

USING SOCIAL STORIES WITH CHILDREN WITH AUTISM,
LEARNING DISABILITIES AND ADHD

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Abstract

Social stories are short stories based on evaluations and observations of a child, and target a problematic behavior or social skill. There is a body of research that supports their use with students in the autism spectrum, but there is a lack of documentation for their use with students with other disabilities. This study involved three first grade subjects, for which a two-week social story intervention was completed. Student A, a female, showed the most positive behavior change, based on her target behavior of defiant outbursts. Student B, a male, targeted inappropriate kissing, and showed some positive results. Student C, whose target behavior was putting non-food items in his mouth, showed very little behavior change.

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CHAPTER I

WHAT ARE SOCIAL STORIES?

A young child enters his classroom. Immediately he feels overwhelmed by the expectations of those around him, the demands of the school day, and the stimuli in his classroom. Feeling frustrated with his inability to articulate the problems he is experiencing, he becomes off task and shuts down. Will the child find the best way to handle his frustration or will he resort to socially inappropriate means of coping?

For many individuals with disabilities, learning social skills and graces can be challenging. When language and learning deficits are present, children encounter roadblocks to learning and understanding appropriate social responses in their lives. This frustration can then manifest itself in the form of shutting down, outbursts, aggression, anger, sadness, off task behavior, and poor self-confidence. When does social learning really begin?

Preschoolers have the ability to reason through situations and see the cause and effect of their actions, according to Shure and Spivack (1982). This is the age at which children begin to see how they relate to one another and how they can problem solve to spare others' feelings. It would appear that when there is a breakdown in these abilities, social skills may not develop appropriately. When a child's frustration manifests itself in a disruptive manner, this creates more consequences. Scattone, Wilczynski, Edwards, & Rabian (2002) found that these disruptive behaviors labeled that child in the eyes of their peers and classmates as a problem. They effect the education of the child involved and the classmates who are trying to learn and interact with them. The stigma of being

different begins to develop. Without successful peer relationships, children can begin to feel isolation. As Gut and Safran (2002) point out, “for children with severe and multiple disabilities, acceptance may actually be easier, as peers often immediately recognize that they’re different. However, for students with learning disabilities and similar problems, differences are more subtle” (p.87).

One way in which children can receive help in minimizing these anti-social behaviors is by directly instructing them in the area of social skills. Social stories are a method of social skill instruction frequently used with individuals who have autism spectrum disorders. Children with pervasive developmental disorders, or autism spectrum disorders, often have delays in the areas of social and communication skills. Individuals with autism spectrum disorders can exhibit great intelligence, learning disabilities, sensory integration difficulties, repetitive behaviors, difficulties with social interactions or social cues, language difficulties, trouble with emotional responses, and many more characteristics. Each person with autism may display different combinations of these traits. As a result, their educational needs can differ greatly. (Simpson, de-Boer-Ott & Smith-Myles, 2003). Many individuals with autism spectrum disorders have difficulty interacting or relating to others in appropriate ways. It can also be difficult to transition throughout their day. They may prefer things to be very routine based and predictable. Transitioning from one activity to another can be challenging. Many times, educators or parents provide warnings or build in systems to allow the child to know that a transition is approaching and what the expectations will be. Due to this, as well as their language deficits, it is to their benefit to spend at least some portion of their day around typically developing peers. The social interaction, modeling of social cues, and communication

and language they will experience through spending time with their peers is very important.

Studies have been conducted in order to measure the success of social stories in varying scenarios and with differing behaviors. Carol Gray, a linguist, created social stories in 1993. She began publishing books and articles with instructions on how to appropriately carry out this intervention. They are short stories that are created based on evaluations and observations of the child. A behavior requiring improvement is targeted. Written in first person, they are short and individualized, offering explicit explanations to guide the child through a troubling social scenario (Gray & Garand, 1993). According to Gray, they can be used effectively in situations where responses and cues need to be taught, where routine changes may occur, when instruction needs to be made more individualized, and negative behaviors need to be addressed.

Since 1993, when Gray first began writing about social stories, the format has evolved. The stories are constructed using different sentence types. Descriptive sentences are those that explain and describe the scenario to the child and include the description of the setting, the people present, and the sequence. Directive sentences explain what should ideally occur and the behavior that the child should exhibit. Perspective sentences explain how other people in the scenario may react and what they might say or do. Initially, these were the three sentence types used to write a social story. According to Gray (2000), other sentence types are now recommended as well. Affirmative sentences look at cultural beliefs that are shared and offer understanding of these situations. Control sentences sometimes use analogies with the goal of helping the student to recall information. Cooperative sentences explain who will help the student in these scenarios

and what assistance they can provide. Gray recommends using sentence ratios to build the social story. As more sentence types have been added the ratio has changed as well. The basic social story should include between two and five perspective, descriptive, and/or affirmative sentences for each directive sentence included. For a complete social story, one should include between two and five perspective, descriptive, cooperative, and/or affirmative, for each directive or control sentence (Gray, 2000). It is important to maintain this balance, as this helps to ensure that the social story does not become a to do list (Rowe, 1999; Sansoti, Powell-Smith, & Kincaid, 2004). It is best when sentences are written in the positive, using *I will...* statements, as opposed to *I will not...* statements (Reynhout & Carter, 2006).

The use of pictures in social stories is an option that needs to be considered depending upon the child. In 1993, Gray & Garand explained that pictures may detract from the point of the social story and should not be used. However, she has now revised this (2000), and has added that pictures may be used if it will benefit the child. It is important to realize that pictures may keep the child from generalizing the skill beyond the area shown in the illustration, and this needs to be considered when making this decision (Rust & Smith, 2006). More recently, many companies have begun selling books of prewritten social stories that can be used with students or social stories. This is something that may be helpful as a springboard for the process, but caution must be used. Sansoti et al. found:

Ultimately the purpose of a social story is to provide the individual with a greater understanding of certain social situations. Without direct assessments of the individual circumstances surrounding a targeted social

situation, it is unlikely that the content of a social story will be individualized for the student (p. 202).

By being individualized, a social story builds on a child's prior knowledge and experiences and helps to extend their schema (Rowe).

Another important element mentioned by some researchers is the use of a comprehension component. In order to ensure that students are grasping an understanding of what they read or have read to them, there are two methods of comprehension measurement that can be tried. One option is to have student answer comprehension style questions at the end of the story either orally, in writing, or through the use of a checklist. The other choice would be to use role-playing, and have the student act out the scenario and what they would do when it takes place (Gray & Garand, 1993). In the area of research and social stories, this comprehension component has significant importance. If the child has little or no understanding of the social story, then the purpose of testing for correlates with changes in behavior is ineffective (Rust & Smith).

When conducting a search of published studies on the databases ERIC and PsychINFO, there is research to support the use of social stories as an intervention that has shown a correlation with improved social skills for individuals with autism spectrum disorders. The methodology varies by age, gender, environment, study designs, and targeted behaviors. More studies need to be completed in order to further demonstrate the effectiveness of social stories for this population. However, an area that truly lacks research, is the use of social stories with individuals who do not have autism spectrum disorders, but have other disabilities. Can social stories be used effectively with individuals who have Attention Deficit Hyperactivity Disorder (ADHD) or Specific

Learning Disabilities (SLD)? This is an area requiring more investigation (Reynhout & Carter, 2006).

According to Gray and Garand's description, social stories can be used effectively with any individual who has some basic language skills and slight deficits in learning ability (1993). Many students who are diagnosed with ADHD or SLD would fit this description and therefore could potentially benefit from this form of social skill instruction.

There is a correlation between SLD and weakness in the area of social skills (Kavale & Mostert, 2004). What remains in question though is how SLD and social skills are connected. There are still many unknowns about social skills. It's possible in some cases that these deficits are connected to the challenges of learning, retaining, and understanding a social skill, or it could be related to another deficit, such as emotional or language, impairing the child from learning the skill. Moore (2004) agrees as well, that the reasons for social stories to benefit individuals with autism spectrum disorders are quite similar to the reasons individuals with SLD have could benefit. Both groups can experience language, learning, and social impairments. Society also can have misconceptions about these types of disabilities and this can further complicate social communications.

When it comes to children with ADHD, they often lack the ability to generalize what social skills they have learned across settings (Abersson, Shure, & Goldstein, 2007). Very frequently, their off task behaviors can become so frequent and difficult for educators to address, that they use methods of redirection to intervene, and children miss out on the opportunity to use new social skills and to generalize them. Children who have

ADHD, often have social impairments and difficulty self-regulating their behavior (de Boo & Prins, 2006). Hagiwara and Myles (1999), found that in their study of social stories and children with autism spectrum disorders, frequently on task behaviors were interrupted by self-stimulating by the child. The child would tap things, pull at his hair, or develop an unfocused eye gaze. These types of behaviors are also seen in children with ADHD (de Boo and Prins) and they frequently become off task in these same ways. Perhaps this points to further connections between the social skills deficits experienced by both of these populations.

