RESEARCH ARTICLE

Effects of Social Stories on the Behaviors of Typically Developing Preschoolers

Mary E. McNelly and JaneDiane Smith

University of North Carolina at Charlotte

Challenging behaviors are not exclusive to children with disabilities; they can also affect typically developing children. This study used a multiple baseline design across participants to look at how a social story intervention affected the challenging behaviors (e.g., temper tantrums, hitting, yelling) of three typically developing preschoolers. Overall, results showed that the social stories decreased challenging behaviors from baseline to intervention. Children also experienced an increase in prosocial behaviors and social validity indicated that teachers believed the social story was effective in teaching social skills. This study added to the existing literature on social stories by researching their effect on a population that had not yet been studied. These findings suggest that social stories can be effective interventions for typically developing preschoolers who demonstrate challenging behaviors.

The preschool years are a time of social-emotional development in children, as they are learning how to interact with peers and demonstrate socially appropriate behaviors in a group setting, self-regulate their behaviors, and express their emotions effectively. As they are learning, practicing, and refining new behavioral skills, children can become frustrated in social situations and exhibit inappropriate behaviors such as yelling, hitting, biting, spitting, teasing, or pushing. These behaviors can be typical for preschool aged children because they are still developing their social skills. However, from a teacher's perspective they can be challenging within the context of a preschool classroom. In this setting, young children are surrounded by peers and need to apply a variety of social skills such as sharing, taking turns, negotiating, as well as self-regulating and expressing emotions. If children have not acquired these skills, challenging behavior can arise. Children look to the adults with whom they have formed positive relationships to teach them how to appropriately deal with social conflicts. In the classroom, it is the teacher who is responsible for teaching appropriate social skills; however, many early childhood educators feel unprepared to manage behavior problems and teach social skills in the classroom (Frey, Lingo, & Nelson, 2008; Hemmeter, Santos, & Ostrosky, 2008). Positive behavior supports (PBS) provide strategies to promote the prosocial behaviors of all children in the classroom (Duda, Dunlap, Fox, Lentini & Clark, 2004; Gettinger & Stoiber, 2006; Simonsen, Sugai, & Negron, 2008). The Teaching Pyramid, a model of PBS geared towards young children, offers teachers a structured model of prevention and intervention that can assist them in supporting classroom behaviors of

all young children (Hemmeter & Fox 2009; Hemmeter, Ostrosky, & Fox, 2006).For children who continue to demonstrate challenging behaviors, more individualized strategies, such as social stories, are used to help teach children more appropriate behaviors. Social stories are short stories written for an individual child or small group of children to teach appropriate behaviors and social skills.

Positive Behavior Support and the Teaching Pyramid

Research has shown that implementing PBS in the preschool classroom can increase positive behaviors and decrease challenging behaviors (Duda, Dunlap, Fox, Lentini, & Clarke, 2004; Gettinger & Stoiber, 2006). Gettinger and Stoiber (2006) researched the effects of a PBS intervention known as functional assessment collaboration and evidence based treatment (FACET) in children in pre-kindergarten to 1st grade. The intervention consisted of a team-based functional behavior assessment, development of a behavior support plan, implementation of a behavior support plan with observations to monitor child's progress, and an evaluation of child's progress. The study examined the effects of the FACET intervention on both children with documented disabilities (the target children) and children who are typically developing (the generalization children). Results showed that both groups of children showed an increase in positive behaviors in the classroom. Hemmeter and Fox (2009) described The Teaching Pyramid as an evidence-based model of PBS which promotes the social and emotional development of young children. The pyramid has four levels: (a) building positive relationships, (b) supportive environments, (c) social emotional teaching strategies, and (d) individualized interventions. The first tier, building positive relationships refers to the teachers who are supporting the children's play, conversing with children and supporting the communicative attempts of children in the classroom, praise children's appropriate behaviors, and develop positive relationships with the children and their families. In the second tier, a supportive environment refers to a classroom with high-quality curriculum, adequate materials, and teachers who use evidence-based practice. In this environment children would be engaged in meaningful and developmentally appropriate activities throughout the day. The third tier, social-emotional strategies, refers to teaching social skills to children who are struggling to engage in socially appropriate behaviors. Teachers can utilize a variety of strategies to accomplish this goal; they can model the desired behavior for the child, role-play with the child, or provide a verbal prompt. After this is completed the child can practice and refine the skill through play with peers (Hemmeter et al., 2006). The last tier is individualized interventions, which refers to assessment-based behavior support plans. These plans would be created by a team, including parents, administrators, teachers, and specialists, and implemented in the classroom and school environment. The Teaching Pyramid offers many strategies that can be used to help young children with challenging behaviors in a typical preschool setting; one method of employing PBS strategies is through the use of social stories.

