Youth and Autism: The Effectiveness of Using Social Stories as A Behavioral Intervention and Its Implications for Educators

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Abstract

Autism spectrum disorders (ASD) are one of the fastest growing and costliest developmental disabilities in the United States. This growth, in addition to possible increases in special education referrals, demands a response by researchers to establish effective interventions for educating these individuals. Positive behavior support (PBS) interventions have been created to reduce problem behaviors and enhance prosocial behaviors in order to improve an individual’s quality of life. This thesis explores a particular PBS intervention known as Social Stories. It will utilize existing research in order to determine the effectiveness of Social Stories as a behavioral intervention for children and adolescents with ASD. The particular future implications for educators using this approach will also be included.
Youth and Autism: The effectiveness of using Social Stories as a behavioral intervention and its implications for educators

Autism Spectrum Disorder (ASD) is a term that includes autism, Asberger’s Syndrome, Pervasive Developmental Disorder, and Childhood Disintegrative Disorder (National Research Council [NRC], 2001). Children that are diagnosed with an autism spectrum disorder have problems understanding others as well as using appropriate social skills in order to communicate and interact with people. Due to these misunderstandings and lack of appropriate skills, children with ASD may behave inappropriately at times (Church et al., 2000). Some of these inappropriate behaviors include but are not limited to: aggression towards or withdrawal from others, self-injurious behaviors, and a lack of control in certain situations (Church et al., 2000; National Institute of Mental Health [NIMH], 1997). Therefore, efforts need to focus on increasing the social skills of children with ASD while decreasing unwanted behaviors.

In the past few years, positive behavioral support (PBS) interventions have become a popular way to not only decrease unwanted behaviors, but also to improve social interactions of children with ASD, thereby enhancing their quality of life (Sansosti et al., 2004). One of the most cost effective and useful behavioral intervention strategies is known as social stories. This strategy was created by Carol Gray and uses short personalized stories, typically written by someone who knows the student with ASD well. These stories can help someone with ASD in interpreting confusing social situations (Gray, 1997). This paper will focus on the effectiveness of social stories as behavioral interventions for children and adolescents with ASD. It will also look at future implications for educators and counselors in regard to this particular strategy.
Autism

Background of autism

At the Johns Hopkins Hospital in 1943, Dr. Leo Kanner studied a group of children and became the first person to label autism, calling it *early infantile autism* (NIMH, 2009). At the same time in Germany, a scientist by the name of Dr. Hans Asberger described a less severe form of autism that became known as Asberger’s Syndrome (NIMH, 2009).

As previously mentioned, autism spectrum disorder (ASD) is an umbrella term that encompasses several different disorders (NRC, 2001). These conditions are labeled spectrum disorders because people who have them fall on a spectrum of mild to severe. The most severe form of ASD is called autistic disorder or “classic autism.” This disorder falls on one end of the autism spectrum.

A child is diagnosed with autistic disorder when they display at least six out of twelve symptoms listed across three major areas: social interaction, communication, and behavior, all of which are found in the DSM-IV (American Psychiatric Association, 1994). Some of the symptoms that a child with autistic disorder can display are: aloof manner, little or no eye contact, resistance to routine changes, tantrums, extreme distress for no reason, difficulty in expressing needs, abnormal ways of relating to people, speech and language absence or delays, and an abnormal response to one or more senses (American Psychiatric Association, 1994). These behaviors usually occur across many different settings and are steadily inappropriate for a child’s age.

On the other end of the autism spectrum is the mildest version known as Asberger’s Syndrome. Even though Asberger’s Syndrome was discovered by Hans Asberger in 1944, it did not become well-known until fifty years later following a world-renowned field trial (American
Psychiatric Association, 1994). Children with Asberger’s Syndrome have many of the same symptoms as children with autistic disorder, although the severity is not as high. These children have problems with social and emotional reciprocity, a lack of interest in other people, noticeable impairments in non-verbal gestures such as eye contact, facial expressions, and body language, and an abnormal preoccupation with either an object or a subject of interest (American Psychiatric Association, 1994). A big difference between children on the autism spectrum and children with Asberger’s Syndrome is that with Asberger’s Syndrome, there is generally no language delays or significant delays in cognitive abilities or self-help skills (American Psychiatric Association, 1994). Even though children and adolescents that fall somewhere on the autism spectrum will have many symptom similarities, no two people will be affected the same way or have the exact same symptoms (NIMH, 2009).

ASD affects children of all race, ethnicity, and social class. It is the third most common brain-based developmental disability, affecting 60 out of every 10,000 individuals globally (Autism Research Institute, 2009). Just this year, the CDC reported that one in 100 children is diagnosed with autism. ASD has so many causes and is usually diagnosed in children by the age of three. Autism is four times more likely to happen in boys than girls, although it’s unknown why this is so (Autism Society of America, 1997).

Children with autism spectrum disorders generally have deficits in three specific categories: communication, behaviors, and social relations (American Psychiatric Association, 1994). The varying social and communication impairments are what help to make this developmental disorder so unique and hard to define. Most children with an ASD look normal in appearance but occupy themselves with unusual behaviors that are noticeably different from their peers (Autism Research Institute, 2009).
There are particular health problems that many times accompany autism spectrum disorders. Many ASD children have some type of sensory deficit. These sensory issues can be very confusing for ASD children because most people rely on their senses to help them learn about their world. A myriad of children with ASD are extremely sensitive to particular sounds, tastes, textures, and even smells (NIMH, 2009).

Many ASD children have some degree of cognitive disability. This can appear in different areas or abilities of the child. For instance, a child with an ASD might test well in visual ability but test lower in language skill. One to five percent of people with an ASD have the disorder known as Fragile X syndrome (National Institute of Mental Health [NIMH], 2009). This is the most common form of cognitive disability that children with an ASD inherit from their parents.

Fragile X Syndrome was named for the fact that one part of the X chromosome is defective and appears squeezed or “fragile” under a microscope (NIMH, 2009). Fragile X Syndrome affects one to five percent of ASD children while ten to fifteen percent of those with Fragile X show autistic characteristics (NIMH, 2009). Many children with Fragile X Syndrome are described as cognitively delayed while a number of children tested with the syndrome have IQ’s in the borderline or mental retardation range.

Mental retardation is defined as a non-degenerative disorder apparent during childhood in which a child has problems in adapting to their environment and an IQ score below 70 (NIMH, 2009). Children with Fragile X Syndrome move forward at a slower speed and with a lower end result than their regularly developing peers (NIMH, 2009). Also, it is very likely that if one boy in a family has Fragile X Syndrome that another boy born to those same parents will inherit the disorder, although it is not known why this is so (NIMH, 2009).
Another health concern that accompanies autism spectrum disorders is seizures. One in four children with an ASD acquires seizures sometime in childhood or adolescence (NIMH, 2009). Seizures are produced by deviant electrical impulses in the brain. These can cause anything from a mild stare to body convulsions. Most seizures can be controlled with anticonvulsant medications. These medications have to be closely monitored, especially in children (NIMH, 2009).

There are many reasons that these medications have to be monitored so closely with children. First of all, many times children respond differently to medications than adults do. There have not been too many studies of medications done on children, so most doctors have to rely on information about treating adults when they’re really treating children. Second, most anti-convulsant drugs are extremely effective but can be toxic if taken in excess. Finally, anti-convulsant drugs can have severe side effects including: affecting blood sugar levels, sensitivity to sunlight, liver toxicity, and they can become habitual after a certain period of time (NIMH, 2009).

