 1

1. The trainer provided rationale for the buddy system.

1 - Never implemented 2 - Partially implemented 3 - Fully implemented

2. The trainer displayed and explained the buddy board.

1 - Never implemented 2 - Partially implemented 3 - Fully implemented

3. The trainer explained the skill/rule to the students.

1 - Never implemented 2 - Partially implemented 3 - Fully implemented

4. The trainer modeled the skill for the students.

1 - Never implemented 2 - Partially implemented 3 - Fully implemented

5. Reminds the students of any previous skills including the new skill.

1 - Never implemented 2 - Partially implemented 3 - Fully implemented

6. Sends the students to the playground telling them they have 10 minutes to play.

1 - Never implemented 2 - Partially implemented 3 - Fully implemented

Appendix C (Continued)

Treatment Integrity – Phase 2

Training Form 2

1. The trainer provided rationale for the buddy system.

1 - Never implemented 2 - Partially implemented 3 - Fully implemented

2. The trainer displayed and explained the buddy board.

1 - Never implemented 2 - Partially implemented 3 - Fully implemented

3. The trainer explained the skill/rule to the students.

1 - Never implemented 2 - Partially implemented 3 - Fully implemented

4. The trainer modeled the skill for the students.

1. - Never implemented 2 - Partially implemented 3 - Fully implemented

5. The trainer role played the skill for the students with second trainer.

1 - Never implemented 2 - Partially implemented 3 - Fully implemented

6. The trainer had the children role play the skill with a trainer.

1. - Never implemented 2 - Partially implemented 3 - Fully implemented

7. The trainer had the children role play the skill with each other.

1- Never implemented 2 - Partially implemented 3 - Fully implemented

Appendix C (Continued)

8. Reminds the students of any previous skills including the new skill.

1. - Never implemented 2 - Partially implemented 3 - Fully implemented

9. Sends the students to the playground telling them they have 10 minutes to play.

1 - Never implemented 2 - Partially implemented 3 - Fully implemented

Appendix C (Continued)

Treatment Integrity – Phase 1 and 2

Implementation

- 1. The trainer/teacher provides prompts for students to follow skills taught.**

1 - Never implemented 2 - Partially implemented 3 - Fully implemented

- 2. The trainer/teacher provides verbal praise when students are following the skills taught.**

1 - Never implemented 2 - Partially implemented 3 - Fully implemented

- 3. The teacher redirects students if they engage in any problem behavior.**

1 - Never implemented 2 - Partially implemented 3 - Fully implemented

- 4. The trainer reminds the students of a skill if a student is having difficulty.**

1 - Never implemented 2 - Partially implemented 3 - Fully implemented

- 5. The teacher/trainer provides a 2 minute warning until buddy play is over.**

1 - Never implemented 2 - Partially implemented 3 - Fully implemented

- 6. The teacher/trainer gives verbal praise to the whole group after buddy time.**

1 - Never implemented 2 - Partially implemented 3 - Fully implemented

Appendix D

Training 1 – Introduction/ Rule 1 Day 1

Introduction to class:

“Today we are going to learn about how to play and work with a buddy. It is very important that children learn to play and work together on many different activities. We are going to learn how to compromise, solve problems together, and teach others how to learn and play. Every day you are going to be assigned a buddy. You will be with that buddy for three activities that day.”

Buddy Chart:

“This is the chart that you will look at every day to see your buddy is going to be. This will change every day so you won’t be with the same person two days in a row. This is a good opportunity to learn how to play with, work with, and help all of your classmates.” Have children look up and read who their buddy is one by one.

Buddy System Rules:

“There are going to be three very important rules to follow when you are grouped with your buddy. 1. Stay with your buddy 2. Play and Work with your buddy 3. Talk with your buddy. Today we are going to talk about rule number one.”

Rule 1: Stay with your buddy - Explain

“Staying with your buddy means to stay in the same area as your buddy. You should also work and play where your buddy wants to play. You can take turns playing with activities that each buddy wants to play with.”

Rule 1: Stay with your buddy - Model

Choose a child or two children to bring to the front and show the class what it looks like to ‘Stay with your buddy’

Buddy system at Recess

Appendix D (Continued)

Teacher Behavior during Activities

Prompting

- If children are not following one of the trained rules, remind the student(s) of the rule they are not following. (ex. Remember we need to stay with our buddy)

Praise

- When a group is following the rules and doing a great job with their buddy, provide praise.
- It is okay to allow the other students to hear their friends being told they are doing a great job.
- Verbal praise should be given multiple times to all peers throughout the activity when they are following the rules. (Ex. Max you are doing such a great job staying with your buddy!)

Redirection

- If any of the children are engaging in disruptive problem behavior. (Throwing, hitting, walking away from peer, inappropriate speech, etc.)
 - 1. Interrupt the behavior (ex. Stop the child from hitting the table)
 - 2. Redirect to activity (ex. Restate the activity the child should be engaging in and hand them necessary materials.)
 - 3. Provide praise (ex. Nice job working with your friend Johnny)

Appendix D (Continued)

**Training 1 – Rule 2
Day 2**

Introduction to class:

“Today we are going to go over again how to play and work with a buddy. It is very important that children learn to play and work together on many different activities. We are going to learn how to compromise, solve problems together, and teach others how to learn and play. Remember every day you are going to be assigned to a different buddy. You will be with that buddy for three activities each day.”

