Social Stories™ for Individuals with Autism Spectrum Disorders:

A Meta Synthesis

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Submitted in partial fulfillment of the requirements of the Master of Education in Special

Education degree at the University of Alaska Southeast

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Abstract

Throughout the last decade, the popularity of Social Stories™ by Carol Gray (or if deviated from Gray's story prescriptions, social stories) to help decrease challenging behaviors and to increase positive social skills has risen. This strategy has been used primarily for individuals under the umbrella of Autism Spectrum Disorder. Despite the widespread approval by teachers, many limitations affect the validity of the Social Story™ or social story intervention and what skills people (i.e. receptive and expressive language, reading skills, cognitive abilities) need in order for this approach to be successful. Further research is needed in order to solidify the findings from several research studies. This meta-synthesis of the literature on Social Stories™ and/ social stories examines the effectiveness of this type of intervention for individuals on the Autism Spectrum.

SOCIAL STORIES™ FOR INDIVIDUALS WITH ASD

Introduction

1.1 Background

Autism Spectrum Disorder are three words that represent the one of the fastest growing disability in the United States. Three words that do not discriminate in the areas of racial, ethnic, and socioeconomic factors. Three words that can spark a series of debates over the definition, the diagnosis, and the educational practices used to help individuals affected.

According to the *Center of Disease Control website* (March 20, 2014)*,* the *CDC* speculates that about "1 in 68 children have been identified with autism spectrum disorder (ASD)"(para 13). The only item that Autism discriminates against is gender. ASD is "almost five times more common among boys than girls" (*CDC,* March 20, 2014, para 13). Unlike other disability categories such as Traumatic Brain Injury, Autism's etiology is still a mystery. Though there is a large amount of speculation about the development of ASD, the cause still remains unknown.

Also, unlike other disability categories, ASD prevalence has risen dramatically over the last couple decades. The *Autism and Developmental Disabilities Monitoring Network (ADDM*) have gathered information of children who are 8 years old from 11 communities across the United States. They have collected health and special education data from the children in this community, and have given estimates on how many children are identified with ASD. According to the *Autism and Developmental Disabilities Monitoring Network (ADDM)*, the "estimated prevalence of ASD has increased roughly 29% since 2008, 64% since 2006, and 123% since 2002"(*CDC,* April 9, 2014, para 3).

With an enormous increase of the prevalence of this disability, more theories and speculations continue to develop throughout the years. The diagnosis of ASD can lead into

passionate beliefs into particular teaching philosophies, ranging from a direct instruction,

behaviorist models to a relationship based, constructivist approach. These philosophies pop in

and out of popularity. Applied Behavior Analysis can be widespread in a school district for a

few years, and then replaced by DIR-Floortime viewpoints.

As cited in Ryan, Hughes, Katsiyannis, McDaniel, and Sprinkle's article (2011), Autism is

"a disorder that adversely affects a child's communication, socialization, and interests prior to

age 3, with the average onset of at 15 months"(Hutton & Caron, 2005, 56). The severity of this

exceptionality can manifest itself differently in each individual. Autism separates itself from

other disorders because "the term refers to a spectrum or multiple types of similarly related

disorders"(Ryan et al., 2011, 56). This can range from students with high or normal intelligence

and great communication skills to students with a cognitive impairment with limited

communication.

Autism is a category that has gone through several definitions in the last several decades. It

has gone from a stand-alone category to have separated divisions including Asperger's

Syndrome, childhood disintegrative disorder and Pervasive Developmental Delay: Not

Otherwise Specified (PDD: NOS). Now, the divisions have been classified under the term,

Autism Spectrum Disorder that included the previous divisions listed. As more research is

gleaned on Autism, the diagnostic roller coaster will continue. The importance is Autism

Spectrum Disorders is that the disability involves a wide range of manifestations.

ASD will never be stagnant. This cause, definition, and diagnosis of Autism will continue to

morph as years continue. With new ideas and an increase in research, teaching trends for

students with ASD will also change. Popular trends in teaching students with Autism can change

significantly from years to years. Since I have been in special education field the past 5 years, numerous educational practices have been toted "as the best" for students on the Autism Spectrum Disorder. These practices have been in all educational areas, including social skills.