Social Stories

Social stories are an intervention that can be written for a specific child or group of children and focus on his/her behavior goal(s); the intent is to use the story to teach a child appropriate social skills that will help to alleviate the child's frustration in social situation and prevent challenging

behavior. Social stories are concise narratives, written within the target child's reading comprehension level, and written from the child's point of view (Gray & Garand, 1993). For example, if a child is struggling to share toys, the social story would model appropriate ways to ask for a toy from a friend, wait for a turn with the toy, or find a toy that is similar. Soenksen and Alper (2006) found that social stories are easily embedded into the child's school routine, as reading and listening to stories are activities that occur consistently in classrooms. Teachers reported positive opinions of the intervention and noted that they would like to continue to implement social stories in their classrooms (Crozier & Tincani, 2005, 2007; Scattone, Tingstrom, & Wilczynski, 2006; Soenksen & Alper, 2006).

Past research has focused on social stories as a behavioral intervention for school-aged children with autism. Crozier and Tincani (2005) found that a modified social story was effective in reducing the disruptive behavior of talking out in the classroom for an eight-year-old boy with autism. Research is beginning to look into utilizing social stories for children with other disabilities. A study by Soenksen and Alper (2006) looked at using a social story intervention within an inclusive classroom. Their study examined the use of social stories to assist a boy with hyperlexia in gaining appropriate attention from peers across three settings. These authors found a positive increase in prosocial skills (i.e., appropriately gaining the attention of his peers) at the end of the intervention. Soenksen and Alper also recommended that research be extended to children of differing abilities and other age groups. The effect of social stories as an intervention for typically developing preschoolers demonstrating challenging behavior in the classroom has not been comprehensively studied.

The purpose of this study was to examine the effect of social stories on the challenging behaviors and prosocial behaviors of typically developing preschoolers. Specifically, this study answered two questions:

1. To what extent did social stories decrease challenging behaviors?
2. To what extent did social stories increase prosocial behaviors?

METHODS

Participants and Setting

This study took place at a private child care center in a Southeastern suburban area. The preschool was determined to be a high quality facility by the state's regulatory standards. A nonprobability convenience sampling technique was used to obtain participants for this study. This study included three typically developing children; Caleb, Ian, and Elliot. The children were selected from three different preschool classrooms. Classroom A's enrollment included 18 children (three to five year olds), classroom B's enrollment included 15 children (four and five year-olds), and classroom C's enrollment includes 18 children (four and five year-olds). All three classrooms had assistant teachers. To be included in the study, children demonstrated challenging behaviors (e.g., hitting, having tantrums, ignoring the teacher) in the classroom setting during free play daily despite teacher guidance strategies being in place (i.e., precorrection, redirection, encouragement). Free play is a daily time where children choose the center (e.g., blocks, dramatic play, math and manipulatives, books, science, art) where they want to play, what materials or toys they are going to use, and with whom they are going to play. The

children included in this study had not been formally identified as having developmental delay or an IEP in accordance with the Individuals with Disabilities Education Act (IDEA, 2004). Each classroom's teachers nominated three students who met the eligibility criteria. An informal pre-baseline assessment was used by the researcher to assess which of the nine nominated children needed the intervention the most. While nine children were nominated by their teachers, only four of the children met the eligibility requirements. The three children with the highest frequency of challenging behaviors were included in the study.

Participant 1.   Elliot is a four-year-old boy who lives with his two sisters and two parents in an upper middle class home. He is the youngest sibling in his family. Elliot was in classroom C. His teacher reported that Elliot often came to school in a "bad mood" and was easily irritated by his peers. His tone of voice and language changed when he became irritated; he began to tease his friends by calling them names and taking their toys. Elliot struggled to use appropriate words to solve conflicts with his peers and struggled to share toys. He was often physically aggressive with his peers. He became easily frustrated, or upset, when he had a conflict with a peer, or when he was struggling to do a task on his own, like a puzzle or art project. His teacher reported that he struggled to complete tasks because he could not do them "perfectly". His teacher used precorrection by reviewing rules daily, used redirection by encouraging him to share classroom toys and wait his turn, and praised Elliot when he displayed positive behavior. The teacher had communicated with Elliot's parents verbally, through notes, and in a parent teacher conference concerning his challenging behavior.