There are skills that educators have found to be of particular importance when it comes to the success of students in the general education environment. “These skills include coping skills (i.e., expressing anger appropriately); work habits (i.e., using class time efficiently); and peer relationships (i.e., interacting with a variety of children on a regular basis)” (Gut & Safran, p. 88). Each of these necessary skills requires students to use their social skills appropriately, or apply and generalize what they know to the context of the classroom experience. Whether a child has autism, a learning disability, or ADHD, meeting these social expectations can be a very difficult task.

This study aims to add to the body of research that examines the correlates between social stories and social skill development for individuals with autism spectrum disorders. Also, it looks to expand the research to include other types of children with disabilities. Can social stories benefit children who have attentional and hyperactivity difficulties? Will social stories be an effective teaching tool for children with learning disabilities? It is hypothesized that three students, with different disabilities, will all demonstrate an increase in social skills after participating in social skills instruction.

CHAPTER 2

REVIEW OF RESEARCH

Compared to other interventions for individuals with autism, there is not a tremendous body of research relating to social stories. This section looks to provide an overview of the existing research involving social stories. All of the studies reviewed found at least some degree of success with behavior difficulties following the social story interventions. The degree to which one can correlate that success varies.

In these studies, various levels of control, reliability, and design were used. However, all studies involved children, and the goal of improving a targeted behavior. All of the studies were successful in making some positive or desired change for at least some of the subjects. There was some question though as to whether the positive results were from the social stories or something else. Not all of the studies could ensure that no other interventions were occurring simultaneously.

Research has demonstrated that a variety of techniques can be successful in teaching learners to use social stories effectively. According to the analysis of studies done by Reynhout and Carter, verbal prompting and physical assistance were used by Hagiwara and Myles; Kuttler et al. used stickers and prizes as reinforcers; Scattone et al. use verbal prompting, and had another intervention implemented prior to and during the study for one child; Swaggart et al. allowed verbal and physical prompts, as well as a response-cost system for one child; and Theimann and Goldstein used verbal prompting and direct instruction with role plays, written cues, and video feedback. Gray (2000) has explained that staff should not be overly involved with students and their social stories. Other interventions should not be used simultaneously. Therefore, staff should use

prompting cautiously. It becomes very difficult to determine if the positive results seen were the result of the social stories or some other intervention taking place.

One of the first studies that sought to demonstrate the effectiveness of social stories was that done by Swaggart et al in 1995. This research looked at the use of social stories with 3 children who had autism. Social stories as well as other behavior and social skills strategies were used together. Baseline data was collected, followed by a period of intervention data. The authors considered this to be a more informal classroom based study and shared the results as something that may help other teachers. Their findings did show that their interventions provided some positive change.

Another study with positive results was that done by Hagiwara and Myles in 1999. What made their investigation unique was the way in which they implemented the social story intervention. While Gray (2000) has recommended a written format on paper with pictures being optional for social stories, Hagiwara and Myles used a multimedia approach. They targeted three boys with autism, and implemented the social story intervention using a computer based approach. A multiple baseline design was used. Computers were used to present the social story to the children. Video cameras were used to record the way in which students acted in different environments. Once again, positive results were found in behavior according to their data.

The research has used social stories to focus on similar types of inappropriate behavioral reduction by identifying antecedents to the behaviors. Kuttler et al. (2004) studied a 12 year old boy whose behavior was becoming a safety concern. The child was diagnosed with autism, Fragile X syndrome, as well as an Intermittent Explosive Disorder. He had tantrum behaviors and outbursts that were becoming more of an issue

due to his increasing age and size. There were a few antecedent behaviors that those familiar with the child felt preceded his tantrums. The goal of the intervention was to target the precursor behaviors and decrease those, so as to decrease tantrums as well. An ABAB design was used and two stories were created.

Similarly, Lorimer et al. (2002) chose to target the behaviors that preceded tantrums in a five-year old boy who had been diagnosed with autism. His tantrums were violent and disruptive, and once again these authors sought to have fewer tantrums, by honing in on the antecedent behaviors and stopping them. They also created two social stories and used an ABAB design. Both studies saw that the social story was an effective intervention. Behaviors decreased however there are some concerns to note. According to Sansosti et al. (2004) the authors saw change right away after beginning and ending social stories and this “suggests that gains in skill acquisition did not maintain, or that Social Stories need to be continually implemented in order for effects to be observed” (p. 199).

The setting in which social stories are used as a technique to lessen inappropriate behaviors may be important. For example, Norris and Dattilo (1999) implemented the intervention with a young girl with autism and targeted her inappropriate behaviors at lunchtime. An AB design was used, and when results were viewed overall, there was a marked decrease in the student’s inappropriate behaviors. Lunchtime is often a difficult period of the day for students who are having behavior issues. Cafeterias are often noisy and unstructured at schools. There are lots of social interactions and social rules and norms that need to be followed. There are sights, sounds, smells, and tastes, and it can be over stimulating for some children. In the research, lunchtime behaviors were targeted by

Rowe (1999), Norris & Dattilo (1999), Bledsoe et al. (2003), Hagiwara & Myles (1999), and Toplis & Hadwin (2006).

Toplis & Hadwin (2006) sought to look at the use of social stories for five children who did not have autism spectrum disorders, but did have behavior difficulties. Each child was observed and a social story was created for each of them. The target behaviors had to do with aspects of the lunchtime routine. An ABAB design was used. Three of the children saw positive results and an increase in independent lunchtime behaviors. However, the other two children saw little or not change in behavior. The authors made a very interesting observation at the conclusion. They noted that children with autism have perspective taking difficulties, and that social stories can be effective in helping with this. The three children who saw positive results from the intervention were shown to have perspective taking difficulties as was measured on theory of mind tasks. The two children who did not see positive results had shown age appropriate perspective taking skills. This could have relevance as to the success of an intervention.

Rowe (1999) gave a very simple first person analysis of her experience with social stories. She works as a specialist teacher, and implemented the social story intervention with one of her students, a boy with Asperger syndrome. The story targeted lunchtime behaviors and it was interesting to note that Rowe reported the boy took pride in his story and appeared to be appreciative to have a story that guided him in what to do. He was observed for 12 weeks. At six weeks, the story was no longer read daily and it was then gradually reduced, then taken away. The positive change in behavior appeared to be immediate and it has continued and is no longer an issue. In fact, a pleasant side

effect was that the boy was able to transfer this to other settings as well, such as assemblies.

In table 1 and table 2, the basic information for each study is highlighted. It includes relevant background on the subjects, the behaviors targeted, and if positive results were seen.

Table 1

Review of Studies that Examined Social Stories and Children with Autism

Authors	Year	Age of Subjects	Targeted Behaviors	Story provided desired effects
Swaggart et al.	1995	11, 7, 7	Appropriate greetings, aggression, and sharing	yes
Kuttler et al.	1998	12	Tantrum precursors	yes
Hagiwara & Myles	1999	10, 10, 8	Washing hands, on task behavior	yes
Norris & Dattilo	1999	8	Lunchtime social interaction	yes
Rowe	1999	year 2	Lunchtime behavior	yes
Rogers & Myles	2001	14	Following directions, tardiness	
Smith	2001	school age	Self-help, compliance, obsessive traits	yes
Theimann & Goldstein	2001	12, 11, 8, 7, 6	Social communication	yes

Brownell	2002	6-9	Echolalia, following directions, loud voice	yes
Lorimer et al.	2002	5	Tantrum precursors	yes
Scattone et al.	2002	15, 7, 7	Tipping chairs, shouting staring	yes
Bledsoe et al.	2003	13	Using appropriate social behaviors	yes
Kuoch & Mirenda	2003	3-6	Sharing, playing games, eating	yes
Moore	2004	4	Bedtime routine	yes

Table 2

Review of Studies that Examined Social Stories and Children with Learning Difficulties

Authors	Year	Age of Subjects	Targeted Behaviors	Story provided desired effects
Toplis & Hadwin	2006	year 2	Lunchtime behaviors	yes, for 3 of the 5 children

One point of importance is the guidelines Gray (2000) has provided in her work with social stories. In her writings, she has described the best way to construct a social story. She described what types of sentences and structure should be used, and the best way for the stories to look. Reynhout and Carter (2006) have done a thorough review of

much of the research that exists regarding social stories and looked at which studies followed Gray's guidelines for the construction of a social story. Their findings were very interesting and helpful. According to their analysis, Bledsoe, et al (2003), followed Gray's format with the use of photos. Brownell (2002) created four stories, three of which followed Gray's format, and one was inappropriately modified. They also presented some stories to music. Hagiwara and Myles (1999), only shared one of their three social stories, and it was inappropriately modified and was presented on the computer. Kuoch and Mirenda (2003) had three social stories. One of their stories followed Gray's complete ratio, and the other stories were appropriately modified using the basic ratio. Kuttler et al. (1998) created two stories, one of which followed the basic format, and the other was inappropriately modified. Lorimer et al. (2002), created two complete social stories according to Gray's guidelines. Norris and Dattilo (1999) did not provide their stories in their research. Rogers and Myles (2001) had one inappropriately modified story, and one that followed the basic format. Scattone et al. (2002) provided three social stories, one was complete, and the other two followed the basic format. Swaggart et al. (1995) created two basic social stories, and two stories that were inappropriately modified. Theimann and Goldstein (2001) only shared one of their four stories, but it used Gray's basic format.