A rare but serious condition that has been strongly associated with ASD is Tuberous Sclerosis. One to four percent of ASD children have this disorder. This particular condition causes mild tumors to form on a person’s organs, including their brain (NIMH, 2009).

Scientists aren’t exactly sure of what causes autism spectrum disorders, but they feel that it can be linked to both genetics and a person’s environment. There are several genes that have been associated with this disorder (NIMH, 2009). Various studies have found abnormalities in several areas of the brain, while other studies suggest that people with an ASD have irregular levels of neurotransmitters such as serotonin in the brain (National Institute of Neurological Disorders and Stroke [NINDS], 2009). These irregularities suggest that ASD could be the
outcome of a disturbance in early brain development caused by defective genes. The early theory that rigid parenting caused autism has long been disproved (NINDS, 2009). Twin studies have been very helpful in showing that children can have a genetic inclination towards an autism spectrum disorder. Presently, there are many studies that are helping to determine what genetic factors are linked with the development of ASD (NINDS, 2009).

There is a controversy in the scientific and medical communities about the Measles, Mumps, and Rubella vaccine and its link to autism. The MMR vaccine is a vaccine given to infants to protect against measles, mumps, and rubella. This controversy refers to allegations that autism can be caused by this particular vaccine. According to the science community, there is no probable evidence that links this vaccine to autism, with the benefits greatly outweighing the risks (NIMH, 2009).

Another controversy in the scientific community regarding autism has been the link between thimerosal and autism. Until 1999, many vaccines given to infants contained the preservative thimerosal (a mercury-based preservative). When there was an increase in the amount of children diagnosed with autism in the late 1990’s, there was speculation that a link existed between thimerosal found in vaccines and autism. This led to an extremely long and detailed study administered by the Institute of Medicine (IOM). The final report, released in 2004 from IOM, stated that no link was found between the two (NIMH, 2009). However, except for some flu vaccines, childhood vaccines today contain no form of thimerosal.

As of yet, there is no cure for ASD. Various therapies or interventions can help with symptoms associated with ASD and can affect children with ASD in a positive way, thereby improving their quality of life. Most professionals in the health care field agree that the earlier
someone gets diagnosed with ASD and starts to receive interventions, the better their prognosis will be (NINDS, 2009).

The primary goals of early intervention therapies is to relieve family stress by helping to lessen deficits associated with autism, increasing a child’s independence, and thereby helping to improve their overall quality of life. There is not one particular treatment that is considered the best and any treatment given to children should be individualized to the child’s specific needs (Meyers & Johnson, 2007). Early intervention therapy for children with ASD is crucial in helping them develop skills in self-care and social relations. It also helps them acquire job skills that they will need later on in life. While many early intervention therapies occur outside of an educational setting, once a child with ASD reaches school-age, most of their therapy occurs at school (Meyers & Johnson, 2007).

**Adlerian perspective of ASD**

Autism spectrum disorders are very interesting to observe and study through an Adlerian perspective. Alfred Adler was a Viennese psychiatrist who studied under Sigmund Freud but later broke away because of differing views on human nature. Adler’s view of humans as being socially embedded and not being able to be understood outside of the context of other people differed greatly from Freud’s psychoanalytic internalized view of people (Oberst & Stewart, 2003).

In terms of autism spectrum disorders, Adler would not label children with ASD tendencies into a diagnostic classification, since Adlerian theory is based on a growth model as opposed to a medical or disease model. This type of model views a dysfunctional individual as discouraged rather than mentally disturbed (Ansbacher & Ansbacher, 1956). Adler would believe that a child who is born with an autism spectrum disorder in which they have some kind
of organic problem could lead to some feelings of inferiority with respect to their normally developing peers, especially when their particular physical or mental conditions make them more dependent on other people (Oberst & Stewart, 2003).

Adler believed that everybody demonstrates “useful” or “useless” behaviors, depending on how they see the world and their place in it (Oberst & Stewart, 2003, p. 26). He believed that individuals are social beings and that everybody is striving to find their place and determining how they can belong in society, which he termed “social interest” (Oberst & Stewart, 2003, p.17). Having social interest means feeling like part of a group and, in turn, part of society. According to Adler, how a person acts with other people is extremely important to their psychological health. This definition of social interest could help one to see why children and adolescents with ASD may act out the way they do. Due to their condition, children with ASD have a strong tendency to be more isolated thus often feeling as if they do not belong to any one group. This isolated behavior may increase their feelings of loneliness and inadequacy leading to a greater chance of inappropriate behaviors.

For Adler, all problems develop from the integral aspect of community life. He believed that all human needs can be satisfied by the fulfillment of the three tasks of life: work, love, and friendship (Oberst & Stewart, 2003). These tasks are faced by everybody and have to be resolved successfully for happiness to be reached. If one of these tasks is out of balance, it affects the other two tasks.

In children and adolescents with ASD, the friendship task is greatly affected, since they usually have impairments in such areas as language, behavior, and social skills. These impairments, in turn, affect the child’s other life tasks, which include the work/school task and the love task (Oberst & Stewart, 2003). Their happiness and contentment in school and at home
with family will be impacted greatly by their lack of skills in the friendship task. This is one reason why early interventions for children with an ASD are so critical for their future as social beings.

Adler’s humanist view of people allows for individual free will and makes them responsible for their own actions. This view is very positive for children and adolescents with ASD because it gives them control over their experiences and shows them that, with the proper help, they can live very normal happy lives (Ansbacher & Ansbacher, 1956).

Adlerian theory also promotes encouragement, which is something that children and adolescents with ASD will need extensively while they’re learning how to behave appropriately and function in society. In Adlerian theory, encouragement is one of the most important aspects. Encouragement is task-oriented, puts emphasis on a person’s effort and is fostered even if a goal is not reached (Oberst & Stewart, 2003). This is extremely important for children and adolescents with ASD who will, most likely, need to do things over and over before they completely grasp it. Without the proper encouragement, many children with ASD might give up out of frustration before they ever reach important goals for a smooth transition into society.

**Communication deficits in autism**

Many children with ASD have varying communication deficits. These deficits refer to both verbal and non-verbal forms of communication. The verbal forms are linguistic, while the non-verbal forms include gestures and intonations (Tager-Flusberg, 1999).

By the time a child reaches the age of three, they usually reach particular language milestones. As an infant, this milestone is usually some form of babbling, while a one year old is usually saying words, recognizing his or her name, pointing to toys that he or she wants, and using the word “no” (NIMH, 2009). Children born with an ASD do not typically reach the
language milestones that other children do. Some children who are diagnosed with ASD never learn to talk, while others have severe delays with language acquisition, sometimes not developing language until age five or older (NIMH, 2009).

Many children with ASD who do learn to speak do not use language in typical ways. Numerous children and adolescents with ASD cannot seem to combine words to make sentences that other people understand, while others either use single words in their speech or repeat phrases over and over. Some children like to copy exactly what they hear, a term called “echolalia” (NIMH, 2009).

A great number of ASD children at the high functioning end of the spectrum may be only slightly affected by language delays but still have trouble sustaining conversations with people. Many of them often carry on monologues with themselves regarding their favorite subjects or topics of interest (NIMH, 2009).