Participant 2.   Caleb is a four-year-old boy who is the only child in his family. He lives with two parents in an upper middle class home. Caleb was in classroom A. His teacher reported that Caleb often copied the negative behavior of his peers and refused to play appropriately despite constant redirection from the teacher. He was defiant towards the teacher, telling her no when he was redirected or given a direction. He also struggled to use his words when having a conflict with a peer and would hit his friends or take toys out of their hands. The teacher reported that if he was struggling with challenging behavior while he was playing in a center she would give him "three chances," meaning that she would redirect him three times, and then she followed through by removing him from the center. They also tried separating him from the children whose behavior he was copying. The teacher also communicated with Caleb's parents about the challenging behavior both verbally and through notes.

Participant 3.   Ian is a four-year-old boy who lives with his grandmother and younger sister in a home that is considered to be low income. He is the oldest child. Ian was in classroom B. During the teacher interview, His teacher Ian was reported to have difficulty engaging with his peers. He often expressed that he felt "upset" when he wanted help with something, such as drawing a flower or putting together a puzzle. At times, Ian had tantrums in an attempt to gain attention from his teacher. During the tantrum he would yell "No" and "I don't like you" and kicked at his friends or teachers. The teacher reported that redirection was used to distract Ian from his tantrum and challenging behavior. Usually the teachers would offer him a choice between two activities that he enjoyed, such as reading a book, playing with a baby doll in the dramatic play center, or drawing with markers. The teacher had communicated with Ian's grandmother about his challenging behavior several times verbally, through notes, and during a parent-teacher conference.

Design

A single-subject, multiple baseline design across participants was used to examine the effect of social stories on children's challenging behavior. First, baseline data was collected to establish a pattern of behavior. Then the intervention was implemented with the child who had the highest and most stable challenging behavior, while baseline data continued to be collected for the other children. When the first child reached a desirable level of appropriate behaviors, the intervention was implemented with the second child. The same procedure was applied to the third child. By providing interventions for each subject at a separate time, this design controlled for extraneous variables (e.g., child's maturation, illness, events in the child's life).

Dependent Variables

Challenging behaviors include aggressive behaviors (e.g., hitting, biting, kicking, pushing, and spitting), defiant behaviors (e.g., ignoring the teacher, non-compliance to the teacher's directions, and running away from the teacher), and disruptive behaviors (e.g., yelling, teasing, taking toys and other classroom objects from peers, having temper tantrums, pouting, screaming, and whining). Prosocial behaviors include friendship skills (i.e., sharing, taking turns, and waiting for a turn, engaging in play with peers), expressing emotions using words, and problem solving skills (i.e., going to the teacher for help, using one's words). Definitions of challenging and prosocial behaviors were developed by the researcher through observation and are located in Table 1.

TABLE 1
DEFINITIONS OF DEPENDENT VARIABLES

Behavior	Definition – Prosocial Behaviors
Sharing	Child plays with the same toys with another child at the same time, they play either separately or together.
Taking turns	When two children want the same toy at the same time and pass it back and forth, or one child chooses to wait until the other child is finished with the toy.
Initiating play	Child asks to join in play with another child or group of children, or child asks another child or a group of children to play with him/her.
Expressing emotions	Child says "I feel…" and names an emotion (happy, sad, tired).
Asking for help	Child goes to the teacher and tells the teacher about his/her problem.
Using words	Child uses words to express himself/herself, such as "I don't like it when you do that" or "Please stop."

Behavior	Definition – Challenging Behaviors
Hitting	Child strikes another person with one or both hands on any part of that person's body.
Biting	Child puts teeth on another person's body or own body and applies pressure to the skin. May or may not leave a mark.
Kicking	Child aims foot towards another person and swings it towards another person's body.
Pushing	Child places one or both hands on friend, moving child away from him/her.
Spitting	Child expels saliva from his/her mouth towards another person.
Yelling	Child raises his or her voice to a volume that is above all other voices in the classroom.
Teasing	Child calls another child names, such as "Stupid" or "Ugly."
Taking toys and other classroom objects	Child takes toy or other classroom object away from another child without receiving permission from the child who was using it.
Ignoring the teacher	The teacher gives a direction to the child, but the child does not acknowledge the teacher, continuing with what he/she was doing.
Temper tantrums	Child whines/screams, while lying on the floor, going limp, kicking, hitting, or stomping feet.
Pouting	Child pushes out his or her lower lip and furrows the forehead. It may be accompanied by the child crossing his or her arms across the chest.
Whining	Child uses a high-pitched tone to complain or show dissatisfaction with a social situation (e.g., "It's not fair.")