Reynhout and Carter (2006) came to the conclusions by examining the social stories created by researchers and analyzing how they measured up to Gray's standards for a quality social story. Choosing not to use Gray's format, doesn't necessarily mean that the story won't provide a successful intervention. However, it is important to use caution when calling it a social story. A true social story is a tool developed and perfected

by Gray, and has very specific guidelines for its use and creation. Therefore, correlates can be drawn between the use of the story intervention and positive behavior changes, but to call it a true social story intervention, Gray’s guidelines must be followed.

The following table summarizes the use of Gray’s guidelines in social story development. Many of the researchers used multiple social stories and of those provided for review in their articles; only a portion could be considered legitimate social stories by Gray’s standards. They were considered correct if they chose proper sentence types and used accurate ratios in their stories. They were considered incorrect if the stories were modified in improper ways or if ratios and style were not according to Gray. In some cases, authors would use some stories that were correct and some that were not, and this is noted below as well.

Table 3

Studies and their use of Gray’s format to create social stories according to analysis by Reynhout and Carter (2006)

Correct format	Incorrect format	Examples not provided
Brownell (2002)- 3 stories	Brownell (2002)- 1 story	
Bledsoe et al. (2003)	Hagiwara & Myles (1999) 1 story	Hagiwara & Myles (1999) 2 stories
Kuoch & Mirenda (2003)		
Kuttler et al. (1998) 2 stories	Kuttler et all (1998) 1 story	
Lorimer et al. (2002)		Norris & Dattilo (1999)

Rogers & Myles (2001) 2 stories	Rogers & Myles (2001) 1 story	
Scattone et al. (2002)		
Swaggart et al. (1995) 2 stories	Swaggart et al. (1995) 2 stories	
Thiemann & Goldstein (2001) 1 story		Thiemann & Goldstein (2001) 3 stories

Given the limitations of the research reviewed, it is easy to see why more studies need to be conducted in order to draw stronger conclusions between success in behavior and social stories as an intervention. The existing studies often used other interventions or incentives concurrently with the social stories. Some authors did not follow Gray's guidelines for creating a social story. In addition, these studies differed in design and length of baseline and intervention data collected. There is a lack of research that can draw serious conclusions about the success of social stories, and their effect on positively changing behaviors.

The purpose of this study is to assess the use of social stories with three first grade children, one with autism, one with ADHD and learning disabilities in reading and math, and one with a reading learning disability and a history of defiance and explosive outbursts. All three have demonstrated numerous difficulties with behavior and navigating the social interactions of their school day. It is hoped that this study will help to add to the current body of research. No other interventions that can be controlled for will be occurring and Gray's guidelines will be followed in the construction of the social stories. It is hoped that it can show a relationship between the use of the social stories and a positive behavior change.

CHAPTER 3

METHODOLOGY

In order to answer the proposed research questions, the following chapter covers the details regarding the methodology that was used for this study. It seeks to discover if social stories are beneficial for children who have attention and hyperactivity difficulties, as well as if they are effective tools for students who have learning disabilities and behavioral issues. The setting, selection of subjects, and information about the type of data collection and design is explained.

Setting

This study involved first grade students at an elementary school in Ohio. It took place in October, approximately two months into the school year. By this point, students and teachers had gotten to know one another, and activities and behaviors were consistent. Relationships had also been formed between teachers, students, and parents. This element was important, because communication is essential in determining if any other interventions were occurring at the same time. The students who were selected were observed in the school setting. Depending on their area of need, they may have been observed in the general education classroom, the cafeteria, recess, art, music, physical education, or the resource room. Student A was observed in the resource room during reading class, student B was observed on the playground during recess. Student C was observed during math class in the resource room.

Selection of Subjects

The first grade general education teachers were asked to think reflectively about their students and their classroom management. They were given a questionnaire (see Appendix A for complete questionnaire) to complete that asked them to select three students from their rooms who had particular difficulties with social skills or behavior. Gray & Garand (1993) provided information about the types of students who could benefit most from social stories. Those who need responses or cues to be taught, those who struggle with routine changes, those who have a negative behavior that needs addressed, or those who benefit from more individualized instruction, would be good candidates for a social story intervention. The teacher questionnaire states: Please name three students, in order of greatest need, who you feel have behavior or social skills difficulties and would benefit from this intervention; please briefly name and describe the behaviors you feel should be addressed for each of these students; and another element that Gray & Garand (1993) have named as an indicator of success for social story interventions is that the student must have some basic language skills and slight deficits in learning ability, please use the space below to describe these. If teachers were thorough, this would provide a picture of what the student was experiencing and how they were performing. Further clarification would be sought if needed.

Following this, the three questionnaires were reviewed. One student was chosen from each classroom, so as to enable opportunities to meet with students individually. This also ensured that students wouldn't be confused by other social story interventions going on in their rooms; they would be the only one. Student selection was determined through the use of a checklist-rating tool (see Appendix B for the checklist). The teachers

ranked students in order of the greatest need. However, in order to allow for the best opportunity for success, students selected needed to meet Gray and Garand's (1993) criteria. Ideally, the students that were ranked number one for each class would be chosen, but if they did not meet the criteria of having a deficit in learning ability or having basic language skills, they were not chosen. Also, their behavior had to fit into one of the categories named. If not, number two or three would be analyzed and chosen. The student with the most need, who met the criteria, was chosen from each class.

Using the information sheets, three students were selected. The students ranked first for each class met the criteria and were chosen. Student A is a seven year old girl, and students B and C are six year old males. Once the three students were selected, parental consent was sought. Consent forms were coded in order to ensure confidentiality. Given the fact that the researcher serves as the intervention specialist at the school, this type of collaboration with general education teachers for behavior interventions is typical. The researcher's presence in the school and in the students' classrooms is a normal part of the school day and did not serve as a compromise of student privacy or as a distraction to students.

The students are from a low socioeconomic background, and generational poverty is an issue in the school community. All three children received some of their instruction in the general education classroom, and also received specialized instruction in a resource room. Each of the students has had difficulty with behavior and using social skills and following social norms.

Student A was a seven year old female with learning disabilities in reading and math, as well as a large behavior component to her Individualized Education Program, or

IEP. This student missed many school days due to suspension and expulsion. She began kindergarten being very young, just three days away from the cutoff for turning five.

Taking these two factors into account, it was decided that she would repeat first grade, but with the support of an IEP. She had a history of violent and explosive behaviors.

They were power and attention seeking in motivation, and she wanted to decide what she would do throughout the day. When asked to do otherwise, her behaviors would escalate.

Ignoring proved to be ineffective, as she simply escalated to a point where teachers had to respond due to safety issues. An emergency plan was created, in which teachers would make as much effort as they could to keep her in the room doing a constructive activity.

However, if her behaviors became violent, destructive, or disruptive to the point that instruction was no longer effective, the classroom was evacuated. The office was

contacted, and parents were called to come and take her home. Her pattern of escalation usually involved leaving the room to hide in the restroom, locking bathroom stalls,

throwing shoes or other objects nearby, screaming, using obscenities, kicking, hitting,

punching, and rolling on the floor. She was being encouraged to use alternative behaviors to express her frustration, like using words, gestures, and pictures. Using the checklist for

selection, student A was found to have basic language skills, a deficit in learning, she responded to individual instruction, and her behavior was a negative one that needed to be addressed.

Student B was a six year old male who met the DSM-IV criteria for autism. He received the diagnosis when he was in preschool, and his mother was very supportive.

The student with autism had a paraprofessional present with him in the general education classroom in order to provide support. He started taking Risperdol in the smallest amount

for his age and size at the end of the summer. At the point of the research, his mother had seen a reduction in his violent outbursts. Prior to this, he participated in outbursts that included kicking, hitting, punching, and breaking things. In school, he often cried loudly, paced and participated in self-stimulatory behavior, and had outbursts on a smaller scale than what was seen prior to medication. These involved slapping or behaviors designed to upset the person involved. He tried to pull glasses off of his teacher, and attempted to wipe bodily fluids on others. The behavior his teacher was most concerned about was inappropriate kissing on the playground. On recess, he frequently chased other children attempting to kiss them. He would kiss on any part of their body and when corrected, he would quickly return to the kissing behavior. Using the checklist for selection, student B was found to have basic language skills, a deficit in learning, he responded to individual instruction, he needed responses and cues taught, and his behavior was a negative one that needed to be addressed.