Most children with ASD have trouble differentiating between figurative and literal meanings of people’s expressions. This makes it very hard for them to grasp what people are trying to say. Several studies have found that even older high-functioning people with an ASD have trouble with these particular distinctions (Tager-Flusberg, 1999). Another difficulty for children and adolescents with ASD is often the inability to be able to understand body language, sarcasm, or voice intonations (NIMH, 2009).

ASD children and adolescents have a particularly hard time stringing together sequences of events according to a specified structure in order to tell stories. In many cases, these children and adolescents with ASD also lack the ability to focus on the humanistic aspect of the main characters in a story, particularly regarding their thoughts and feelings (Tager-Flusberg, 1999).
They also have problems understanding that a story is an embodiment of related events and seem to lack understanding that events in stories have causal explanations (Tager-Flusberg, 1999).

While it can be difficult to understand what children with ASD are saying, it can be just as difficult to understand their body language. Frequently, a child with ASD does not match his or her facial expressions or gestures with what they are actually saying. Also, their voice intonations rarely reflect their true feelings (NIMH, 2009). Many ASD children or adolescents either use a high-pitched voice or a flat monotone one. Countless children with an ASD that are on the high functioning end of the spectrum speak like “little professors” with an unusually large vocabulary and fail to use the appropriate speech for their age group, making it hard to relate to their peers (NIMH, 2009).

Most children and adolescents with ASD have severe deficits in language, appropriate gestures, and facial movements. Due to this, they are at a severe loss when it comes to letting others know what they need or want (NIMH, 2009). Therefore, they have a tendency to scream out or grab what they want, thereby being labeled with behavior problems by adults. Until they can be taught better ways to express themselves and ask for what they need or want, ASD children will continue to do whatever it takes to communicate with people. As children with ASD become adolescents, they are more aware of how different they are from other people, which can lead to severe anxiety and depression (NIMH, 2009).

There are some aspects of language in children with an ASD that are not affected by the disorder. It appears that the use of basic language to acquire things they want remains intact with these children. Many questions that ASD children ask people involve yes or no answers (Tager-Flusberg, 1999). These simple questions seem to these children to be more effective in helping them to acquire things they want. Although proficiency in this aspect of language can help ASD
children get what they want, it’s not going to help them become the social beings that they need to become in order to function properly in society.

**Behavior deficits in autism and unusual interests**

Children with ASD may portray unusual behaviors or interests that make them stand out from their peers. Countless ASD children thrive on schedules and routines. Any kind of change in their daily way of life can be extremely upsetting to them and can lead to tantrums or melt downs (CDC, 2009).

Some children with ASD also develop their own unique rituals or routines. These can include anything from looking in every window of a building they pass to watching a movie over and over the same way every time. If they’re not allowed to perform these routines, it can lead to frustration and temper tantrums (CDC, 2009).

Numerous children and adolescents with ASD use motions that are repetitive and usually involve a single body part or the whole body. Sometimes, these motions can even involve some kind of object or toy. Some examples of these particular actions include flapping their arms, rocking back and forth, and spinning the wheels of a toy vehicle (CDC, 2009).

Another unusual behavior for ASD children is the tendency to become obsessive with their interests. If they’re interested in a particular subject, for example, they may only want to see movies dealing with that subject or read books that center around that particular topic (CDC, 2009). This particular behavior can be a problem when ASD children are trying to socialize with other children, and can’t move off a particular topic that they’re interested in.

Many children and adolescents with ASD are extremely organized and demand order and consistency in their lives (CDC, 2009). While this particular trait may not seem too unusual, these children and adolescents take it to an extreme. An example would be a child with autism
who might put blocks in a particular order every time or spend hours lining up cars or trains, instead of just playing with them (NIMH, 2009).

Any and all of these deficits present themselves differently in every ASD child. For example, a child may have no trouble reading but may lack appropriate social skills. Each child with ASD will display deficits in the areas of communication, behavior, and social but they will appear different in each child (NIMH, 2009).

Social skill deficits and theory of mind

Social skill deficits are one of the most common symptoms among children and adolescents with ASD. Children with ASD do not just have social discomforts such as shyness. Their social issues cause major problems in everyday life (CDC, 2009).

Many ASD children avoid eye contact with people and prefer to play alone most of the time. Numerous children with ASD are not interested in other people at all. Other ASD children and adolescents may want friendships but do not understand how to develop them. Most of these children have an extremely hard time learning how to share with others. This makes it hard for children to want to play with them (CDC, 2009).

These social skill deficits start in infancy with the majority of ASD children. Normally developing infants are interested in everything and everyone around them. By the age of one, a toddler is usually interacting with people by looking them in the eye, mimicking words and actions, and using gestures like waving “bye-bye” (CDC, 2009).

An infant or toddler with ASD usually has a very hard time connecting and interacting with people. Many of these children are extremely sensitive to touch and do not want to be cuddled (CDC, 2009). This makes it very hard for them to bond with other people, including their caregivers. Countless infants and toddlers with ASD do not smile, which also hinders the
bonding process between them and others (CDC, 2009). Although research has suggested that children with an ASD are attached to their parents or caregivers, it’s not the usual form of attachment and many parents find it hard to understand their children (NIMH, 2009).

Many children with ASD have flat or inaccurate facial expressions that make it hard for others to understand them. Also, social cues such as winks, smiles, or scowls have little meaning to these children. For example, the term “come here” means the same to them whether the person talking is smiling or frowning at them. Without understanding social cues, the world can seem very unpredictable and confusing to these children (NIMH, 2009).

Another social deficit that children and adolescents with ASD have is the lack of the ability to see things from another person’s perspective. Baron-Cohen refers to this as “mindblindness,” claiming that children with an ASD have specific impairments in interpreting and explaining human behaviors within a psychological framework (cited in Tager-Flusberg, 1999). This so-called “theory of mind” hypothesis was introduced into the autism literature over fifteen years ago and refers to a person’s ability to understand complex mental states such as desires, emotions, and beliefs and be able to attribute them to a person’s behaviors (Tager-Flusberg, 1999). Most children have these capabilities by the age of three or four and can easily understand that people may have beliefs that clash with reality at times. Children with ASD find it hard to navigate the social world because they have such a hard time understanding or predicting other people’s actions (Tager-Flusberg, 1999).

While children and adolescents with ASD have trouble predicting and interpreting other people’s actions, they also have problems with self-regulation of their emotions. This can represent itself in childish ways such as crying in class or inappropriate outbursts (NIMH, 2009).
These individuals can also be disruptive in class and aggressive towards others. All of these behaviors make it even harder for children with ASD to form social relationships (NIMH, 2009).

If an ASD child finds themselves in a strange environment or frustrated, they may lose control and have a breakdown. During these times, they might do such things as break items, attack people, or hurt themselves in some way (NIMH, 2009). In times of extreme frustration, ASD children might pull their hair, bite themselves or even bang their heads on whatever they’re near (NIMH, 2009). While this seems somewhat extreme, it helps to show how little children with ASD understand the world in which they live. This is why it’s so important that these children are helped with as many effective interventions as they can get.

**Social Stories**

**What are social stories?**

The practice of inclusion of children with ASD in an educational setting presents particular challenges to educators, both in general and special education classrooms (Crozier & Tincani, 2003). There is a myriad amount of information available on autism spectrum disorders and recommended interventions (NRC, 2001). With this wealth of knowledge available, it can be difficult to determine appropriate strategies to use. It is critical for educators to use strategies that are researched and empirically validated in order to meet their students’ educational, social, and behavioral needs (Simpson, deBoer-Ott, & Myles, 2003).