One of the defining characteristics for Autism is a deficit in social communication and interaction. The DSM-5 states that one of the diagnostic criteria in order for an individual to qualify for ASD is "persistent deficit in social communication and social interaction across multiple contexts…"(*Autisms Speaks Inc.,* 2014, para 10). This is not just being rude once or twice to a friend, but a constant struggle to read the intentions of others and communicating effectively throughout environments. The person's social skills must also cause "clinically significant impairment in social, occupational or other important areas of current functioning" (*Autism Speaks Inc.,* 2014, para22).   Explicit social skill interaction must be implemented through natural settings (working or playing with other kids) and through pre-teaching and repetitions.

One of the specific programs for teaching pro-social behaviors is Social Stories™, which was brought into popularity by Carol Gray in the 1990's. Social Stories™ are focused around strictly improving social skills behaviors. Since the Social Story™ was started in 1991, this strategy has developed and changed throughout the year. Carol Gray and her team at Future Horizons, Inc. have developed this intervention throughout the years, and have continued to bring new strategies to their products.

Social Stories™ use the direct instruction approach with visuals and in a story format about the student. She developed this form of social instruction nearly 24 years ago in the 1990's when she was working as a consultant in Michigan. In her book, *The New Social Story Book*, Carol

wrote about how she was influenced by two students, Eric and Tim. She had a conversation with Eric as he was exiting his high school program and as she states "it caused me to see things from a far more accurate perspective; it was a paradigm shift" (v). This conversation helped her develop a social story for Tim, who was about to enter into kindergarten.

Social Stories™ are described as "personalized stories that systematically describe a situation, skill or concept in terms of relevant social cues, perspectives, and common responses, modeling and providing a socially accepted behavior option" (Ryan et al., 2011, 59). Carol Gray uses a different definition for her product. Carol Gray describes a Social Story™ in her 10th Anniversary edition of *The New Social Story Book* as "a situation skill or concept according to ten defining criteria. These criteria guide Story development to ensure an overall patient and supportive quality, and a format, "voice", and relevant content that is descriptive, meaningful, and physically, socially and emotionally safe for the Audience. The criteria define what a Social Story is, and the process that researches, writes, and illustrates it" (2010, xxv).

Originally, Social Stories™ were thought of as a social skill intervention, but have also taught adaptive behaviors and classroom routines for individuals with Autism Spectrum Disorders. Though Social Stories™ have been used for a wide range of purposed, this intervention has demonstrated efficacy in "increased levels of pro-social behaviors"(Ryan et al., 2011, 59). Social Stories™ The ages that have had the most success with this have been around the ages of 2-12 years.

As stated on Carol Grey's website, *The Grey Center for Social Learning and Understanding* (n.d.)*,* the goal of a Social Story™ is "to share accurate social information in a patient and reassuring manner that is easily understood by its audience (para 2).   The stories are written in a

language that can easily be understood by the person with ASD. If it's a child with Autism, then the story is written in a kid-friendly, age appropriate way. If the story were designed for a teenager, then the story would have current jargon that fits the adolescent.

These stories do not have large time requirements, it is just writing the story based on Gray's requirements. Gray's books feature pre-made stories, as well as her 10th anniversary edition features a disc that you can edit to individualize the given situation for the unique needs and voice of the person that the Social Story™ is for. The implementation is also easy, since the individual before a challenging situation can read it to or. Though the criteria has changed through the process of over 20 years of development. The criteria is involves 10 different parts, or as Gray calls in the 10th Anniversary edition as the 10.1 criteria. Each criteria set is broken down in a user-friendly format, such as "1) One Goal, 2) Two-Part Discovery, 3) Three Parts and a Title, 4) Four-mat, 5) Five Factors Define Voice and Vocabulary, 6) Six Questions Guides Story Development, 7) Seven Types of Sentences, 8) A Gr-eight Formula, 9) Nine Makes it Mine, and 10. Ten Guides to Editing and Implementation"(Gray, 2010, xxvi).

Other parties have taken their own process with Social Stories™, and those are now known as "social stories" with the lowercase letters knowing that they do not fit the specific criteria outlined by Gray and her associates. These stories are not bound to the 10.1 criteria, but are still used to help individuals diagnosed with Autism. These stories may or may not use the visuals, the different types of sentences, or the specific format. These stories though are designed to help students learn pro-social behaviors in the areas of social skills and adaptive behaviors.