Student C was a six year old male with ADHD and learning disabilities in reading and math. He displayed characteristics of pica, by eating and chewing on items that are inedible, on a daily basis. His mother had not sought medical treatment for this, despite the recommendations of the school counselor. Other issues for this child included being destructive with scissors, and invading other children's space at lunchtime. He has more difficulty in large group settings, than in the small group in the resource room. The chewing and eating of inedible items throughout the day was a real safety concern for his teacher. The other students also really were aware of his chewing and saw it as a way to instigate problems with him. During academic times, when he was sitting and attending to tasks, he would chew or eat items more frequently. She was concerned that he would

eat something dangerous to himself. Using the checklist for selection, student C was found to have basic language skills, a deficit in learning, he responded to individual instruction, and his behavior was a negative one that needed to be addressed.

Social Stories

Based on information provided by the general educators, a social story was developed for each child. A target behavior was selected. Student A's target behavior was her defiant outbursts. Student B's target behavior was his inappropriate kissing, and Student C's target behavior was putting nonfood items in his mouth. The social stories were formatted into small booklets with one or two sentences on each page. In this study, Boardmaker pictures were used on each page to aide understanding. The following table shares the text of the three social stories developed.

Table 4

Text of Social Stories for Children in Study

Student A-When I am Feeling Mad

Sometimes, when I am at school, I get mad.
 Usually I get mad when I have to do something that I do not want to do.
 Everyone has to do things that they don't want to do from time to time.
 When I feel myself starting to get mad, I will try to use my words to tell an adult.
 I could try to ask for some quiet time, so I can relax.
 Sometimes, I might not be able to use my words.
 If this happens, I could point or use a picture card to show that I need some quiet time.
 After I take some quiet time to myself, I can rejoin the group.
 My teacher or an adult may want to talk to me about how I am feeling.
 Hopefully, the quiet time by myself will help me to feel better. Then I can do my work and finish the school day with my friends.

Student B-When to Kiss

I like my friends and family.
 It feels good to know people well and have fun with them.
 Sometimes, I may even want to kiss them. This is not always okay though.
 Everyone has personal space. Personal space is the area around me that my body fits into.
 When I kiss someone, I am entering their personal space.

They might not like this.
 If I am feeling excited, like I might like to kiss someone, I need to slow down.
 If I know the person very well, it is probably okay to kiss them. First, I should try to ask them if it is okay.
 I could say, "Is it okay if I give you a kiss?"
 If they say yes, I could give them 1 kiss on the face.
 If they say no, I will try not to kiss them.
 Instead, I could just smile at them, or say something nice to them, like, "You're a good friend!" Maybe we could even do a high five!
 This should help me let them know how I feel. This might make me feel happy.

Student C-What Goes in Your Mouth

I like to put things in my mouth.
 There are lots of things that are safe to put in my mouth.
 I can chew on and eat food, candy, gum, and my chew toys.
 There are some things that I should not chew on.
 Rocks, crayons, plants, glue, or other objects that are not food should not go in our mouth, they are not food. These things could make me sick if I put them in my mouth.
 When I feel like I need to have something in my mouth, I can try to find something safe.
 I should ask for something to eat if I am hungry.
 If I feel like I just need to chew on something, I could try to chew on gum or my chew toys.
 If I can do this, it will help me to be safe and healthy.

Data Collection

Initially, one week of baseline data was collected on each student. Students were observed in the setting or one of the settings where their behavior was occurring most often. Event recording was used to collect information about how often the target behavior was occurring (see Appendix C for event recording data sheet). Event recording was chosen as a means of gathering information due to its ease of use, and its ability to accurately reflect the number of times a behavior is taking place (Alberto & Troutman, 1999). A tally or count was taken for how often the behavior was occurring during a set time period. Event recording is non-disruptive and counts were recorded on a data sheet. Behavior was recorded at the same time every day for one week.

During the following two weeks, the social story intervention took place. The social story was introduced to children and read to them, as there was a better chance of comprehension. Early in the school year, most first graders are still emergent readers and it was likely that the experience would be less frustrating if they were not required to do the reading themselves. Every day during the two weeks of intervention, the social story was read to the child, just prior to when the target behavior was occurring. For example, if it was determined that the behavior happened during math class, the social story was read just before math class began. Then, students were observed and data was collected using event recording during the specific time period.

Another element of the social story intervention is comprehension. Gray & Garand (1993) have suggested the use of comprehension style questions or role-playing in order to help ensure that students understand what is being shared in the story. For the purposes of this study, comprehension questions were used. Four questions based on their own personal story were asked to each child on the first, fifth, sixth, and tenth day of this study. Given that the weeks of baseline and intervention were actually five-day school weeks, this measure was to help display if information understood changed as the intervention progresses, and if information was maintained over a weekend. Answers were recorded and a checklist for correct and incorrect answers was completed for later comparison. The students answered the questions orally, as it was unlikely that they would be proficient at responding to questions in written form yet.

Design

This research used a single subject design, as it looked to compare three single individuals to themselves. Baseline and intervention data were compared and the social

story intervention serves as the independent variable. According to Alberto & Troutman (1999), single subject designs require measures of baseline data be taken, as well as measures of the intervention conditions, and if the design shows at least one replication of results, this would point to a functional relationship.

An AB design was used for comparison of data that was collected. In this case, A served as the baseline, and B served as the social story intervention. Event recording data was graphed in order to show a visual representation of the effects of the intervention. Three graphs were created, one for each student, with a division showing data for the baseline, and data for the intervention. An AB design was chosen for its straightforwardness. It fit into a time span desired by the general educators and it presented information about the frequency of certain behaviors occurring within a three-week period. The weakness, however, of the AB design is that it is difficult to show if the intervention result would repeat itself in the future if variables continued to be manipulated (Alberto & Troutman, 1999).

In order to determine if a relationship existed between the social story intervention and behavior, data was analyzed and graphed. Improvement from the intervention was constituted by a trend that showed behaviors occurring less frequently. Using baseline event recording data, improvement was seen as a decrease in frequency of occurrences for each student. Ideally, it looked to decrease frequency by at least six occurrences. This number was chosen because when looking at baseline data, the number of occurrences varied no more than five for the students. An overall trend that showed a decrease in behavior would be desirable and would point to a possible relationship if the intervention were repeated.

The methods being used were selected based on ease of use with first graders in a busy elementary setting. Event recording was done quietly and without distractions to students, or to the teachers presenting instruction. A positive behavior change would be desirable and given the diversity of needs among the students selected, could serve as a precursor to further research investigating the use of social stories with students who have a variety of disabilities. The data was collected, and results follow.

CHAPTER 4
RESULTS

The social story intervention took place over the course of three consecutive weeks. They were standard five-day weeks, and fortunately there were no absences from the three subjects during the baseline and intervention phases. The following chapter explains the results and findings of the study.

Student A

Student A had a social story created that addressed her difficulties with defiant outbursts that were disruptive to the learning environment for both herself and those around her. The story was read to her on a daily basis during the baseline phase. It was noted that during the second week of intervention, on day 12, student A began requesting to see her book throughout the day. She appeared to enjoy looking through it during her free choice time, and acted like she was reading it to a pretend class. The general education teacher noted that this was out of character for student A, who did not go to the reading area for free time prior to this.

Between 1:10 and 1:50 everyday, student A was observed and event recording occurred. Her social story was read just prior to her math period, at approximately 1:00 each day. The following table and graph show the total number of occurrences of defiant outbursts for Student A over the course of the three weeks.