One preferred intervention strategy for ASD children and adolescents is social stories (Sansosti, Powell-Smith, & Kincaid, 2004). The social story intervention was introduced as a way to help children with autism be able to “read” and understand social situations (Gray & Garand, 1993). A social story is a short story written from the child’s perspective describing a particular situation, idea, or social skill that the child finds challenging (Gray, 2000).
Each social story is meant to teach ASD children how to manage their own behavior during particular events. It teaches this by describing the when, where, what, who, and why of the given situation (Gray, 2000). The information presented in social stories is written clearly and concretely in order to minimize confusion for the child about what is expected of them in the situation (Agosta, Graetz, Mastropieri, & Scruggs, 2004).

According to Gray, there are specific criteria and guidelines for writing a social story. Gray suggests four particular kinds of sentences used most often, and two other kinds of sentences, used less often. The four sentences used most often in social stories are descriptive, perspective, affirmative, and directive (Gray & Garand, 1993). **Descriptive sentences** describe when a situation will occur, what is happening, why it is happening, and who is involved. **Perspective sentences** explain how people are feeling in the given situation. **Affirmative sentences** describe concepts such as cultural laws and rules. **Directive sentences** tell the child or adolescent what their desired response is (Lorimer, Simpson, Myles, & Ganz, 2002).

The two sentences used less often in social stories are cooperative and control (Kuoch & Mirenda, 2003). **Cooperative sentences** demonstrate what the role of others is in the target situation. **Control sentences**, which are usually written by the child or adolescent, use analogies to provide a method for how to recall and use the information in the social story (Ivey, Heflin & Alberto, 2004).

These sentences and a specific ratio that is recommended are the two most important components of the social story. Gray recommends writing two to five descriptive, perspective, or control sentences for every directive sentence. This is to ensure that the social story does not become too directive with too few environmental and social cues (Norris & Dattilo, 1999).
recommendations for how to construct an accurate social story, however, are just suggestions and not based on any empirical research (Tarnai & Wolfe, 2007).

Although Gray and Garand originally discouraged the use of visual stimuli in social stories, this view was later changed. In fact, Gray now uses pictures in her own published social stories (Ali & Frederickson, 2006). In addition to visual stimuli, it is also important to carefully comprise a social story that is personalized for the child. This attention to detail gives the child an advantage, given that many children with an ASD have narrow and rigid ranges of interest (Ali & Frederickson, 2006).

Ethically speaking, social stories should always be written to address the needs of the child as opposed to the needs of the adult writing it (Whitehead, 2007). These stories can be written to address various reasons including praise, reassurance, consolation, or support (Gray, 2000). Once the story is written, it is discussed with the child and enforced in a way that makes sense to them (Whitehead, 2007).

**Rationale for social stories**

Autism spectrum disorders are characterized by a number of impairments (American Psychiatric Association, 1994). Many of these impairments involve a lack of social skills (Ozdeni, Universities, Fakultesi & Bahumu, 2008). While regularly developing children acquire most of their social adeptness by observing those around them, children or adolescents with ASD have difficulty learning these particular skills (Ozdeni, et al., 2008).

Wing (1988) breaks down the social adversities of children with ASD into three categories: “(a) **Social recognition** or insufficient interest in other people, (b) **Social communication** or a lack of understanding people’s body language as well as having trouble expressing one’s self, and (c) **Social understanding** which involves not being able to understand
others’ thoughts and feelings or having the capability to engage in pretend play” (Wing, 1988, p.91). Unless these specific social behaviors become a part of the child’s daily life, the goal of independent functioning in society may never be accomplished.

Intervention strategies that embody a practical life skills approach as well as incorporating maintenance and generalization in the program are considered best practice today when working with children with ASD (NRC, 2001). A recent positive behavior support (PBS) strategy that includes both of these approaches is the application of Social Stories (Sansosti, et al., 2004). Since 1993, social story interventions have been used to help promote prosocial behaviors in children with ASD (Sansosti, et al., 2004). Despite the fact that the literature supports the use of pictures, photographs, and line drawings with students who have trouble communicating, there is limited research available that directly supports the direct effectiveness of social stories as a behavioral intervention (Ali & Frederickson, 2006).

**Developing a social story intervention**

For over ten years, different studies have shown social stories to be successful when applied to various problem behaviors including screaming, crying, atypical aggression, and improper table manners (Kuoch & Mirenda, 2003; Rowe, 1999; Scattone, Wilczynski, Edwards & Rabian, 2002). Swaggart and associates (1995) were the first to empirically validate the effective use of social stories by teaching a young girl with an ASD to greet people appropriately. This study also helped two boys with an ASD to reduce their aggression and learn to share. Studies have also shown social stories to be effective in reducing tantrums (Kuttler, Myles & Carlson, 1998; Lorimer, Simpson, Myles & Ganz, 2002), cheating, and hostility when playing games. These changes in the kids’ behaviors may be sustained over time (Kuoch & Mirenda, 2003).
There have been several studies that have adapted social stories in unique ways. Moore (2004) formed social stories to help a child be able to sleep in his own bed. Brownell (2002) combined the social stories with an original tune and sang them to four children to help them improve problem behaviors. He found this method to be as effective as reading the stories to the children.

Multiple studies have investigated the significance of social stories for acquiring particular skills. Hagiwara and Myles (1999) adjusted their social stories to a computer-based layout in order to help two children learn the technique of hand washing and helping another child stay on task. Barry and Burlew (2004) taught choice-making and play skills to two children with severe ASD. Ivey, Hefflin, and Alberto (2004) were successful at teaching three children with an ASD how to prepare themselves for unfamiliar events including buying an item, having a party, and playing with novel toys.

Numerous studies have been conducted using social stories to help children improve their social skills (Scattone, Tingstrom, & Wilczynski, 2006). Norris and Dattilo (1999) produced social stories to help a little girl with her orientations and responses to classmates during lunch. In this study, they created three specific social stories that included visual prompts and were read each day to her. This little girl’s inappropriate utterances diminished as did any social interactions she had with her peers (Norris & Dattilo, 1999). These findings suggest that either the varying social stories made it difficult for the little girl to focus on more than one instruction or that social stories needs to be incorporated into an intervention package when dealing with complex behaviors (Norris & Dattilo, 1999).

Many studies have indeed included social stories as part of a complete intervention package including verbal and visual prompts, behavior charts, positive reinforcement, and a
social skills training system (Swaggart et al., 1995). Thiemann and Goldstein (2001) combined social stories with interventions such as verbal and visual prompts and a self-assessment video feedback system. This combination of interventions was effective and there was some generalization across particular behaviors with the five ASD participants. As with many studies that combine interventions, this study did not break down and assess singular components of the package. This makes it extremely difficult to determine what role social stories played in the success of the children in the study (Thiemann & Goldstein, 2001).

These and many more studies have found the use of social stories to be an effective intervention strategy. Gray (1997) proposes that social stories are effective because they are visual, identify appropriate social cues for students, provide factual information, delineate expected behaviors, and remove social hurdles in order to help children progress in their learning. Social stories also help to build upon a student’s existing body of knowledge to help them be able to organize their own experiences into a shared configuration. They can also help a child with ASD better understand a situation, others’ perspectives, and suitable responses (Rowe, 1999).