Though Social Story™ sounds like a sound intervention for a wide range of students, especially those diagnosed with Autism, what does the empirical evidence say about this intervention? Throughout Carol Gray's *The New Social Story Book*, I did not find studies or documentation that this strategy can be used throughout the ASD population. Though the author suggests that two students benefited from a specific Social Story™, she does not state large numbers that suggest that this prosocial technique can be used with more than a couple children or what population of ASD students are most likely to benefit from a Social Story™.

1.2. Author's Experience and Beliefs

Like Carol Gray and other individuals associated with teaching students with Autism, I am fascinated by social skill development. There is nothing in this world that gives me more pleasure than teaching social skills to students with Autism. Reading, writing, and math are subjects that I also enjoy teaching, but teaching students how to form and maintain successful peer and teacher relationships is life changing. I believe that all children regardless of disability desire a positive social experience with peers and teachers at school, and without proper tools in their social tool belt this can be challenging. Teaching children social skills directly impacts their life at school, at home, and in the community.

I had first been exposed to the idea of social stories during my time at Eastern Michigan University in class for behavior management. I liked the concept of writing it for specific students on their IEP goals, and it was very visually appealing with graphics and pictures. I developed a Social Story™ for a hypothetical student using Carol Gray's format, and was excited for the day that I could use this teaching approach for a student on my own caseload.

I moved to Juneau for my first teaching job, and had a diverse caseload that let me use the different teaching techniques I had learned in college. I began using Social Stories™ my first year of teaching with a student diagnosed on the Autism Spectrum. This child had some of the most challenging behaviors that I had come into contact with. I wrote a social skill story for him about keeping his shoes on his feet, and it was successful for him. He loved the pictures and through the course of the month he kept his shoes on for the entirety of his kindergarten day. I felt that I had discovered a magic bullet for curing all my students' social needs.

I tried in the following year with another student also diagnosed with ASD. He was struggling with finishing his writing projects. He would start by writing his name, but then would get frustrated by using invented spelling and would loudly refuse to finish his work. I thought this was going to be an easy fix. I was going to write him a Social Story™ and voila, no more problems with writing. However, the Social Story™ was not meaningful for the student nor did his pictures inspire him. The Social Story™ was thrown across the classroom for a week, before I lamented and used a Token Board with a visual timer.

In the five years I have taught special education, I have used Social Stories™ with a number of my students. Some of my students were motivated with this method, while others where not. I have had a lot of questions about this through the years for why it worked for some, and not for others.

Purpose of this meta-synthesis

I have three purposes for this meta-synthesis on Social Stories™. The first intention was to uncover what the research says about this method for teaching social skills to students with ASD. In my teaching profession, I have used this method with mixed results. I have used them with

students that had great success, while other students did not express any social skills gains with this method.

My second purpose for this meta-synthesis is to what key components in a Social Story™ make it effective or ineffective. Social Stories™ are made up of a variety of sentence formation to teach a situation, skill or concept. In order to see "the make or break" of this strategy, I would be able to know the areas essential or detrimental to the success of Social Stories™.

Lastly, my third purpose is to review the research on using Social Stories™ solely versus combining Social Stories™ with other research-based programs or techniques. Social Stories use a story to be read to or by the student to rehearse a skill, behavior or concept in certain scenarios. Other social skill programs used other approaches to practice or teach associated skills.   I am interested to see if Social Stories™ are more effective by itself or when it is combined with other best practices for individuals with ASD.

2.1 Selection Criteria

In this metasynthesis, I selected articles from quantitative, qualitative and mixed methods research study backgrounds. I have chosen these three types of articles to explore the different facets of Social Stories. I wanted to provide a large scope of research articles on this topic to see Social Stories from an individualized approach (quantitative) to a larger scale (qualitative and/or mixed methods).   No theoretical or guide articles were used in this metasynthesis, since they are based on one individual's or a group of individual's opinion on a certain matter.
The journal articles included in this metasynthesis met the following selection criteria:

1. The articles dealt with Autism Spectrum Disorders (including Autism, Autistic Disorder, Pervasive Developmental Disorder: Not Otherwise Specified, Asperger's Syndrome,

and/or Autism). Related disabilities included Prader-Willi Syndrome. Comorbid

disorders involved cognitive impairment or intellectual disability, learning disability,

ADHD, and hyperlexia.