Table 5

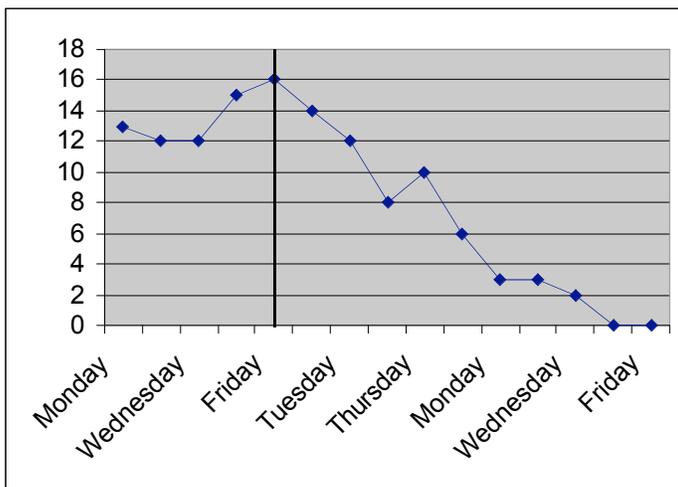
Student A's Total Occurrences

Student	Week	Day	Events	Events % of		Effect
				Wk 1 Ave	Ave	

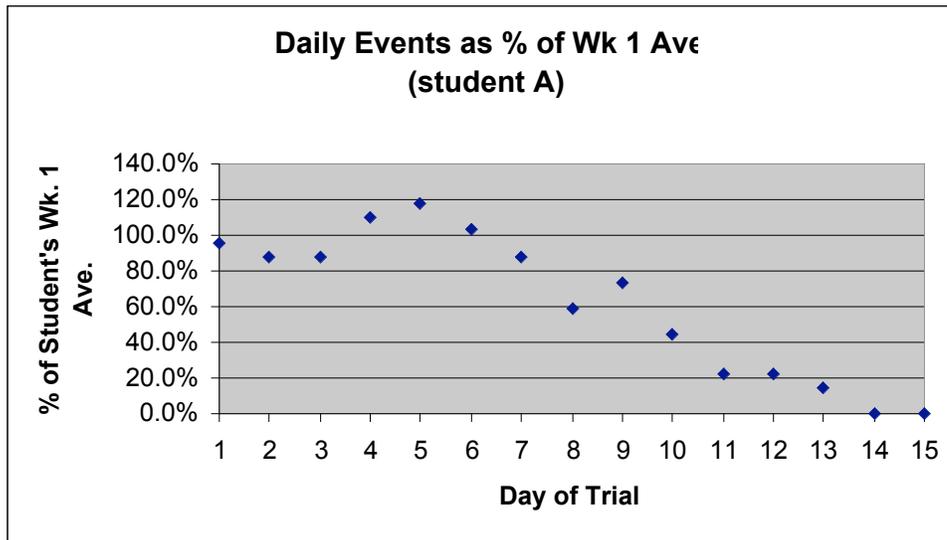
A	1	1	13	13.6	95.6%	Baseline
A	1	2	12	13.6	88.2%	Baseline
A	1	3	12	13.6	88.2%	Baseline
A	1	4	15	13.6	110.3%	Baseline
A	1	5	16	13.6	117.6%	Baseline
A	2	6	14	13.6	102.9%	Intervention
A	2	7	12	13.6	88.2%	Intervention
A	2	8	8	13.6	58.8%	Intervention
A	2	9	10	13.6	73.5%	Intervention
A	2	10	6	13.6	44.1%	Intervention
A	3	11	3	13.6	22.1%	Intervention
A	3	12	3	13.6	22.1%	Intervention
A	3	13	2	13.6	14.7%	Intervention
A	3	14	0	13.6	0.0%	Intervention
A	3	15	0	13.6	0.0%	Intervention

Graph 1

Student A's Total Occurrences Graphed



Graph 2

Daily Events as a Percentage of Week 1's Average

When looking at Student A's data, the total number of occurrences varies during the baseline phase. The greatest difference between occurrences is a total of four events. Her average number of occurrences during baseline was 13.6. Once the intervention phase began, the graph shows that the number of behaviors decreased. During the first week of intervention, Thursday was the only day where the behaviors increased. On Wednesday, she had eight occurrences, and then on Thursday she had ten occurrences. This was the only spike on an otherwise steadily decreasing number of behaviors. The second week ended with two periods of observation where no incidents occurred. Her average number of incidents during week two was 10, and during week three it was 1.6. The daily events as a percentage of the baseline week's average ranged from 95.6% on day one to 0% on day 15.

Student B

Student B's social story targeted his inappropriate kissing on the playground. He frequently chased and kissed other children on varying body parts. His story was introduced to him directly following reading instruction in the resource room. His

schedule allowed for ten minutes in the general education room just prior to his recess. This time was used to read and review his social story. He was observed on the playground between 12:20 and 12:50. The following table and graph show the total number of occurrences of inappropriate kissing for Student B over the course of the baseline and intervention period.

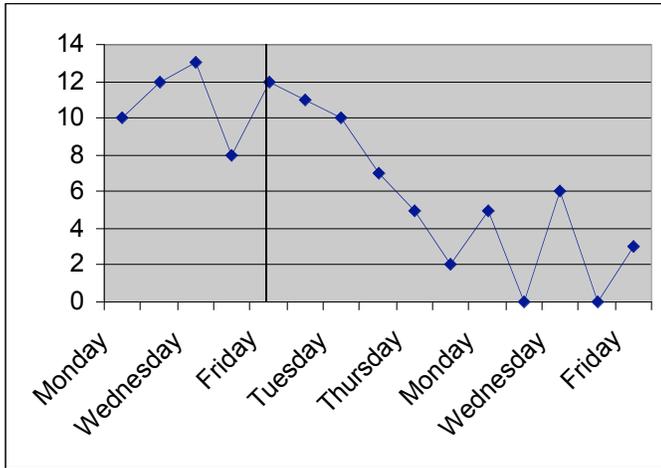
Table 6

Student B's Total Occurrences

Student	Week	Day	Events	Wk 1 Ave	Events % of Ave	Effect
B	1	1	10	11.0	90.9%	Baseline
B	1	2	12	11.0	109.1%	Baseline
B	1	3	13	11.0	118.2%	Baseline
B	1	4	8	11.0	72.7%	Baseline
B	1	5	12	11.0	109.1%	Baseline
B	2	6	11	11.0	100.0%	Intervention
B	2	7	10	11.0	90.9%	Intervention
B	2	8	7	11.0	63.6%	Intervention
B	2	9	6	11.0	54.5%	Intervention
B	2	10	2	11.0	18.2%	Intervention
B	3	11	5	11.0	45.5%	Intervention
B	3	12	0	11.0	0.0%	Intervention
B	3	13	6	11.0	54.5%	Intervention
B	3	14	0	11.0	0.0%	Intervention
B	3	15	3	11.0	27.3%	Intervention

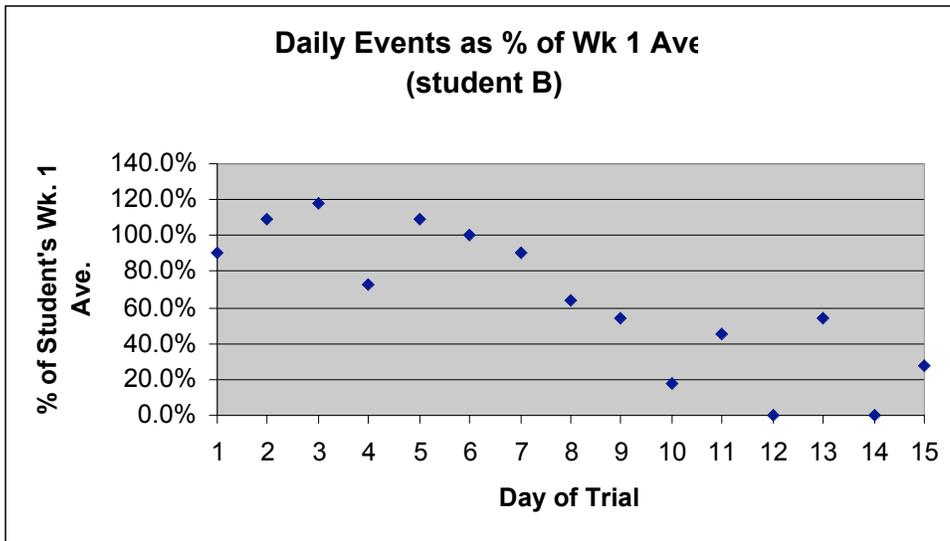
Graph 3

Student B's Total Occurrences Graphed



Graph 4

Daily Events as a Percentage of Week 1's Average



Student B had some days where kissing seemed to be more an issue than other days based on the data. The total number of occurrences varied as greatly as five events throughout the first week. His average number of occurrences during baseline was 11. Once the intervention phase began, the graph shows that the number of behaviors

decreased during the first week of intervention consistently. During the second week of intervention, the frequency of his kissing went up and down throughout the week. On Monday he kissed five times, and on Wednesday, he kissed six times. Whereas, on Tuesday and Thursday, there were no kissing incidents observed. The general educator did note that during the second week of intervention, Student B was staying with his non-custodial father more often, which was affecting his performance in other aspects of his day. There is no data recorded that shows specifically what she reported observing. His average number of incidents during week two was seven, and during week three it was 2.8. The daily events as a percentage of the baseline week's average ranged from 90.9% on day one to 27.3% on day 15.

Student C

For the third subject, Student C, a social story was designed to address his need to put non-food items in his mouth. He was observed during his reading class in the resource room. His behaviors were reported to occur more frequently during academic times when he was supposed to be attending to a task. His teacher had reported that she noticed the behavior more regularly during seated activities and less frequently during unstructured free choice activities. Student C was observed from 11:15 until 12:10 each day. His social story was read to him right after lunch during a transition time where he moved from the general education classroom to the resource room. The following table and graph show the total number of occurrences of putting non-food items in his mouth for Student C over the course of the baseline and intervention period.