Buddy Chart:

“Let’s look at the chart today and see who your buddy is.” Ask individual children to look up and read to the class who their buddy is.

Buddy System Rules:

“There are going to be three very important rules to follow when you are grouped with your buddy. 1. Stay with your buddy 2. Play and Work with your buddy 3. Talk with your buddy. Today we are going to talk about rule number two.”

Rule 2: Play with your buddy - Explain

“Playing and working with your buddy means to not only staying in the same area as your buddy but to also playing or working with the same toys, materials and activities. There are lots of ways you can play and work with your buddy during buddy time. Some examples are; you can join in with your buddy if they want to play with something. You can bring a toy or game to your buddy and see if they would like to play too. You can ask your buddy if they need help with the assignment or activity, or ask for help from your buddy.”

Rule 2: Play and work with your buddy - Model

Choose a child or two children to bring to the front and show the class one of the ways to play or work with your buddy.

Buddy System and recess

Training 1 – Rule 3
Day 3

Introduction to class:

“Today we are going to learn about how to play and work with a buddy. It is very important that children learn to play and work together on many different activities. We are going to learn how to compromise, solve problems together, and teach others how to learn and play. Every day you are going to be assigned a buddy. You will be with that buddy for three activities that day.”

Buddy Chart:

“Let’s look at the chart today and see who your buddy is.” Ask individual children to look up and read to the class who their buddy is.

Buddy System Rules:

“There are going to be three very important rules to follow when you are grouped with your buddy. 1. Stay with your buddy 2. Play and Work with your buddy 3. Talk with your buddy. Today we are going to talk about rule number three.”

Rule 3: Talk with your buddy - Explain

“Talking with your buddy means that not only do you stay and play or work with your buddy but you should talk to them as well. There are lots of things you can say to your buddy when you are playing with them. Some things you can say are, “This is a fun game”, “I like playing with you”, “You only have one more problem left!” Asking questions – ex. “What game do you want to play?” Sometimes your friend may not talk as much as you do but you should still continue to talk to your peer when you are paired with your buddy.

Rule 3: Talk with your buddy - Model

Choose a child or two children to bring to the front and show the class what it looks like to ‘Stay, play and talk with your buddy’

Buddy System and Recess

Training Manual – Individual Training

Day 1

Grouping:

One of the three pairs will be placed with the target child and taken by the teacher to an area in the room free from distraction.

Introduction:

“Today we are going to have a little more practice with the stay, play and talk skills we have already learned. We are going to talk about how to interact more with your partner by getting your partner’s attention, asking them to play, and suggesting some ideas. Let’s start with Skill 1 (getting partner’s attention).”

Skill 1: Getting Partner’s Attention

“There are many ways to get your friends attention when you want to play with them, let’s practice three.”

1. Tap peer on the shoulder and say name
 - **Teacher model the behavior**
 - **Have each student practice on the teacher (provide help if necessary)**
 - **Have each student practice with each other (provide help if necessary)**
2. Make eye contact/face your friend
 - **Teacher model the behavior**
 - **Have each student practice on the teacher (provide help if necessary)**
 - **Have each student practice with each other (provide help if necessary)**
3. Ask your friend if they want to play
 - **Teacher model the behavior (Do you want to play with me? Do you want to go down the slide with me? Do you want to play tag?)**
 - **Have each student practice on the teacher (provide help if necessary)**

Appendix D (Continued)

- **Have each student practice with each other (provide help if necessary)**

Skill 2: Suggesting Play Ideas/Choices

“It is very important to suggest something that you would like to do and ask your friend if they would like to join. You should suggest games that you like to play and games you know your friend likes to.”

1. Suggesting a game you like
 - **Teacher: ask each peer to write down a game they like to play on the playground. Model how each peer would ask the other to play that game.**
 - **Have each student practice with each other (provide help if necessary)**
2. Suggesting a game your friend likes
 - **Teacher: Use the same activities written from the last step and model how each peer would ask their friend to play the other game.**
 - **Have each student practice with each other (provide help if necessary)**
3. Give your friend a choice
 - **Teacher model the behavior or asking a peer to select between two different games. (Do you want to play chase, or go down the slide?) Give 3 examples.**
 - **Have each student practice on the teacher (provide help if necessary)**
 - **Have each student practice with each other (provide help if necessary)**

Skill 3: Turn Taking/Sharing

“Once you two have decided on a game you would like to play it is really important to take turns. For example, if you both like to be ‘it’ in the game tag then make sure that you both get the chance to be ‘it’.”