2. The articles dealt with Social Stories associated with Carol Gray.

3. The articles focused on individuals with Autism.

4. The articles were peer-reviewed.

5. The articles were published between 2004 and 2013.

2.2. Search Procedures

I conducted database searches and ancestral searches to locate articles for this metasynthesis

on Social Stories for children and/or adults under the diagnosis of Autism Spectrum Disorders.

The main database that I used for my query was the Education Resources Information Center

(ERIC, Ebscohost). I used the following search term combinations to find all my search terms,

which included:

1. ("Social Stories [TM]")

2. ("autism" AND "visuals" AND "social skills in children")

3. ("social skill instruction" AND "autism" AND "young children")

4. ("social skills in children" AND "high-functioning autism")

5. ("best practices" AND "autism" AND "social stories")

6. ("carol gray" AND "autism")

These database searches produced a total of 35 articles (Adams, Gouvousis, VanLue, &

Waldron, 2004; Beh-Pajooh, Ahmadi, Shokoohi-Yekta, &Askgary, 2011; Bernard-Ripoll, 2007;

Chan & O'Reilly, 2008; Chan, O'Reilly, Lang, Boutot, White, Pierce & Baker, 2011; Crozier &

Tincani, 2005; Crozier & Tincani, 2007; Delano & Snell, 2006; Hanley-Hochdorfer, Bray, Kehle, & Elinoff, 2010; Huang & Wheeler, 2006; Iskander & Rosales, 2013; Kokina & Kern, 2010; Machalicek, O'Reilly, Beretvas, Sigafoos, & Lancioni, 2006; Mancil, Haydon, & Whitely, 2009: More, 2008, O'Conner, 2009; Okada, Ohtake, & Yanagihara, 2008; Okada, Ohtake, & Yanagihara, 2010; Ozdemir, 2008; Quilty, 2007; Quirmbach, Lincoln, Feinberg-Gizzo, Ingersoll, & Andrews, 2008; Reichow & Sabornie, 2009; Reynhout & Carter, 2006; Reynhout & Carter, 2008; Reynhout & Carter, 2009; Ryan, Hughes, Katsiyannis, McDaniel, & Sprinkle, 2011; Samuaels & Stansfield, 2011; Sansosti, Powell-Smith, & Kincaid, 2004; Scattone, 2008; Scattone, Tingstrom, & Wilczynski, 2006; Soenksen & Alper, 2006; Styles, 2011; Tarnai, 2011; Test, Richter, Knight, & Spooner, 2011; Wang & Spillane, 2009; Xin & Sutman, 2011).

2.2.1. Database searches

I conducted systematic database searches to collect the needed articles for my metasynthesis. The main vehicle for my database search was Education Resources Information Center (ERIC, EBSCOhost). ERIC provided a variety of articles that fit the requirements of my metasynthesis.

2.2.2 Ancestral searches

An ancestral search entails reviewing the reference lists of found articles to look for connected published works. I looked over the reference lists that were connected to my database searches on ERIC and Ebscohost. These articles also did fit the requirements previously stated in 2.2 Search Procedures.

2.3 Coding Procedures

I used the following measures to code my articles a) publication type, b) research design, c) participants, d) data sources, and e) findings. I organized the articles based on this specific coding procedure.

<u>Publication Type</u>

<u>Research Design</u>

<u>Participants</u>

<u>Data Sources</u>

<u>Findings</u>

2.3.1. Publication Types

The following publication types are featured in varieties of metasynthesis: research study, theoretical work, descriptive work, opinion piece/position paper, guide, annotated bibliography, and review of the literature. First, a research study is an investigation using data to see the correlation between two or more options. A research study will have an abstract that includes the researches, the participants, and the rationale behind the study. A research study can be quantitative (including statistics and a hypothesis), qualitative (looking at what people have done in the past and bringing up questions about their research or their life events), and mixed methods (a combination of quantitative and qualitative).

Secondly, a theoretical work deals with a speculation by the author. This form of publication type entails the author or authors writing a summary of the findings of others. Additionally, a descriptive work goes into great detail about a certain theory or practice. Another publication type is an opinion piece/position paper. This type is about one person or group's perspective of an issue or an idea.