**Guidelines for writing a social story**

According to Gray (2000) and Gray and Garand (1993), there are specific guidelines that need to be followed in writing a social story for it to be effective. Although a social story can be used at virtually any time and for almost any reason, the subject of the social story, how it is written and rendered to the student, and who the story is including, all need to be decided accurately before moving forward with the story (The Gray Center, 2009). Social stories usually address a very narrow topic and appropriate research will help to detect exactly what needs to be included in the social story (The Gray Center, 2009).
Social stories must be written at the comprehension level of the child to ensure understanding (Gray, 2000; Gray & Garand, 1993). Social stories can be used with a variety of ages and cognitive levels, which is why it’s so important to make sure that the comprehension level is accurate. These stories also need to contain clearly presented vocabulary and print size that are appropriate for the child. Behavioral reinforcers need to be stated in positive terms. An example would be saying, “I will use my indoor voice” instead of “I will not shout” (Gray & Garand, 1993).

Social stories need to share social information in a positive manner where at least half of the stories created magnify the child’s achievements (Gray, 2000). This acknowledgement of achievement is considered an important element of social stories and the concept of written praise may be more meaningful than verbal praise to children with autism spectrum disorders (The Gray Center, 2009). Within these stories, taxing behaviors of the child are omitted and replaced with positive responses (Gray & Garand, 1993).

One main reason that social stories are considered good practice with ASD children is that they’re highly visual and these children tend to be visual learners (Smith, 2001). First of all, the stories are in a written form that reflects the child’s perspective, making it even more likely that the child will comprehend what he or she is reading (Scattone, 2008). This written text, along with illustrations that may be included in the social story, need to reflect the child’s reading level, attention span, and intelligence (Gray, 1997). Any photographs, pictures, maps, or symbols included in the story need to be printed in black and white to decrease distractions (Gray, 1997). These visual cues help children with an ASD understand oral language that presents a constant challenge to them.
Implementing a social story

Once the social story has been created, it is time to implement the intervention and this can be done in one of three ways, depending on the child’s specific needs and abilities (Gray & Garand, 1993). The child can either read the social story independently or be read to, listen to the story on audiotape, or listen and “read” the social story through video modeling (Reynhout & Carter, 2006). All three of these methods are effective ways to present social stories, depending on the cognitive ability of the child with ASD as well as any particular needs he or she may have.

No matter how the social story is presented to the child, it is necessary for their comprehension of the story to be evaluated (Gray, 2004). Gray and Garand (1993) recommended two approaches to assess a child’s comprehension of the social story: Have the child either complete a checklist or answer questions at the end of the story, or have the child role-play what he or she will do when the situation arises again. After the comprehension of the child has been adequately appraised, Gray (2000) recommends that an implementation schedule be established.

The most important part of the implementation process is tracking the student’s progress after the social story has been presented (Gray, 2000). This constant monitoring of student advancements throughout the social story intervention helps to document improvements in social outcomes. This monitoring helps to provide relevant data that needs to be constantly reviewed in order to assess whether the social story needs to be modified in any way (Crozier & Sileo, 2005). This data assessment also helps to keep the social story individualized for each student, which is an important concept in social story implementation, according to Gray and Garand (1993).

There are no specific guidelines regarding how long a child with an ASD will need to use a social story (Gray, 2000). Some children may need to read their social stories for months while
others may grasp new behaviors more quickly. Some ASD children may need an occasional review of their social story, even after it’s been faded away (Gray & Garand, 1993).

Social story success is evaluated at the end of the intervention through the use of data (Crozier & Sileo, 2005). This data also helps to show whether the student’s final behavior is within an acceptable range. If it is not, the social story needs to be modified and repeated as necessary (Gray, 2000). This data should be collected by more than one person whenever possible to ensure reliability (Crozier & Sileo, 2005).

**Educational implications**

**Implications for Educators**

Determining autism has become more prevalent in the last twenty years, with the amount of identified autism spectrum disorders and reaching one percent of school age children (Griffin, Griffin, Fitch, Albera & Gingras, 2006). With this increase in children with ASD, there has been a great need for intervention strategies that help them learn to navigate through an extremely social world. One such intervention strategy that is becoming extremely popular is social stories. This intervention uses a positive behavioral approach to help students with ASD learn to distinguish and respond properly to social cues in various situations (Reynhout & Carter, 2007).

The school environment provides a perfect opportunity to deliver effective social skills interventions, but it also introduces a number of obstacles (Bellini, Peters, Benner & Hopf, 2007). Throughout the school day, there are numerous chances for children with autism spectrum disorders to interact in social situations with their peers (Bellini et al., 2007). Since most schools are adequately furnished with highly skilled professionals that are well prepared to teach social skills, they are usually entrusted to teach these particular skills to ASD students (Bellini et al., 2007).
School counselors are uniquely positioned to help students with ASD acquire better social skills. An area with substantial deficits for children and adolescents with ASD is their socialization with peers. Gresham and his colleagues (2001) suggested several ways to improve the potential of social skills programs such as social stories. These recommendations include: increasing the length of the intervention, providing the intervention instruction in a child’s natural environment, specifically matching the intervention strategy with the skill that the child has a deficit in, and consistency in intervention implementation (Gresham, Sugai, & Horner, 2001). If these four suggestions are followed, a social skills intervention’s effectiveness is greatly improved, which will help the children and adolescents with ASD better understand what’s expected of them in social situations.

Gresham and his associates (2001) suggest that social skills intervention programs be implemented longer and more intensely than most programs are being delivered presently. Although there is not a specific dosage of time to deliver intervention programs, Gresham et al. (2001) feel that 30 hours of instruction per week for 10 to 12 weeks, which is the average for most intervention programs, is not enough time for children with ASD to learn these much needed skills (Gresham et al., 2001). As such, it is recommended that school personnel look for increased opportunities throughout the school day to teach and reinforce these specific skills.

A second suggestion by Gresham and his colleagues (2001) to improve the effectiveness of social skills intervention programs is to implement them in a child’s natural setting such as a classroom. In various studies, interventions that were implemented in pull out settings as opposed to natural environments produced much fewer effects of maintenance and generalization across participants and settings (Bellini et al., 2007). These findings are important in that teachers and other school personnel should implement social skills programs that can be used across
multiple surroundings. Social stories are fairly easy to use among various backdrops, which is particularly important for children with autism spectrum disorder, who seem to have extreme difficulty using skills across many different environments (Bellini et. al., 2007).

A third recommendation provided by Gresham and his associates (2001) is to specifically match the intervention strategy with the particular deficit of the ASD child. According to a finding by Quinn and his colleagues (1999), most social skills interventions are ineffective because of a mismatch between the intervention strategy used and the skill deficit of the child. School personnel need to make a concerted effort to match the strategy to the skill deficit as opposed to trying to make the child “fit” into a chosen strategy (Quinn et al., 1999).

The last suggestion by Gresham and his associates (2001) in improving a social skills program’s effectiveness is to implement a program as originally intended. Most studies in the analysis conducted by Gresham et al. collected little to no social validity data. Social validity refers to the fact that consumers (parents and teachers) believe that the intervention strategies are appropriate and important for the child to acquire (Bellini et al., 2007). With this particular kind of information missing from intervention programs, the outcomes of these programs will be severely limited in accuracy. This could also affect the implementer’s competence in deciding upon effective individual strategies for the child (Bellini et al., 2007). Thus, school personnel and researchers need to make sure to collect data that is pertinent to intervention fidelity (Bellini et al., 2007).