Data Collection and Analysis

Data was collected using event recording and was entered onto a coding sheet. Specifically, a frequency count was used to document challenging behavior and prosocial behavior. Each time a specific behavior occurred, it was tallied on the coding sheet. The coding sheet is available upon request. Type of play was observed concurrently. The coding sheet was developed by the researcher and piloted before the beginning of this study. To measure the duration of a temper tantrum, a stopwatch was used and the time was documented.

This research design utilized visual analysis and descriptive statistics to analyze behavior. First, as data were collected, they were entered onto a graph. Then the effect of social stories on the challenging behaviors and prosocial behaviors of participants was analyzed by calculating the means and standard deviations. Additionally, means and standard deviations were calculated to assess the effect of social stories on the prosocial behavior of the participants.

Procedure

Pilot.   The coding sheets, teacher interviews, social validity questionnaire, and fidelity checklist were piloted in a separate classroom in the same center. The classroom enrolled 14 three and four year old children with an assistant teacher and a lead teacher. As a result of the pilot study, one challenging behavior and one prosocial behavior were added to the definitions and coding sheet. During the pilot, inter-observer agreement was 91.23% between the two observers using the coding sheet.

Classroom Evaluations.   Prior to the start of the study, a behavioral specialist was invited by the researcher to assess each classroom through e-mail communications. The behavioral specialist was not related to the school, but worked for the county in which the preschool is located. The Staff Language/ Interactions subscale of the Early Childhood Environment Rating Scale-Revised (ECERS-R) was used by the behavioral specialist to ensure that the classrooms were providing interactions that built positive relationships, had a supportive and engaging environment, and were using strategies to teach social-emotional skills (Harms, Clifford, & Cryer, 2005). The ECERS-R is a reliable measure; inter-rater reliability for the full measure was 86.1%. The interrater internal consistency score for the subscale was 0.86. The total score for the entire measure was 0.91 These scores confirm the measure to be both reliable and valid (Harms, Clifford, & Cryer, 2005). The behavioral specialist visited the preschool over a period of three days, spending between 1 hour and 45 minutes and 2 hours and thirty minutes with each class. The behavioral specialist concluded that each classroom was providing appropriate interactions and supporting the social and emotional needs and development of the children.

Pre-Baseline Measures.   A pre-baseline informal assessment was conducted on each child nominated and the three children with the highest frequency of challenging behaviors were included in the study. The pre-baseline assessment was completed over a period of five days. Each child nominated was observed for 10 minutes daily during free play centers. Data on prosocial and challenging behaviors were collected using a frequency count and entered onto a coding sheet.

Teacher Interview.   The researcher interviewed each child's teacher about the child's challenging behaviors; this information was used to choose behavior goals that would be the focus of each child's social story. Specifically, the researcher asked the teacher what behaviors affected the child's ability to participate in play with peers and learn through play during centers, when and where in the classroom the challenging behaviors were occurring, and what strategies the teachers had been using to address the challenging behaviors (i.e., precorrection, redirection, ignore negative behavior, or praise for positive behavior). The following is an example of an

interview question; what behavior affects the child's ability to participate in play with peers and learn through play during centers?

Social Stories.   Information from the interviews and the baseline observations was used to develop the social stories. The researcher wrote each child's social story, using the guidelines suggested by Carol Gray (Gray, 2010; see also Gray & Garand, 1993). Stories were no more than 10 sentences long and were accompanied by clip art or pictures. The stories targeted the challenging behavior with which the child was struggling and targeted prosocial behaviors that would be more appropriate for the child to use in the classroom. The entire story was typed on 8 1/2 x 11 paper and laminated. The researcher also wrote three comprehension questions to go along with each story, which were included at the end of the social story. Comprehension questions concerned the text of the story.