1. Offering a turn
 - **Teacher model the behavior (“okay it is your turn to go down the slide”)**

- **Have each student practice on the teacher (provide help if necessary)**
- **Have each student practice with each other (provide help if necessary)**

Appendix D (Continued)

2. Taking a turn and requesting a turn

- **Teacher: Explain taking a turn (Even if you don't like to be 'it' make sure to still take the turn to be fair).**
- **Teacher: Explain requesting a turn (When it is your turn it is okay to remind your friend that it is your turn) - model skill for group**
- **Have each student practice both skills on the teacher (provide help if necessary)**
- **Have each student practice both skills with each other (provide help if necessary)**

Concluding Session:

Explain the buddy chart from training one to the group. Remind them to use the play skills that they just learned in this next activity. For every skill they use a teacher will let them know they are doing a great job.

Training Manual – Individual Training

Day 2

Grouping:

One of the three pairs will be placed with the target child and taken by the teacher to an area in the room free from distraction.

Introduction:

“Today we are going to have a little more practice with the stay, play and talk skills we have already learned. We are going to talk about how to interact more with your partner giving your friend assistance, talking about the activities, and asking your friends questions. Let’s start with Skill 1 (giving assistance).”

Skill 1: Giving Assistance

“There are many ways to help your friend during an activity or with helping them with what to say.”

1. Help your friend with a rule during a game: **If your friend is not following the rules correctly or forgets a rule it is okay to remind them of what to do.**
 - **Teacher model the behavior (Example: Counting to 10 when playing tag or staying behind the leader with follow the leader)**
 - **Have each student practice on the teacher (provide help if necessary)**
 - **Have each student practice with each other (provide help if necessary)**
2. Help your friend with their words: **Give your friend some fun things to say when playing the game. Tell them to repeat you. Examples: Wow this is fun, look at me, I am jumping off the bridge, I am climbing the mountain.**
 - **Teacher: Model the appropriate social skill and practice imitating a student.**
 - **Have each student practice imitating the teacher (provide help if necessary)**

- **Have each student practice with each other modeling and imitating (provide help if necessary)**

Appendix D (Continued)

3. Help your friend follow the teacher's rules: If a friend doesn't hear the teacher it is okay to remind them of what the teacher said and help them follow the rule.
 - **Teacher model the behavior or reminding a friend to line up at the door or not to throw things on the playground.**
 - **Have each student practice on the teacher (provide help if necessary)**
 - **Have each student practice with each other (provide help if necessary)**

Skill 2: Complimenting and Commenting

"Two different ways that you can talk to your friend is to compliment them and comment on the activity."

1. Compliment your friend: When your friend plays the game correctly or follows the teacher's direction you can tell them they did a good job. If your friend does something really cool on the playground it is okay to tell them that it was really cool.
 - **Teacher: give the students some scenarios and ask them to come up with some compliments.**
 - **Model complimenting for the group**
 - **Have each student practice on the teacher (provide help if necessary)**
 - **Have each student practice with each other (provide help if necessary)**
2. Comment on the activity: Just like telling your friend some things to say it is fun to talk about what you are doing and how much fun it really is with your friend.
 - **Teacher model the behavior**
 - **Have each student practice on the teacher (provide help if necessary)**
 - **Have each student practice with each other (provide help if necessary)**

Skill 3: Asking Questions

“Asking your friend questions is a good way to decide what else your friend likes and if they are having fun playing this game. You can also find out other fun things about your friend by asking them questions. ”

Appendix D (Continued)

1. Questions about the activity: When you are playing you can ask your friend if they like this game, if they would like to go next, if they would like to choose the next activity, or would they like to add a rule to the game.
 - **Teacher: have the group think of some other possible questions and then model asking those questions to the group.**
 - **Have each student practice on the teacher (provide help if necessary)**
 - **Have each student practice with each other (provide help if necessary)**

2. Questions about your friend: During or after an activity you can ask your friend what their favorite game is, what their favorite subject is, who one of their friends in the class is, what they did last weekend, or what they are going to do this weekend.
 - **Teacher: Have the group think of some other questions and then model asking those questions to the group.**
 - **Have each student practice on the teacher (provide help if necessary)**
 - **Have each student practice with each other (provide help if necessary)**

Concluding Session:

- Explain the buddy chart from training one to the group. Remind them to use the play skills that they just learned in this next activity. For every skill they use a teacher will let them know they are doing a great job.

Training Manual – Individual Training

Day 3

Introduction:

Go through each skill for both days and ask pairs to model each skill with no direction. Circle the skills that the peers were not able to complete independently. Be sure to rotate which peer you ask to model the skills when going through the skills. For example: Ask peer one to model Skill 1: A way to get your peers attention and ask peer two to model Skill 2: Suggesting play ideas/Choices.

Praise:

Each time a child models the skill correctly the teacher will provide praise and will not need to go over that skill again.

Teaching/Prompting:

For all of the skills that were circled go back and review over that step from the previous two pages. Providing modeling and practice for those skills until each student is able to model those skills on their own.

Concluding Session:

Explain the buddy chart from training one to the group. Remind them to use the play skills that they just learned in this next activity. For every skill they use a teacher will let them know they are doing a great job.