Significant obstacles that hinder the ability of teachers, counselors, and psychologists to be able to implement a social skills intervention program are time, money, and training (Bellini et al., 2007). Most school personnel are presented with so many daily responsibilities that have to be performed that their time is extremely limited when it comes to implementing any new kind
of program. Although there is a great need to deliver an effective social skills intervention program such as social stories, many districts are cutting the funds they are providing for adequate training of school personnel in how to implement new programs. This lack of funding severely interferes with the acquisition of new and more effective intervention programs (Bellini et al., 2007).

As of right now, the Safe Schools Levy Section C of our current state bill states that three dollars of every thirty three dollars allotted for pupils goes to support services, which includes such things as support staff for children with ASD (Safe Schools Levy, 2009). However, the Principal’s Association and Minnesota School Boards are looking to remove the three dollar support service mandate which means there will be less money that can be used to hire support staff. This means less people that will be available to provide helpful interventions such as social stories. This might be an area where school counselors can help children and adolescents with ASD. With less support staff available to help with interventions, school counselors can provide extra support wherever it is needed.

**Implications for school counselors**

As one of the school personnel who work with children with autism spectrum disorders, school counselors play an important role in helping them to succeed. For students who fall on the ASD spectrum, deficits are seen in areas such as social, behavioral, academic, and motor/sensory skills (Griffin et al., 2006). School counselors can work with teachers, parents, and the students themselves in order to help ensure that they are progressing in the areas in which they have deficits.

School counselors can be a real asset to children and adolescents with ASD and can really help them with their social and emotional needs while focusing on their educational
success as well. Whereas social workers mainly help ASD children and adolescents with behavioral issues and case managers help them with academic concerns, school counselors can be of great value in helping these students with their emotional needs. Children and adolescents with ASD often experience feelings of anxiety, depression, and aggression in response to frustrations felt in a school setting (Griffin, Griffin, Fitch, Albera, & Gingras, 2006). These feelings and frustrations can hinder an ASD child’s academic performance and can lead to behavior problems in the classroom.

School counselors are trained to run groups and might serve their ASD students best by running some friendship groups that can focus on skills that are needed by these children. Skills that might be helpful to focus on in these groups are such things as empathizing with others, giving and receiving compliments, understanding and using body language, and learning strategies for beginning and ending conversations with peers (Waltz, 2002). While social workers and case managers focus on helping individual students, school counselors can help reach their ASD students in different ways by offering groups that focus on much needed skills.

School counselors can also help their ASD students by inviting them to join various groups with their regularly developing peers. It is important for students with ASD to feel a sense of belonging with their peers. This can also help regularly developing students get to know ASD students better and, therefore, help break some barriers that might be present.

Many students with ASD regularly wish for social interaction with their peers; however their interactions are not usually appropriate (Myles & Simpson, 2003). This ineptitude on the part of the students with ASD can often lead to behavior problems and depression because they blame themselves for their socially inappropriate behavior (Griffin et al., 2006). While students with ASD might see a school social worker to deal with specific behavior problems, a school
counselor can help these students overcome depression by meeting with them one on one and helping them with techniques that they can use to fight it.

School counselors can work closely with ASD students’ teachers to help them with social interaction problems. Some ways that they can do this is by protecting the students from being bullied or teased. It is important for these students to feel safe in their school environments. It is also important for school counselors to educate the peers of ASD students in order for them to understand more about autism spectrum disorders (Griffin et al., 2006). The more students know about autism spectrum disorders, the less these students will be isolated from their peers.

Many students with autism spectrum disorders struggle in the classroom because they have literal thinking styles, low problem-solving and organizational skills, and are not capable of changing or being changed (Griffin et al., 2006). School counselors can help these students academically by working closely with their teachers and supporting them in ways that help them both in the classroom and at home. Students with ASD also have trouble managing their time, so it might be helpful if the school counselor led a study skills group for these students and focused on such issues as time-management, organization, and problem-solving. By learning these skills, students with autism spectrum disorders can become more independent, which will help them academically now and in the future.

Another area of concern for students with ASD is sensory/motor skills. These students tend to have poor motor coordination and sensory processing deficits (Griffin et al., 2006). These students can benefit from occupational therapy that can help with writing and the development of vocational skills. Since career development is one of the three student domains that school counseling programs focus on, it would be beneficial for the school counselor to team up with
the occupational therapist to help ensure the progress of the student’s vocational skills. By becoming more involved in their students’ day to day lives, school counselors ensure their role as both a mentor and advocate of these students and are playing a big part in helping them to improve their qualities of life. As important as it is for educators and school counselors to use strategies and interventions such as Social Stories to help teach much needed skills to children with ASD, it is just as crucial that schools play an important role in the implementation of these strategies.

Implications for schools

Although there are many studies that have identified effective practices for students with autism spectrum disorders, none of the findings have been combined to create a type of model curriculum that could be adopted by school districts (Iovannone, Dunlap, Huber & Kincaid, 2003). The role of school counselors in relation to effective practices for students with autism spectrum disorders is the role of the student advocate. The school counselor works with all students in the school and focuses on helping them with three specific domains: academic development, career development, and personal/social development (ASCA, 2005). By studying effective research practices for students with autism spectrum disorders, school counselors will have a better understanding of how to help these students more effectively.

The lack of information consolidation into a single curriculum is due to controversy that exists among many people regarding the appropriateness of particular strategies (Iovannone et al., 2003). The research on various interventions has not identified one particular strategy that’s effective for everybody with ASD (Prizant & Rubin, 1999). There are many factors that have contributed to the current dissention regarding appropriate treatments for children with ASD. Some of the factors include an increased prevalence of ASD diagnoses among children, a rise in
litigation with reference to appropriate interventions, a vast amount of literature concerning suitable treatments, and a lack of counsel in deciding which strategies work best for individual ASD children (Iovannone et al., 2003).

Despite the fact that research studies have not identified an individual approach that is better than all other approaches, there is a set of core components that have been empirically validated and should be included in any educational intervention program for students with ASD (Iovannone et al., 2003). The six vital elements to be included in an effective educational intervention program for ASD students are: “(a) personalized support and services for students and their families (b) methodical instruction (c) structured environments (d) specialized curriculum (e) practical approaches to challenging behaviors and (f) family inclusion” (Iovanne et al., 2003, p.153). The incorporation of any one of these components will vary in their structure or level of severity, depending on each child’s individual needs. Many good strategies, including social stories, address more than one essential component.

The first component that should be included in an effective intervention strategy program is personalized support and services for ASD students and their families. Through the Individuals with Disabilities Education Act (IDEA) Amendments of 1997, students on an Individualized Education Plan (IEP) are required to be provided with an appropriate assortment of individualized supports and services (Iovannone et al., 2003). The appropriate level of supports and services will vary from student to student. While one ASD student might just need minimal modifications to the regular curriculum, another student might need major accommodations. Therefore, it is highly unlikely that there is one support or service that would meet everybody’s needs. Alternatively, a school should provide flexibility in terms of support and service options that meet each student’s personalized goals (Iovannone et al., 2003).
It would be beneficial to ASD students to have school counselors involved with helping them to meet their personalized goals. School counselors are some of the primary personnel who students with ASD work with who are trained to help them succeed in all three of their learning domains. The ultimate goal of a school counselor is to help support the school’s academic mission, which includes helping all students be successful in all three domains (ASCA, 2005).