A guide is a publication type that gives advice about strategies, but does not have a research study attached to it.   The sixth publication type is an annotated bibliography. This is a summary of finding that gives detailed accounts of the variety of sources using in the annotated bibliography. The final publication type is a review of the literature. This articles pulls different sources together, finds similarities, and gives an overarching conclusion based on the different sources.

2.3.2. Research Design

There are three areas of research designs: quantitative, qualitative, and mixed methods research. This triad explains how the authors of the given studies approach their study. I have organized the research studies by the following classifications. First, quantitative research involves collecting data to calculate the prevalence of an ordeal and to see how often it occurs in a larger group of people. This form of research uses raw numbers associated with surveys, audits, and other data collected sources. Secondly, qualitative research explores the problem through narratives from personal experience. This form of research uses case studies, focus groups, etc. Last of all, mixed-method research is a combination of both qualitative and quantitative in a singular study.

2.3.3. Participants, data sources, and findings

The participants, data sources, and findings are represented in Table 2. I identified the participants in each of the studies (e.g. the gender, the age ranges, reading abilities and diagnoses of Autism Spectrum Disorder and other associated disorders (Asperger's Syndrome, High-Functioning Autism, Autistic Disorder Pervasive Developmental Disorder-Not Otherwise Specified, Mild or Moderate Cognitive Impairment, Attention Deficit-Hyperactivity Disorder,

Hyperlexia). Data sources were also collected for each of the studies (e.g. classroom

observations through in-person observations, video tape recording and criterion based

assessment on task analysis steps, questionnaires, and different forms of data collections: event

recording, frequency count, etc.). In conclusion, I abridged the results of the given studies with

the various limitations and ideas for further research.

2.4. Data Analysis

I used a modified version of the Stevick-Colaizzi-Keen method previously employed by

Duke (2011) and Duke and Ward (2009) to analyze these 35 articles that I included in this

metasynthesis. Initially, I identified significant statements with each article. These significant

statements addressed issues in connection to: (a) the effectiveness or ineffectiveness of the

Social Stories™ or social stories; (b) have individuals with diagnoses of Autism Spectrum

Disorder (Asperger's Syndrome, PDD-NOS, etc.); (c) the impact of different sentence parts in

relation to Carole Gray's parameters; (d) various language skills represented by the participants;

e) varying reading and cognitive abilities in the individuals being assessed. After I identified the

articles based on these statements, I developed a list of these significant statements with

formulated meanings. These formulated meanings showcase my understanding of each

significant statement.   In conclusion, I gathered the formulated meanings from all 35 articles in

theme clusters or emergent themes. These emergent themes embody the substance of the

literature (Table 3).

3. Results

I located 35 articles that met my selection criteria. The publication type of each article is

described in Table 1. In my meta synthesis, 18 out of the 35 articles (51%) were research studies

SOCIAL STORIES™ FOR INDIVIDUALS WITH ASD

(Beh-Pajooh, Ahmadi, Shokoohi-Yekta, & Askgary, 2011; Bernard-Ripoll, 2007; Chan &

O'Reilly, 2008; Chan, O'Reilly, Lang, Boutot, White, Pierce & Baker, 2011; Crozier & Tincani,

2005; Crozier & Tincani, 2007; Delano & Snell, 2006; Hanley-Hochdorfer, Bray, Kehle &

Elinoff, 2010; Iskander & Rosales, 2013; Mancil, Haydon, & Whitely, 2009; Okada, Ohtake, &

Yanagihara, 2008; Okada, Ohtake, & Yanagihara, 2010; Quilty, 2007; Reichow & Sabornie,

2009; Reynhout & Carter, 2008; Scattone, 2008; Scattone, Tingstrom, & Wilczynski, 2006;

Soenksen & Alper, 2006).