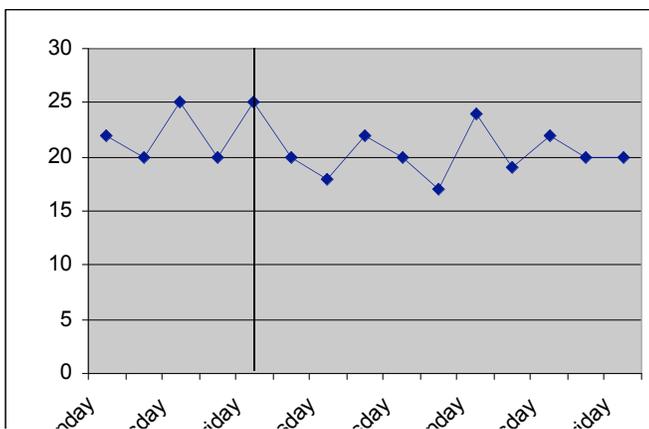
Table 7

Student C's Total Occurrences

Student	Week	Day	Events	Wk 1 Ave	Events % of Ave	Effect
C	1	1	22	22.4	98.2%	Baseline
C	1	2	20	22.4	89.3%	Baseline
C	1	3	25	22.4	111.6%	Baseline
C	1	4	20	22.4	89.3%	Baseline
C	1	5	25	22.4	111.6%	Baseline
C	2	6	20	22.4	89.3%	Intervention
C	2	7	18	22.4	80.4%	Intervention
C	2	8	22	22.4	98.2%	Intervention
C	2	9	20	22.4	89.3%	Intervention
C	2	10	17	22.4	75.9%	Intervention
C	3	11	24	22.4	107.1%	Intervention
C	3	12	19	22.4	84.8%	Intervention
C	3	13	22	22.4	98.2%	Intervention
C	3	14	20	22.4	89.3%	Intervention
C	3	15	20	22.4	89.3%	Intervention

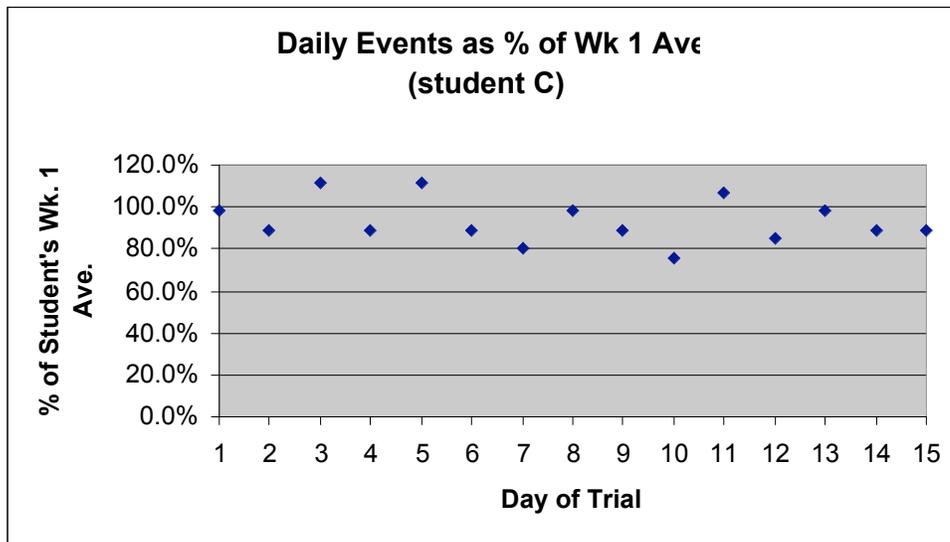
Graph 5

Student C's Total Occurrences Graphed



Graph 6

Daily Events as a Percentage of Week 1's Average



Student C's data showed much less variance than the other two subjects. The total number of occurrences varied somewhat throughout the first week. His average number of occurrences during baseline was 22.4. The greatest difference between occurrences was between Friday of the first intervention week, and Monday of the second intervention week, when he went from 17 incidents to 24 incidents. His average number of incidents during week two was 19.4, and during week three it was 21. The daily events as a percentage of the baseline week's average ranged from 98.2% on day one to 89.3% on day 15. There was a much less significant change in percentage between days one and 15 for Student C.

Comprehension

Students were asked four comprehension questions based upon their social stories on days one, five, six, and ten of the intervention phase. The purpose of this was to have a tool with which to monitor understanding of the story. If the student was answering the questions incorrectly, conclusions could be drawn about understanding of the story for purposes of analysis. The comprehension questions were directly related to the story, and answers were recorded on a checklist as being correct or incorrect. The following tables outline the comprehension questions for each subject, as well as the answers they provided as correct or incorrect.

Table 8

Student A's Comprehension Questions

Question	Date	Correct	Incorrect
What is one thing that you could try if you are feeling mad at school?	Day 1		x-no response
	Day 5	x	
	Day 6	x	
	Day 10	x	
Who could I talk to if I were feeling mad?	Day 1	x	
	Day 5	x	

	Day 6	x	
	Day 10	x	
What might happen if I take some quiet time by myself?	Day 1		x
	Day 5		x
	Day 6		x
	Day 10	x	
What will I do if I am so mad that I can't use my words?	Day 1		x
	Day 5	x	
	Day 6	x	
	Day 10	x	

The results display that Student A answered questions about her social story accurately by the end of the intervention period. On day one, she answered her questions with 25% accuracy. On days five and six, she answered questions with 75% accuracy. On day six, she replied with 100% accuracy.

Table 9

Student B's Comprehension Questions

Question	Date	Correct	Incorrect
Who would it be okay to kiss?	Day 1	x	

	Day 5	x	
	Day 6	x	
	Day 10	x	
What should I do if I am feeling excited like I might want to kiss someone?	Day 1		x
	Day 5		x
	Day 6		x
	Day 10	x	
What should I do if someone says it is okay to kiss them?	Day 1		x
	Day 5	x	
	Day 6	x	
	Day 10	x	
What should I do if someone says it is not okay to kiss them?	Day 1		x
	Day 5	x	
	Day 6	x	
	Day 10	x	

The results display that Student B also answered questions about his social story accurately by the end of the intervention period. On day one, he answered the questions with 25% accuracy. On days five and six, he answered questions with 75% accuracy. On day six, he replied with 100% accuracy. His correct responses to the questions progressed in the same manner as Student A.

Table 10

Student C's Comprehension Questions

Question	Date	Correct	Incorrect
What is something that is safe to put in your mouth?	Day 1	x	
	Day 5	x	
	Day 6	x	
	Day 10	x	
What is something that is not safe to put in your mouth?	Day 1	x	
	Day 5	x	
	Day 6	x	
	Day 10	x	
What should I do when I feel like I need to put	Day 1	x	

something in my mouth?			
	Day 5	x	
	Day 6	x	
	Day 10	x	
What could happen if I put something in my mouth that is not safe?	Day 1	x	
	Day 5	x	
	Day 6	x	
	Day 10	x	

Student C's responses to the comprehension questions were 100% accurate from day one through day ten. He displayed excellent comprehension of the text, by providing answers directly from the story.

Overall, all three students showed that by day ten they could answer comprehension questions based on their social stories with 100% correctness. The data shows that their understanding of the text was of high enough understanding that they could share some of the meaning behind the words and provide answers that demonstrated comprehension.

The results shown above provide information about the baseline and intervention periods. In order to derive meaning from them, they needed to be examined more closely.

In the following chapter, results are analyzed and compared to the original research questions that were posed. Conclusions and recommendations are provided.

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CHAPTER 5

RECOMMENDATIONS AND CONCLUSIONS

This investigation sought to discover if a relationship could be shown between a social story intervention and a decrease in negative behaviors for three children. It differed from much of the other research that exists (Swaggart et al., 1995; Kuttler et al., 1998; Hagiwara & Myles, 1999; Norris & Dattilo, 1999; Rowe, 1999; Rogers & Myles, 2001; Rogers & Myles, 2001; Theimann & Goldstein, 2001; Brownell, 2002; Lorimer et al., 2002; Scattone et al., 2002; Bledsoe et al., 2003; Kuoch & Mirenda, 2003; and Moore, 2004), due to the fact that it used social stories with children who had different types of disabilities, not just children with autism spectrum disorders. Only one study was reviewed that addressed the use of social stories with children who have other types of disabilities (Toplis & Hadwin, 2006). Student A had learning disabilities in reading and math, and a history of defiant and explosive behaviors. Student B had a DSM-IV diagnosis of autism. Student C had ADHD and learning disabilities in reading and math, as well as characteristics of pica. The three subjects had varied needs and different issues in the classroom environment that were socially unacceptable.

This study looked to discover if social stories could benefit children who had attentional and hyperactivity difficulties or learning disabilities in addition to children with autism. It was hypothesized that three students, with different disabilities, would all demonstrate an increase in social skills after participating in a social story intervention. This would be measured by looking for a decrease in a targeted negative behavior through data analysis. In order to determine if a relationship existed between the social story intervention and behavior, data needed to show that behaviors were occurring less

frequently. During baseline data collection, frequency was not consistent, but the difference between the highest number of baseline occurrences and the lowest number of baseline occurrences was never greater than five for any of the subjects. Therefore, the intervention looked to decrease frequency by at least six occurrences. An overall trend that showed a decrease in behavior would point to a possible relationship also. Each of the three subjects did show a decrease in negative behavior in some manner.