Baseline.   Baseline data were collected for 10 minutes during morning center time for 8 days. Prior to data collection, the classroom teacher precorrected by reviewing the rules with all the children in the class. During the observation, the teacher redirected challenging behavior and praised prosocial behavior for the target children, but social stories were not used during this time. After the baseline period, the intervention was administered to the first child while baseline data continued to be collected for the other two children.

Intervention.   During the intervention phase, the classroom teacher read the child's social story to him or her once each day in a quiet corner of the classroom and followed up with three comprehension questions, which were included in the story, to ensure that the child understood the story. If the child had difficulty answering the comprehension questions, the teacher also used feedback and error correction strategies to assist the child. Intervention lasted no more than 5 minutes. Immediately following the intervention the child was observed for 10 minutes during morning centers. At the beginning of the observation, the teacher precorrected by reviewing the rules and focused on the target behavior(s) that were taught with the social story. As in the baseline observations, the teacher redirected challenging behaviors and praised the specific prosocial behaviors that were taught in the social story.

Inter-observer Agreement

Inter-observer agreement was obtained for at least 30% of all observations across conditions. Two observers were used to obtain inter-observer agreement. The first observer is the researcher, who is a graduate program student. The second observer is a retired elementary school teacher with a Master's degree. The observers used event recording of the behaviors and inter-observer agreement was calculated by dividing the total number of agreements by the total number of agreements and disagreements for prosocial behavior data, challenging behavior data, and type of play data. The criterion for inter-observer agreement was 80% or higher. Inter-observer agreement occurred for 34% of the observations for Elliot, 38% of the observations for Caleb, and 32% of the observations for Ian. The mean level of inter-observer agreement for Elliot was 86.9% (range= 88.3%-92.3%). The mean level of inter-observer agreement for Caleb was 87.5% (range= 80%-100%). The mean level of inter-observer agreement for Ian was 87.9%

(range=80%-100%). During at least 30% of the inter-observer agreement sessions, a measure of fidelity was also taken.

Treatment Fidelity

Treatment fidelity was assessed using a checklist of the intervention steps that needed to be implemented during baseline, intervention, and post-intervention. The checklist was created by the researcher, based on a 2005 study by Crozier and Tincani. Prior to beginning the study, the fidelity checklist was included in the pilot. The baseline checklist had four steps, the intervention had five steps, and the post-intervention had three steps. The steps during baseline observations and post-intervention observations included teacher guidance strategies such as precorrection, redirection, and praise. During the intervention, steps included choosing a quiet area to sit, reading the story with the child, and asking the child comprehension questions. Fidelity measures were collected for at least 30% of the total baseline sessions, 100% of social stories implementation, and 30% of post-intervention sessions. The observer wrote the date, name of the child, and time of day at the top, and then checked off each step as it was collected. The criterion for fidelity was 100%. Treatment fidelity was 100% for all three participants. For more information on the fidelity checklist, please contact the first author.

Social Validity

Social validity was measured using a questionnaire. Social validity revealed the teacher's opinions of the intervention. After all children received the intervention and reached an acceptable level of prosocial behaviors, his/her teacher was given the questionnaire. The teacher was asked five open-ended questions concerning the ease of implementation, acceptability, and outcomes of the social stories. The social validity questionnaire was developed partially from the questionnaire used in a 2007 study on social stories by Crozier and Tincani. However, the researcher adjusted the existing questions and added a question to meet the needs of the current study. For more information on the social validity questionnaire, please contact the first author.

RESULTS

Prosocial and Challenging Behavior

Data were collected for 39 days and entered onto a graph for visual analysis. Visual analysis shows that all three children experienced a decrease in the frequency of challenging behaviors and an increase in the frequency of prosocial behaviors during intervention when compared to their baseline data. While the frequency of prosocial behaviors increased for each child, the data showed variability. The decrease in the challenging behavior during intervention showed a more stable pattern. The frequency of challenging and prosocial behaviors for each child is presented in Figure 1.

During baseline, Elliot's mean frequency of challenging behavior was 6.88 (SD= 3.60) per baseline observation and his mean frequency of prosocial behavior was 1.38 (SD=1.30).

Following intervention, Elliot's mean frequency of challenging behavior was 1.42 (SD=1.34) and mean frequency of prosocial behavior was 5.33 (SD=2.33).