There were 6 mixed methods articles (17%) in the meta-synthesis (Adams, Gouvousis,

VanLue, & Waldron, 2004; Ozdemir, 2008; Quirmbach, Lincoln, Feinberg-Gizzo, Ingersoll, &

Andrews, 2008; Reynhout & Carter, 2009; Samuaels & Stansfield, 2011; Tarnai, 2011). Five out

of the 35 articles (14%) were review of literature articles (Huang & Wheeler, 2006; Machalicek,

O'Reilly, Beretvas, Sigafoos, & Lancioni, 2006; Reynhout & Carter, 2006; Samuaels &

Stansfield, 2011; Test, Richter, Knight, & Spooner, 2011). Two meta-analyses (6%) where also

included in my meta-analysis (Kokina & Kern, 2010; Wang & Spillane, 2009). Two out of the

35 (6%) articles where descriptive (More, 2008; Wang & Spillane, 2009). Lastly, one research

synthesis (2%)(Sansosti, Powell-Smith, & Kincaid, 2004), one case study (O'Connor,

2009)(2%), and one guide (2%)((Xin & Sutman, 2011) made up the remaining 35 articles.

Table 1

Author(s) & Year of Publication	Publication Type
Adams, Gouvousis, VanLue, & Waldron, 2004	Mixed Methods (Case Study and Research Study)

SOCIAL STORIES™ FOR INDIVIDUALS WITH ASD

Beh-Pajooh, Ahmadi, Shokoohi-Yekta, & Askgary, 2011	Research Study
Bernard-Ripoll, 2007	Research Study
Chan & O'Reilly, 2008	Research Study
Chan, O'Reilly, Lang, Boutot, White, Pierce & Baker, 2011	Research Study
Crozier & Tincani, 2005	Research Study
Crozier & Tincani, 2007	Research Study
Delano & Snell, 2006	Research Study
Hanley-Hochdorfer, Bray, Kehle & Elinoff, 2010	Research Study
Huang & Wheeler, 2006	Review of Literature
Iskander & Rosales, 2013	Research Study
Kokina & Kern, 2010	Meta-Analysis
Machalicek, O'Reilly, Beretvas, Sigafoos, & Lancioni, 2006	Review of Literature
Mancil, Haydon, & Whitely, 2009	Research Study
More, 2008	Descriptive Article
O'Connor, 2009	Case Study
Okada, Ohtake, & Yanagihara, 2008	Research Study
Okada, Ohtake, & Yanagihara, 2010	Research Study
Ozdemir, 2008	Mixed Methods (Case Studies and Research Study)
Quilty, 2007	Research Study
Quirmbach, Lincoln, Feinberg-Gizzo, Ingersoll, & Andrews, 2008	Mixed Methods (Review of Literature and Research Study)
Reichow & Sabornie, 2009	Research Study
Reynhout & Carter, 2006	Review of Literature
Reynhout & Carter, 2008	Research Study
Reynhout & Carter, 2009	Mixed Methods (Literature Review and Questionnaire Review)
Ryan, Hughes, Katsiyannis, McDaniel, & Sprinkle, 2011	Descriptive Article
Samuaels & Stansfield, 2011	Mixed Methods (Literature Review and Research Study)
Sansosti, Powell-Smith, & Kincaid, 2004	Research Synthesis
Scattone, 2008	Research Study
Scattone, Tingstrom, & Wilczynski, 2006	Research Study
Soenksen & Alper, 2006	Research Study
Styles, 2011	Review of Literature
Tarnai, 2011	Mixed Methods (Literature Review and Research Study)
Test, Richter, Knight, & Spooner, 2011	Review of Literature

Wang & Spillane, 2009	Meta-Analysis
Xin & Sutman, 2011	Guide

3.2. Research design, participants, data sources, and findings of the studies

In the 35 different articles, I found 25 articles (research study, mixed methods and a case study) that met my criteria. (Adams, Gouvousis, VanLue, & Waldron, 2004; Beh-Pajooh, Ahmadi, Shokoohi-Yekta, & Askgary, 2011; Bernard-Ripoll, 2007; Chan & O'Reilly, 2008; Chan, O'Reilly, Lang, Boutot, White, Pierce & Baker, 2011; Crozier & Tincani, 2005; Crozier & Tincani, 2007; Delano & Snell, 2006; Hanley-Hochdorfer, Bray, Kehle & Elinoff, 2010; Iskander & Rosales, 2013; Mancil, Haydon, & Whitely, 2009; O'Connor, 2009; Okada, Ohtake, & Yanagihara, 2008; Okada, Ohtake, & Yanagihara, 2010; Ozdemir, 2008; Quilty, 2007; Quirmbach, Lincoln, Feinberg-Gizzo, Ingersoll, & Andrews, 2008; Reichow & Sabornie, 2009; Reynhout & Carter, 2008; Reynhout & Carter, 2009; Samuaels & Stansfield, 2011; Scattone, 2008; Scattone, Tingstrom, & Wilczynski, 2006; Soenksen & Alper, 2006; Tarnai, 2011). The research design, participants, data sources, and findings of the studies are described in Table 2.