Student A

This subject was the only female participating. She displayed a pattern of behavior that was relatively consistent during baseline observations, slightly tapered during week one of the intervention, and completely dropped off by the end of the second week of intervention. Based on data and graphs, it is visible that her behaviors did decrease.

Student A became very attached to her social story throughout the intervention phase. According to her general educator's informational paperwork, Student A had a history of wanting to feel special. She enjoyed being the only one to get to do something, or getting to spend special time with the teacher. On three occasions, she made comments that indicated she enjoyed having a book that no one else had. In addition, during the last three days of intervention, she asked the paraprofessional, the general educator, and the intervention specialist to see her social story when she was feeling mad. She then asked for some quiet time, and shortly later rejoined the activity. These incidents were not recorded as events of defiance, because she was using a strategy from her story. Given that Student A displayed ownership in her social story, and demonstrated strategies directly from the story, it is likely that it did have a positive effect for her.

Student A did meet the hypothesis. The data collected on her behaviors during the observations showed a distinct decrease in negative behaviors. By the second week of intervention, Student A had dropped six incidents below the lowest baseline amount, and continued decreasing from that point. The lowest number of incidents during the baseline phase was 12. On the last day of the first week of intervention, she had dropped to six incidents, and by the first day of the second week of intervention, she had only three incidents. The average number of events for week one was 13.6. When converting events recorded to percentages of week one's averages, a better picture of the change emerges. During the baseline phase, the percentage remained close to 100%, then by the second week of intervention had dropped to 22% and finally to 0%. The behavior change demonstrated by Student A through data collection does meet the criteria of this study for a positive change. Therefore, for the purposes of this study, Student A has met the hypothesis, and this could point to a relationship between the social story intervention and her behavior change. However, in order to be able to say this with certainty, further research and manipulation of variables may be necessary in order to repeat the results.

Student B

This subject was the only child with autism who was participating. Based on previous research, and the ample descriptions of success laid out by Gray and Garand (1993), it stood to reason that this student had a better opportunity for success with a social story intervention. During the first week of the intervention phase, it appeared that Student B's behavior was steadily decreasing each day; however, during week two of intervention the number of incidents became more erratic. Throughout the baseline phase the greatest change in the number of events was five. By day five of the first intervention

week, behaviors had dropped to only two events. Then, during week two of intervention behaviors went up and down from being as high as six events, and as low as zero events. Based on the first week of intervention, Student B was displaying a decrease in negative behaviors. During the second week of intervention, his behavior still had dropped from the initial baseline phase, but it was unusual the way it drastically went up and down every other day. The general educator reported that he had been staying with his non-custodial father on two occasions during week two of intervention. It is impossible to say if that change in routine was the cause of inappropriate behavior during the school day, but it is worth mentioning, as it could not be controlled for in this study. The average number of events for week one was 11. When converting events recorded to percentages of week one's average, this change in behavior during week two of intervention is apparent. On day 11, the percentage was at 45.5%, then dropped to 0% on day 12, then returned to 54.5% on day 13, before returning to 0% on day 14.

Student B did meet the hypothesis. The data collected on his behaviors during the observations showed a decrease in negative behaviors. On good days, during the second week of intervention, he dropped as low as zero kissing incidents, which was a positive change for him. The behavior change demonstrated by Student B through data collection does meet the criteria of this study for a positive change. Therefore, for the purposes of this study, Student B has met the hypothesis, and this could point to a relationship between the social story intervention and his behavior change. However, like Student A, in order to be able to say this with certainty, further research and manipulation of variables would be necessary in order to replicate the results.

Student C

This subject had a number of behaviors that his teacher determined as socially inappropriate. For the purposes of this study, eating non-food items was targeted due to it being a safety concern as well as socially inappropriate. When evaluating Student C's response to the intervention, one notices that when data is graphed, there is very little change. The line does not have an obvious visual tendency, like Student A and B.

Throughout the baseline phase, Student C had as few as 20 occurrences, and as many as 25 occurrences. During his intervention phase, he continued to put non-food items in his mouth very frequently, staying very close to 20 incidents everyday. During baseline, he had 20 incidents on two different days, and during the last week of intervention, he had 20 incidents on two different days. The lowest number of incidents occurred on Tuesday and Friday of the first intervention week, when he had 18 and 17 incidents respectively; and on Tuesday of the second intervention week, when he had 19 incidents. Given that the lowest amount of occurrences during baseline was 20, and the lowest number of occurrences during intervention was 17, Student C did not meet the criteria of a positive change. He did not show a decrease in negative behaviors overall, and he did not show a decrease of more than five incidents. The average number of events for week one was 22.4. When converting events recorded to percentages of week one's averages, the percentages calculated further demonstrate the lack of change. During the baseline phase, the percentage remained close to 100%, and in the second week of intervention, the percentages remained near 90%, dropping no lower than 84.8%.

It is difficult to say if Student C would have similar results with a social story intervention in the future. His characteristics of pica really require the attention of a medical professional, but his mother has chosen not to pursue that option. According to

the DSM-IV (1994), pica is a disorder that involves the eating of nonnutritive items for at least one month, when it is not developmentally appropriate or being done for a cultural reason. Another type of disability that is similar would be Prader-Willi syndrome, in which an abnormality with the 15th chromosome causes a number of problems. Prader-Willi syndrome can cause obesity, an insatiable appetite, and behavioral, physical, and mental problems (DSM-IV, 1994). For individuals who have Pica or Prader-Willi syndrome, medication prescribed by a health care professional, along with counseling or therapy that targets their needs would be typical courses of action. If a child has either of these disorders, it is a possibility that they would be unable to correct their actions and develop social skills connected to their eating habits strictly from a social story.

Student C also demonstrated excellent comprehension and understanding of his story from the beginning. One could speculate that his need to chew and put things in his mouth is a medical issue that is beyond his control. He may know what he needs to do, but may be unable to do it. This is one possible conclusion that could be drawn from Student C's lack of progress. Further research could be beneficial for this child, perhaps trying an ABAB design in order to see if he continues to show a pattern of little progress. One should also be cautious and not disregard social stories as an effective intervention for this child. Perhaps if tried again, but targeting a different behavior for Student C, it may prove to be more effective.

Conclusions

Overall, this study found positive behavior changes for two subjects and little change for the third subject. It is difficult to say with any certainty that behavior change was due entirely to the social story intervention. The weakness of the AB design is that it

does not allow for results to be replicated, such as with an ABAB design (Alberto & Troutman, 1999). Without this element of evidence, a true functional relationship cannot be established. However, the AB design was chosen given the fact that it could be done in the school setting with consistency and little intrusion.

Future research should attempt to use social stories with students who have other types of disabilities. This study looked at only three children in one grade level. It would be of great interest to look for correlations between social story interventions and positive behavior changes with students across grade levels, and with many types of differences. As long as researchers adhered to Gray & Garand's guidelines for successful social story candidates, by helping individuals who have some basic language skills and slight deficits in learning ability (1993), the results would continue to add to this somewhat limited body of research. Another avenue of research that could benefit the educational community would be to pinpoint what specifically is beneficial about the social story intervention. Is it the type and style of presentation? Is it the individualizing? Is it really important to adhere to Gray's ratios and guidelines for constructing these stories, or could any short individualized story be beneficial?

At home variables are difficult to control for with young children also. When Student B had to stay at a different house than he was accustomed to, he seemed upset. It is nearly impossible to predict occurrences like this, and it is difficult to precisely determine what effect it may have had on his response to the intervention on those days.

Student C's behavior really resembles more of a medical issue, and perhaps this is not an appropriate target behavior for a social story intervention. His behavior did meet Gray & Garand's descriptions, but much of their research was about the use with children

with autism, not those with medical disorders (1993). Again, this is another area where social story interventions could be tried on a larger scale and with more individuals in order to determine if they have any effectiveness. It is important to consider that with any child there is always the possibility that a social story intervention may need to be balanced with a medical therapy of some type, such as medication. Many children now use medication to assist them with behavior difficulties and to help them navigate their school day successfully. Children with pica, ADHD, autism spectrum disorders, and conduct disorders, among others may all be using medication to modify behavior. Social story interventions can still be used successfully, but educators and researchers will want to be mindful of the child's medications. If research were being conducted, this would be of particular interest. If medication has recently been added or adjusted, it would be difficult to determine if success or failure related to a target behavior were a result of a social story intervention, or a medication change.

The most successful intervention in this study was with Student A. However, a limitation of this study is its inability to determine what specifically made it so successful for her. Was it her type of disability? Is it the fact that she is female? Perhaps it was because she was so responsive to the individualized attention she received, or the fact that she connected with her story. All of these elements are grounds for further research and investigation. It has proven to be a very effective teaching tool for her, and may be beneficial for other students like her.