During baseline, Caleb's mean frequency of challenging behavior was 7.69 (SD=2.84) and his mean frequency of prosocial behavior was 1.62 (SD=.72). Following intervention, Caleb's mean frequency of challenging behavior was .75 (SD=1) and his mean frequency of prosocial behavior was 5.75 (SD=1.77).

During baseline, Ian's mean frequency of challenging behavior was 6.65 (SD=3.01) and his mean frequency of prosocial behavior was 1.65 (SD=1.23). Following intervention, Ian's mean frequency of challenging behavior was 1.27 (SD=2.45) and his mean frequency of prosocial behavior was 6.18 (SD=2.68). Ian was the only child participating in the study who had temper tantrums. The mean duration of temper tantrums during baseline was 35.12 seconds. During intervention observations, Ian did not have any tantrums.
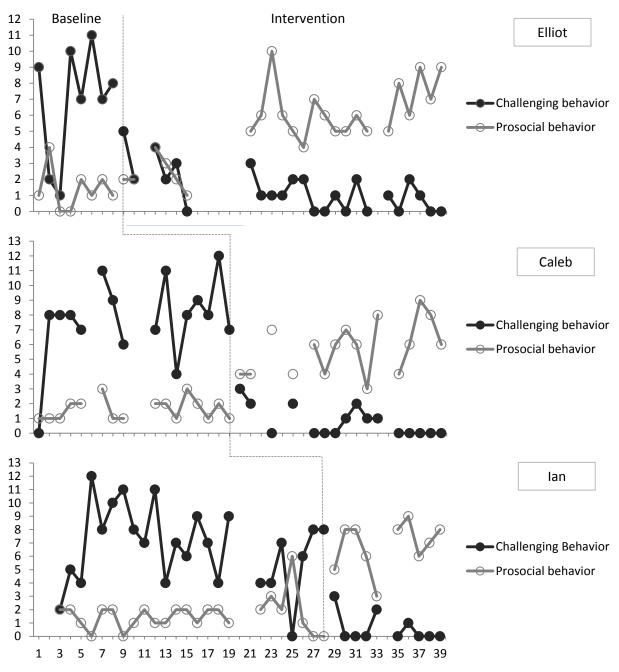
Figure 1. Frequency of Prosocial and Challenging Behaviors for participants.

Type of Play

A frequency count was used to collect data on type of play. Data are represented in Figure 2. The graph shows that overall, the children engaged more in onlooker play, parallel play, associative play, and cooperative play following the social stories intervention than they did during baseline. Likewise, the children engaged less in unoccupied play and solitary play after the social stories intervention than they did during the baseline observations.

Social Validity

When asked about the importance of social skill development in the classroom, all three teachers said that social skills were highly important and a part of the school's curriculum. Also, the three teachers agreed that their participating children showed progress in social skill development during the intervention when asked about the effectiveness of the social stories in teaching social skills. The questionnaire also asked the teachers if the social story was effective in reducing challenging behavior. Two of the three teachers reported that there was a decrease in challenging behaviors for the target child after the intervention was implemented in the classroom. However, one teacher found that the social story would only decrease the challenging behaviors for a period of time and later that day the child would revert to the challenging behavior. When asked if the social story intervention was practical for use in a pre-kindergarten classroom, two of the teachers found the social story intervention to be practical for use in the classroom. However, one teacher found the social story intervention difficult to implement because of the amount of children enrolled in the classroom (n=18). The last question pertained to the adaptability of social stories for other behaviors, routines, and times of day. All three teachers agreed that they would like to adapt the social stories for use at other times during the day.
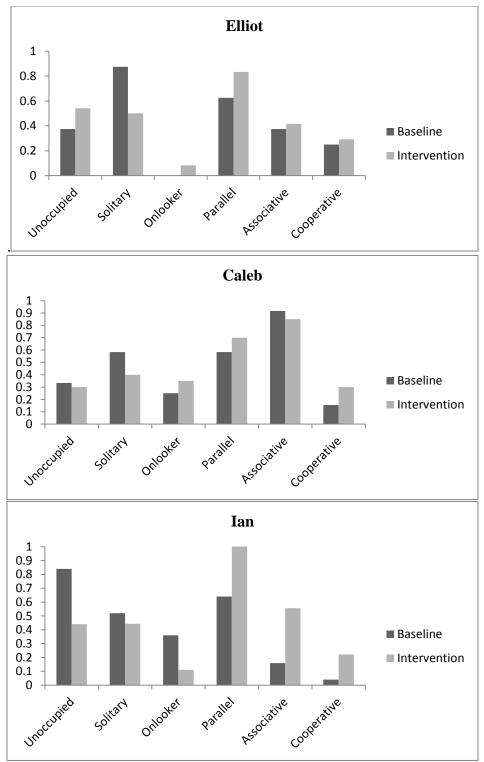
Figure 2. Type of play data for each child