Through the use of data such as academic achievement data, school counselors are able to develop interventions at an individual, group, or classroom level that are designed to help all students succeed. For example, if a school counselor did a classroom guidance lesson on conflict resolution and saw that a specific teacher’s students still had a high percentage of office referrals, the school counselor could do an extra set of lessons on problem-solving with that particular class in order to help the students with their issues. As for ASD students, a school counselor can work individually with them to help with personal/social, academic, or career issues as well as offering groups that address specific issues or skills they’re having problems with.

The second component that researchers feel is crucial is for school staff to provide ASD students with methodical instruction. This instruction includes identifying goals of instruction, outlining instructional processes, incorporating the particular processes into the given instruction, assessing the effectiveness of what’s being taught, and using data to make necessary adjustments to the curriculum. Having accurate data and using it to make decisions about a child’s instruction has been recognized as a major factor in a school’s winning due process cases involving specific methodologies used with students (Iovannone et al., 2003).

Another important aspect of methodical instruction is a high level of engagement with students. Some proven methods of engaging students are such things as timely delivery, shaping, fading, and self-management skills (Iovannone et al., 2003). These strategies, along with others,
have been proven to be effective in improving the rate of development of new skills along with the maintenance and generalization of already learned skills (Harrower & Dunlap, 2001). Many intervention strategies such as social stories combine several of these methods in order to reach the student with ASD on many levels.

Although the third element, structured environments, is important for students with ASD, there is not consistency in how structure is defined. A recognizable definition of structure is when parts of the curriculum including the schedule, setting, and planned lessons are understandable to both the students and the staff that work with them (Iovannone et al., 2003). A classroom for students with ASD should also be arranged in such a way as to aid the development of particular skills such as language attainment or social skill acquisition (Hurth, Shaw, Izeman, Whaley & Rogers, 1999).

A school counselor could help with an ASD child’s structured environment by consulting regularly with their classroom teachers and case managers in order to gather information on personal, social, and academic issues they’re having problems with and creating interventions accordingly. If there are several students with similar issues or skills that need to be acquired, a school counselor could create a group to help ASD students with their issues or problems.

Priming is an important method to use in structured environments and is used a great deal in social story interventions. Priming is an exercise in which a child previews an activity that typically triggers certain behaviors and predicts what will happen before the event actually occurs (Iovannone et al., 2003). This exercise is very beneficial for students in that it helps them to make sense of the situation and review appropriate ways to act before the situation actually happens. This helps them to be more comfortable with what’s expected of them.
Structured environments help students to improve upon their competencies such as social skills or self-mastery. They also help to improve a student’s understanding of necessary skills and clarify what is happening in their school atmosphere. The level of environmental support will range from the least amount of support (e.g. review of daily homework) to a larger amount (defining boundaries, sub-schedules), depending on the individual needs of the student (Iovannone et al., 2003).

Another important element of an effective educational intervention program is curriculum content that is child-specific. However, specialized curriculum also needs to incorporate specialized instruction in necessary areas such as communication and social relations (Iovannone et al., 2003). How the lessons are being taught to the child also needs to be individualized and based on an assessment of the ASD child’s specific needs.

In addition to these considerations, it is important for educational personnel to consider how functional the skills are that are being taught in the curriculum. The focus of the skills taught should be on those that help a student become more independent and boost their abilities to control their environments, thereby increasing their qualities of life (Dunlap & Robbins, 1991). A good test of how functional the skill is for the student is if by not learning this skill, they will need help in order to perform it.

Therefore, it would be beneficial to both educators and students with autism spectrum disorders to incorporate communication and social interaction skills into the content curriculum in addition to any other specific skills that each student needs. A school counselor is uniquely qualified to help these students attain much needed skills by being trained to disaggregate data in order to highlight areas where groups of students are having trouble.
With this specific information, school counselors can help teachers and case managers plan interventions to help all students succeed in various areas as well as helping meet the individual needs of underserved, underrepresented, and underperforming students (ASCA, 2005). Learning specific skills provide ASD students with the greatest control over their environments, leading to higher self-efficacy (Iovannone et al., 2003). It is crucial for educational personnel to furnish students with ASD supports and services at the necessary level for them to acquire these important skills. It is important for the school counselor to be considered one of the supports for students with ASD.

The fifth necessary component of an effective intervention program for ASD students is a practical approach to challenging behaviors. Children with autism spectrum disorders present notable challenges to schools and parents with regard to their behaviors (Iovannone et al., 2003). Empirical research suggests that for educational interventions to be successful in modifying problem behaviors, a positive, proactive approach must be promoted (National Research Council [NRC], 2001). That is to say that a child’s problem behavior is not just discontinued, but is replaced with another behavior that results in a comparable reinforcement.

Until the mid-1980’s, problem behaviors were dealt with by reinforcing the lack of the target behavior, reinforcing additional behaviors, or penalizing students when they displayed problem behaviors (Iovannone et al., 2003). Starting in the late 1980’s, researchers began understanding that problem behaviors were a form of communication for students with autism spectrum disorders and that a change was needed in dealing with these students and their behaviors. This realization led to the development of interventions that focused on the growth of socially relevant behaviors that could help students achieve the same results as the targeted behavior (Carr, 1977; Iwata, Dorsey, Slifer, Bauman, & Richman, 1982).
Positive Behavior Support (PBS) developed as a result of years of research about ASD children, their challenging behaviors, and how to deal with them appropriately. PBS is a scientific approach that uses functional behavioral assessment of a student’s behaviors in order to construct an individualized support plan that is formed from the ability of school personnel to grasp the purpose of the child’s challenging behaviors (Iovannone et al., 2003). Functional behavioral assessment (FBA) is a method for recognizing specific variables that help to foresee problem behaviors that children with ASD exhibit (Horner & Carr, 1997). These behaviors are predicted through data that is gathered through either direct or indirect means.

Students’ behavior support plans usually include multiple interventions that help prevent challenging behaviors from occurring, providing accurate alternative behaviors, and altering the way people respond to both inappropriate and appropriate behaviors (Iovannone et al., 2003). These goals of a student’s behavior support plan support the two main goals of PBS: (a) diversifying a student’s existing behaviors and (b) modifying the learning environment in order to enhance a student’s quality of life (Carr, Horner, Turnbull, Marquis, Magito-Mclaughlin, McAfee, et al., 1999).

School counselors help with all students’ behaviors in a preventive manner through guidance classroom lessons on such topics as self-control, conflict resolutions, and respect for self and others. A school counselor helps on a smaller scale by offering groups that focus on learning skills such as how to deal with anger, as well as offering friendship groups that help students learn how to make and keep friends, which can be a frustrating factor in the classroom for students with ASD. On an individual scale, a school counselor can communicate regularly with ASD students’ case managers in order to help provide support to the ASD student in order to help fulfill their behavior support plan. There has been a number of research studies over the
past decade or so that validate the effectiveness of PBS in addressing the challenging behaviors of students with autism spectrum disorders (Carr et al., 1999; Horner et al., 1990; L. K. Koegel et al., 1996; National Research Council [NRC], 2001). By helping to follow a student’s behavior support plan, a school counselor can work with a student’s teachers and case managers in order to ensure that everybody is doing their part to help the student with ASD succeed.