In order to have the opportunity to discover more about social story interventions longitudinally, the intervention would need to be continued for a longer period of time. There are several opportunities for exploration and study. The intervention could simply

be continued with a lengthier intervention period, such as four weeks, or for multiple months, with data collection continuing. Another option would be to implement an ABAB study, in which the story intervention would be removed, and then introduced again, in order to determine if it offered any continued or further success for subjects. For example, Student A showed very promising results. Ideally, it would be nice to continue the intervention and find out if she can maintain the level of zero occurrences during class. For Student B, it would have been beneficial to continue the intervention and monitor his data for a return to the results seen in his first week of intervention, versus his second week, depending on his home environment.

Specifically, there are changes that could be made to this study if certain limitations hadn't existed. This chapter has also sought to make recommendations for future research done in this area. The following table shares these suggestions.

Table 10

Recommendations for Future Research

Recommendations

- Continue researching social story interventions with a single subject design, but use an ABAB design and attempt to prove a functional relationship
- Extend the period of time used for intervention to at least four weeks
- Avoid selecting target behaviors that may be connected to a medical need that could potentially be uncontrollable without medication or therapy
- Expand research to include subjects with more types of disabilities. There needs to be more research using subjects who have learning or cognitive disabilities,

Down syndrome, ADHD, Oppositional Defiant Disorder, Conduct Disorder, Bipolar Disorder, explosive patterns of behavior, and other Autism Spectrum Disorders.

- Attempt research in which certain elements of social stories are used, and vary it between subjects. It would be of interest to determine what it is about the social story that makes it successful. Must Gray's ratios be adhered to for success?
- This study and the published studies that exist have worked with limited subjects at certain grade levels. Expand to many different grade levels in order to determine if it is more successful with young children versus teens.

This is an area of research that is very promising and interesting. The studies that have been completed and have followed Gray's (2000) guidelines for writing proper social stories have yielded positive results for many of the subjects. There have been more success cases than not. There is just a real lack of studies that have examined this intervention and put it into practice in a documented and scientific way. With future research this could become an extremely successful classroom management tool for many different kinds of students.

CHAPTER 6

IMPLICATIONS FOR PRACTICE

For many educators in the classroom today, management and behavior are their biggest concerns. With increasing pressure to maximize every teachable minute of the day, they have little time left to deal with behavior issues or disruptions. In addition, they have limited time to help students who need instruction in the area of social skills. Social skills are not on the standardized tests, and students may not always receive the direct instruction in this area that they need.

Social stories could be a very beneficial tool for educators. They are easy to create and according to published research have been successful in many cases for children with autism spectrum disorders. Educators simply need to look at the children in their classroom who are having difficulty with specific areas of social skill development. Given that educators are very busy, it would be wise to target just one child at a time for their first attempt at using this intervention. The teacher can monitor that child in the setting of greatest concern. Another option is to utilize a paraprofessional, behavior specialist, counselor, or intervention specialist, who can help the educator complete some observations. Once a behavior is targeted, the teacher would write a short social story for the child that specifically explains how they can navigate that situation successfully. If they are using Gray & Garand's basic ratio for constructing a social story, the educator will want to be mindful of their sentence selection (1993). Descriptive sentences are those that explain and describe the scenario to the child and include the description of the setting, the people present, and the sequence. Directive sentences explain what should

ideally occur and the behavior that the child should exhibit. Perspective sentences explain how other people in the scenario may react and what they might say or do.

Initially, there is a time investment on the part of the teacher in order to observe, plan, and create the social story for their student. Once the story is created, however, the teacher need just read, or listen to the student read, the social story each day before the problematic time period. Asking some questions about the story, or role-playing the scenario on certain days can provide a quick comprehension check. If the intervention proves to be successful for the student, it will have been well worth the time of the educator in laying the framework. Much instructional time can be lost during the day dealing with behavior outbursts, classroom management, and tantrums that result from frustrating situations which students may not understand. If educators can eliminate some of these issues in their classroom, students may feel safer, more confident, and may experience more success.

Many students in schools today have disabilities. These students sometimes find themselves in over-stimulating environments without the coping mechanisms in place to help them deal with the expectations being placed before them. Increasing amounts of students with disabilities are expected to pass state standardized tests and perform at the same level as their peers without disabilities. These students are being pushed to succeed on academic tasks. One thing that can often be overlooked as a result of this is basic social skills instruction. This can be as simple as saying please, thank you, and excuse me. However, social skill needs can be more complex as well. Students may need assistance learning how to use the restroom successfully. They may need help making good behavior choices in the cafeteria, where there are many social demands. Students

might not understand how to follow the morning routine, or how to greet friends. All of these actions meet Gray & Garand's guidelines for behaviors that could possibly be taught through the use of a social story intervention (1993). Sometimes, the frustration a child can feel as a result of this confusion can manifest itself in a troublesome way.

Scattone, Wilczynski, Edwards, & Rabian (2002) found that these disruptive behaviors labeled that child in the eyes of their peers and classmates as a problem. Peer interactions can suffer as a result, and this can have a major effect on the classroom community and the quality of the learning environment.

When children have mastered a troubling social skill, they may show signs of increased confidence. Without the apprehension of not knowing what to do, they could potentially become more focused. Up to this point, published research concerning social story interventions has never shown there to be any risks. It is possible that the intervention may not successfully teach the social skill being targeted. There may not be a significant decrease in negative behaviors for every child, but it would be very unlikely to cause any damage. A lack of positive results and a continuing pattern of negative behavior would be the worst outcome. There is no published research that has shown an increase in negative behaviors as a result of this intervention.

Not only could this be a potentially beneficial intervention for more educators to try, other individuals who work with children may also want to create social stories. School counselors might want to create social stories for children on their caseload who need to demonstrate a change in behavior. Community counselors or therapists who work with school age clients may recommend this intervention as a possible strategy for improving social skills. Even parents could try this intervention at home or suggest it to

their child's teachers. Moore (2004) published a study in which a social story intervention was used with great success in the home setting to help with a difficult bedtime routine. An intervention of this type could yield positive outcomes for the school setting also. If a child's bedtime routine has improved, it is likely that they will be coming to school calmer and more rested, and thus more prepared to be receptive to learning.

A successful school day should be a goal for all children. When social skills or behavior difficulties obstruct that goal, educators or other adults in their lives, need to find interventions that can provide positive results for them. Social stories are generally fun and unthreatening for children. They provide direct instruction about a skill that a child legitimately doesn't understand. If successful, a social story intervention is well worth the time investment, when educators consider all the time that could be lost dealing with behavior issues. As more research is published and the art of creating social story interventions continues to be honed, educators stand to benefit from staying informed.

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Appendix A

Social Story Questionnaire for First Grade Teachers

According to Carol Gray, a linguist who developed Social Stories, and began writing about them in 1993, the goal is to offer explicit explanations to guide a child through a troubling social scenario. Think about your class, and the ways in which your students navigate their school day. I would like you to identify three students who you feel may be successful candidates for a social story intervention. Gray & Garand have provided some information about the types of students who can benefit most. Those who need responses or cues to be taught, those who struggle with routine changes, those who have a negative behavior that needs addressed, or those who benefit from more individualized instruction, would be good candidates for a social story intervention.

- Please name three students, in order of greatest need, who you feel have behavior or social skills difficulties and would benefit from this intervention:

- 1.
- 2.
- 3.

- Please briefly name and describe the behaviors you feel should be addressed for each of these students:

- 1.

2.

3.

- Another element that Gray & Garand have named as an indicator of success for social story interventions is that the student must have some basic language skills and slight deficits in learning ability. Please use the space below to describe these students abilities, and please attach any documentation of their learning abilities, language skills, or behavior issues.

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Appendix B

Checklist for Selecting Students for Social Story Intervention

Using the questionnaire completed by first grade teachers, one student from each class will be chosen based on their need and if they meet criteria for a successful social story candidate by Gray and Garand (1993). Students must meet the in bold, and must meet at least one of the other criteria. If the student ranked number one, does not meet the criteria, the second or possibly the third student will be analyzed and chosen.

Class A

Criteria	Student #1	Student #2	Student #3
Benefits from individual instruction			
Has a negative behavior that needs to be addressed			
Needs responses or cues taught			
Struggles with routine changes			
Has basic language skills			
Has deficits in learning ability			

Class B

Criteria	Student #1	Student #2	Student #3
Benefits from individual instruction			
Has a negative behavior that needs to be addressed			
Needs responses or cues taught			
Struggles with routine changes			
Has basic language skills			
Has deficits in learning ability			

Class C

Criteria	Student #1	Student #2	Student #3
Benefits from individual instruction			
Has a negative behavior that needs to be addressed			
Needs responses or cues taught			
Struggles with routine changes			
Has basic language skills			
Has deficits in learning ability			

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Appendix C

Event Recording Data Sheet for One Week

Student _____

Observer _____

Behavior being observed

	Time Start Stop	Notations of occurrences	Total Occurrences

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