DISCUSSION

This study added to the existing literature on social stories by researching their effect on a population that had not yet been studied, preschool aged children who are considered to be typically developing. The results of the study indicate that social stories helped to decrease the challenging behavior (e.g., temper tantrums, yelling, hitting, ignoring the teacher) of all three typically developing children who were displaying challenging behavior and participated in the social stories intervention. These findings are consistent with past research that looked at the effect of social stories on children with Autism Spectrum Disorders (Agosta, Graetz, Mastropieri, & Scruggs, 2004; Crozier & Tincani, 2005, Crozier & Tincani, 2007). Crozier and Tincani (2007) found that social stories decreased the inappropriate play behavior and disruptive behavior of two preschool children with Autism Spectrum Disorders. Gettinger and Stoiber (2006) studied the effect of PBS strategies on children with disabilities as well as children who were typically developing. They also found that their strategies, which included teaching social skills through interventions other than social stories, were successful for both the children with disabilities as well as the children who were typically developing. The current study is the first known to look at the effect of social stories on children who are typically developing with challenging behaviors; the children in this study have not been formally identified with developmental delays or disabilities.

While all three children showed an increase in prosocial behaviors, there was more variability in the results. This suggests that there is no clear impact of social stories on prosocial behaviors. These findings were consistent with those of Crozier and Tincani (2007), who studied the effect of social stories on the inappropriate behavior of three preschoolers with Autism Spectrum Disorders. They found that the social story had little effect on one child's prosocial behavior of talking to peers.

For Elliot, the social story was effective in reducing challenging behavior and increasing prosocial behavior, although the data for prosocial behavior was more variable. Also, Elliot showed an increase in onlooker play, parallel play, associative play, and cooperative play. There was a decrease in solitary play from baseline to intervention, but an increase in unoccupied play. The increase in unoccupied play combined with the variable prosocial data suggests that the social story had no clear impact on the development of his social skills in free play with peers.

Caleb also experienced a decrease in challenging behavior and an increase in prosocial behavior. Caleb's data showed the least amount of variability. Also, he showed a decrease in both unoccupied and solitary play and an increase in onlooker, parallel, associative, and cooperative play. It appears that the social story intervention not only helped to reduce his challenging behavior, but also helped to increase his prosocial skills.

Ian experienced a lower frequency of challenging behavior and a higher frequency of prosocial behavior during intervention than he did during baseline. Also, Ian decreased in unoccupied, solitary, and onlooker play and increased in parallel, associative, and cooperative play during the intervention. Finally, prior to the social story intervention, Ian was observed having tantrums on seven different days. On two of those days he had two tantrums. After the social story was introduced, he did not have any more tantrums. The decrease in temper tantrums coincides with the introduction of the social story intervention. It should be noted that during baseline observations, Ian's challenging behavior data shows variability; this is in part due to the fact that he was suspended from the preschool for a period of two days. When he returned to the preschool, his behavior improved. Also, during the intervention period, Ian's

grandmother told the teacher that she had implemented a reward system at home. If Ian received a good report on his behavior at school he was rewarded when he got home. She initiated the reward system immediately following his suspension, which is a possible reason for the reduction of challenging behavior following the suspension.

Overall, the social validity questionnaire showed that the teachers had a positive opinion of the social stories intervention. All three teachers agreed that the social stories intervention was effective in teaching social skills. Also, two of the teachers agreed that the social stories intervention was practical within the classroom routine. These findings are consistent with teacher opinion in previous studies which studied the effect of social stories on children with Autism (Crozier & Tincani, 2005,2007; Scattone, Tingstrom & Wilczynski, 2006, Soenksen & Alper, 2006).