The last important element of an effective educational intervention program for students with autism spectrum disorders is the inclusion of family members in the development of the child’s intervention plan. This is because a child’s family is the most impactful and influential force in their lives (Dunlap, 1999). Due to the universal nature of autism and its impact on a student’s home and school environments, it’s extremely important to include parents as partners in helping to develop a child’s educational intervention plan (Dunlap & Fox, 2002).

A significant deficit that children with ASD have is their ability to generalize and maintain behaviors across multiple settings and with a multitude of people. Parents as collaborative partners can be a huge asset to the effectiveness of ASD interventions by using the necessary strategies in their home settings (Iovannone et al., 2003). Even though it is extremely important to always include parents in the intervention process, it has also been mandated by IDEA that their role in the educational process increase in order to enhance an intervention strategy program’s success (Yell & Shriner, 1997). Educational strategies have a better chance of success if they are carried out across many different environments, making parental involvement very important. It is critical that school personnel teach an ASD child’s family how to properly implement particular strategies within the home environment.

The school counselor is important in helping to connect families with the school. School counselors can help support the special education departments by offering family nights in which
educational strategies are taught to parents of ASD students in order to ensure the implementation of the strategies across multiple settings. It is important for educators to consider a family’s attributes along with their particular circumstances in order to help decide on appropriate levels of support for their children with autism spectrum disorders (Iovannone et al., 2003). By a school counselor keeping parents connected with support staff at their ASD child’s school, there is an increased chance of success for the student.

It is important for schools and school personnel to determine the unique characteristics of each ASD child and coordinate suitable educational interventions that will ensure student progress. Because of this, educators should encompass strategies that use a variety of empirically validated core components that have been proven effective in helping students with autism spectrum disorders acquire much needed skills. Social Stories is one of the intervention strategies that not only incorporates a number of the core elements of an effective intervention program, but it also uses data in order to help make the supports and services offered to an ASD child very personalized to their specific needs.

**Conclusion**

In characterizing social stories, Gray (2003) has expressed that:

A social story is a *process* that results in a *product* for a person with autism spectrum disorder (ASD). First, as a process, a social story requires consideration of- and respect for- the person with ASD. As a product, a social story is a short story- defined by specific characteristics- that describes a situation, concept, or social skill using a format that is meaningful for people with ASD. The result is often renewed sensitivity of others to the experience of the person with ASD, and an improvement in the response of the person with ASD (p.1).
This description of a social story accurately depicts how it can be such an important intervention for children and adolescents with autism spectrum disorders. However, the research that has been conducted on it suggests that its effects are highly variable (Reynhout & Carter, 2006).

There are many appealing factors for social stories including the fact that they’re relatively easy to implement, cost-effective, and applicable to many different ages and levels of ASD (Reynhout & Carter, 2006). For these reasons and many others, social stories have become extremely popular and encouraged in the literature (eg. Backman & Pilebro, 1999; Chapman & Trowbridge, 2000; Rowe, 1999; Simpson & Myles, 1998). Regretfully, however, an intervention’s popularity does not always indicate its’ efficacy, and there are many gaps in the literature.

**Gaps in the literature**

According to a review of 10 research studies on social story interventions done by Kuoch and Mirenda (2003), there are several limitations on these studies. Some of these limitations include the non-adaptation of the stories with specific guidelines, faulty and flimsy research designs, and additional interventions that were employed along with social stories that muddle the particular effects of social story interventions.

Multiple studies involving social stories have neglected to conform to particular guidelines created by Gray and Garand (Kuoch & Mirenda, 2003). Although many of the studies do not follow the exact guidelines put in place by Gray and Garand, there is no direct evidence that this impacted the results of the studies in either a positive or negative way (Kuoch & Mirenda, 2003). There is, however, some preliminary evidence that the amount of consequence sentences present in a social story might affect the intervention’s efficacy positively. This could be due to the fact that strategies that incorporate the use of systematic reinforcement have been
recognized as one of the most important interventions in special education to facilitate behavior changes in students with autism spectrum disorders (Reynhout & Carter, 2003). In fact, close to 90% of the social stories examined so far in the studies have depicted consequences of a student’s actions, suggesting that the role of this type of sentence is more important than what Gray (2003) previously suggested. Therefore, there is some early indication that particular sentence types in social story interventions do have an impact on a story’s efficacy, although it might not be in the way that Gray (2003) foretold.

There is much confusion in the world of research as to the efficacy of social stories as an intervention strategy due to the fact that in many existing studies, social stories are combined with other empirically validated intervention strategies such as prompting and reinforcement (Reynhout & Carter, 2003). With the addition of these other strategies used along with social stories, it’s hard to discover which of the strategies used is the critical component, or if a combination of all of the strategies is what gives the intervention its’ efficacy (Reynhout & Carter, 2003). The importance of this issue, along with others, in terms of a social story’s effectiveness as an intervention, necessitates further inquiry.

**Recommendations for future studies**

While there are a multitude of issues that should be dealt with in future research regarding social story interventions, there are a few that stand out as being particularly important to address. The first issue involves social story techniques that need to be attended to in the future. In many studies, there are very few detailed descriptions of the participants used. This includes the lack of such comprehensive information as a participant’s standardized test scores, cognitive abilities, position on the autism spectrum, and language level (Reynhout & Carter,
Without such detailed information about participants, it’s highly unlikely that adequate replications of research studies will occur.

In addition to a participant’s vital characteristics, most studies have used children and adolescents with ASD who do not fit the profile of what Gray and Garand (1993) have suggested would be suitable for the social story intervention to be effective. They suggest that a student needs to be “trainable” and possess “basic language skills” (Gray & Garand, 1993). However, many of the children and adolescents who were used in the studies did not have these basic characteristics. Thus, the relevance of this intervention with these particular students with ASD and intellectual disabilities needs to be studied further.

Along these same lines, there’s very little research done on social story interventions and its’ potential for use with students who don’t have ASD but lack many social skills (Reynhout & Carter, 2006). When Gray and Garand (1993) developed social stories as an intervention strategy, they felt like they would be extremely effective with students that fall somewhere on the autism spectrum. However, the strategies used in this type of intervention could be very beneficial to other students, as well.

Since the main goal of a school counselor is to help support the school’s academic mission, it would be helpful to students who may not be on the spectrum but still need help with social skills if the school counselor could incorporate social stories into his or her guidance lessons to help teach them much needed skills (ASCA, 2005). Social stories are a good way to teach skills to students in a non-threatening way that will help them to understand appropriate and inappropriate ways to act in various situations. School counselor-led groups could also benefit from social stories that help to teach mainstream students skills that they may not be familiar with, such as how to make and keep friends or how to be more assertive. Therefore, it
would be very useful to conduct future studies on students that may not be on the autism spectrum but could still benefit from these particular strategies.

Finally, there are many questions regarding whether the structure of social stories provides so much variability in its’ effectiveness reported in research studies (Reynhout & Carter, 2006). Future research studies need to look at whether Gray’s recommended story structure impacts outcome as well as whether specific sentence types help to determine a story’s effectiveness. Since the recommended story construction and sentence types are not based on empirical research (Kuoeh & Mirenda, 2003), this particular issue should be considered vital to future research.

Overall, most of the research studies on social stories contribute further evidence towards the effectiveness of these interventions for children and adolescents with autism spectrum disorders. Future findings will, hopefully, help people be able to use this promising tool more effectively in order to help children and adolescents with ASD improve their quality of life. After all, that’s what the goal of any intervention should be.
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