One limitation to this study is the timeframe of the intervention. This study took place during the second half of the school year. As a result, it had to be finished by the end of the school year. Given more time, a stronger pattern of prosocial behavior may have emerged. Also, using a second strategy (i.e., role play) in conjunction with the social story intervention might have led to a more stable pattern of prosocial behavior. The FACET intervention successfully used more than one PBS strategy to help children learn social skills and self-control (Gettinger & Stoiber, 2006). A second limitation is although the multiple baseline design controls for extraneous variables to a certain extent, the decrease in challenging behavior and increase in prosocial behavior may not be solely the result of the social story. Variables such as a home based reward system may have also influenced the results of the study. Finally, type of play data was collected using a frequency count, which showed how many times each child engaged in the different types of play.   Collecting data on the duration of the types of play would show the length of time each child engaged in the different types of play from baseline to intervention and would have made a stronger comparison.

Future research might also look at the effect of social stories on the duration of different types of play. Also, this study looked at the effect of social stories on one child's tantrums; when the social story was introduced, the tantrums completely disappeared. Further research on social stories and temper tantrums could validate this finding. Finally, this study added to the existing literature on social stories by researching their effect on a population that had not yet been studied, preschool aged children who are typically developing. More research with typically developing children is needed to validate the effectiveness of a social story intervention.

The purpose of this study was to examine the effectiveness of a social story intervention on the prosocial and challenging behavior of preschool aged children who are typically developing. Previous research on social stories explored their effect on children with Autism Spectrum Disorders. The results of this study indicate that social stories can help to decrease a typically developing child's challenging behavior and increase prosocial behavior during free play. Concurrently, the type of play children engaged in was affected by the intervention; the children who participated in this study showed increases in parallel, associative and cooperative play after the social story intervention was implemented. These findings suggest that social stories are effective interventions for young children.

References

Agosta, E., Graetz, J. E., Mastropieri, M. A., & Scruggs, T. E. (2004). Teacher-researcher partnerships to improve social behavior through social stories. *Intervention in School and Clinic, 39*(5), 276-287. doi:10.1177/10534512040390050401

Crozier, S. & Tincani, M. (2007). Effects of social stories on prosocial behavior of preschool children with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 37, 1803-1814. doi:10.1007/s10803-006-0315-7

Crozier, S. & Tincani, M. J. (2005). Using a modified social story to decrease disruptive behavior of a child with autism. *Focus on Autism and Other Developmental Disabilities, 20*(3), 150-157.

Duda, M. A., Dunlap, G., Fox, L., Lentini, R., & Clarke, S. (2004). An experimental evaluation of positive behavior support in a community preschool program. *Topics in Early Childhood Special Education, 24*(3), 143-155. doi:10.1177/02711214040240030201

Frey, A. J., Lingo, A., & Nelson, C. M. (2008). Positive behavior support: A call for leadership. *Children & Schools, 30*(1), 5-14.

Gettinger, M. & Stoiber, K. C. (2006). Functional assessment, collaboration, and evidence-based treatment: Analysis of a team approach for addressing challenging behaviors in young children. *Journal of School Psychology, 44*(3), 231-252.

Gray, C. A., & Garand, J. D. (1993). Social stories: Improving responses of students with autism with accurate social information. *Focus on Autistic Behavior, 8*(1), 1-10.

Harms, Thelma, Clifford, Richard M., & Cryer, Debby. (2005). Early childhood environment rating scale revised edition. Teachers College Press, New York.

Hemmeter, M. L. & Fox, L. (2009). The Teaching Pyramid: A model for the implementation of classroom practices within a program-wide approach to behavior support. *NHSA Dialog, 12*(2), 133-147. doi:10.1080/15240750902774718

Hemmeter, M. L., Ostrosky, M., & Fox, L. (2006). Social and emotional foundations for early learning: A conceptual model for intervention. *School Psychology Review, 35*(4), 583-601.

Individuals with Disabilities Education Improvement Act of 2004, 20 U.S.C. § 1400 *et seq*. (2004) (reauthorization of IDEA 1990)

Scattone, D., Tingstrom, D. H., & Wilczynski, S. M. (2006). Increasing appropriate social interactions of children with autism spectrum disorders using Social Stories[TM]. *Focus on Autism and Other Developmental Disabilities, 21*(4), 211-222.

Simonsen, B., Sugai, G. & Negron, M. (2008). Schoolwide positive behavior supports: Primary systems and practices. *Teaching Exceptional Children, 40*(6), 32-40.

Soenksen, D., & Alper, S. (2006). Teaching a young child to appropriately gain attention of peers using a social story intervention. *Focus on Autism and Other Developmental Disablilties, 21*(1), 36-44. doi:10.1177/10883576060210010501