Table 2

Authors	Research Design	Participants	Data Sources	Findings
Adams, Gouvousis, VanLue, & Waldron, 2004	Mixed Methods (Case Study and Research Study)	One Caucasian boy named Peter who is 7-years-old. Peter was diagnosed with ASD by a pediatric neurologist. He was selected due to a friendship between his	A single Social Story™ was created to target four behaviors (crying, falling, hitting and screaming), and followed all Gray's methods with the exception of including four	The study showed a decrease in Peter's four behaviors when the intervention was administered, the surveys were also positive about the intervention.

| | | parents and researcher(s). Peter has difficulties in the areas of math and reading, motor delays, and social-emotional skills. | behaviors instead of a single behavior. Peter's relevant medical history and background information was given to the researchers. An ABAB research design with 4 phases and each phase had 12 homework sessions. The Social Story™ was read at home during the given intervals. Homework sessions were then recorded and given to researchers. Surveys were also given to Peter's parents and his elementary teacher to see how they felt about the intervention. | However, the results varied from the ABAB design. B1 (when the Social Story™ was first emphasized) the behaviors didn't decrease, but increased. However, many different factors may have contributed to the fact that they didn't decrease and parents getting used to the intervention. Behaviors did eventually decrease. The survey to his teacher also stated that the four behaviors did decrease in the classroom without any intervention at school. Parents also stated that Peter started to use his verbal skills to request for help rather than to express those behaviors related to frustration. Limitations to this study included differing and changing |

				parental styles towards homework, and their attitudes when Peter asked for help. Further research is needed to ensure that Social Stories™ are an effective intervention, such as how often the participants refer to the Social Story™ during and after the intervention, and to see how social stories do in a group treatment.
Beh-Pajooh, Ahmadi, Shokoohi-Yekta, & Askgary, 2011	Quantitative	Three boys between ages 8 and 9 years old, and all three attended a special school in Tehran, Iran and had one special education teacher. All three boys were identified with autism as stated by the researcher.	A social story (the study didn't state that they followed Gray's procedures) was used for a certain target behavior per the given student. Classroom observations were used. A multiple baseline was used to measure the effectiveness of the social story.	The study showed that social stories were successful in decreasing negative behaviors in for two students with autism. This occurred in the special education classroom. Two out of three students showed a reduction in challenging behaviors after the social story intervention. The researchers stated that the success of the

				intervention was tied to participant's traits. The student that did not show improvements with this behavior may be due to more severe deficits in social interaction, language and reading skills compared to the other students. Though the student did not show improvements, his teacher felt the intervention was positive. Some concerns associated with this study were the small number of participants and the lack of data after the intervention phase.
Bernard-Ripoll, 2007	Quantitative	A 9 year 8 months boy named Alan. He has a superior IQ score according to the Wechsler. He is diagnosed with Asperger's Syndrome.	Alan's targeted behavior was the recognition and identification of appropriate actions associated with each emotion. Social Stories™ following Gray's guidelines were used for the	The intervention was positive for Alan. He achieved 100% accuracy after the 11th session for recognizing emotions. There was a decrease around the 18th session, where he answered only

			target behaviors. Videotaped segments were also shown to Alan to show his behaviors in context. Videotaped observations were used through baseline, intervention and generalization phases over 27 observation sessions. Reinforcement was used, such as going to a favorite restaurant or eating a favorite food.	50% of the questions right. The reinforcement was successful in getting the student to state his feelings. The researchers felt that the videotaped segments shown to student may have elicited positive change more than the Social Story™. Limitations included the single subject design and short duration of the intervention. More research is needed to validate the results of the Social Stories™ and the videotaped segment with other individuals with ASD across ages, ability levels, and/or environments.
Chan & O'Reilly, 2008	Quantitative	Two kindergarten male students with autism were selected between the ages of 5 and 6. One was an Asian American boy,	Target behaviors were determined for both boys. One Social Story™ per target behavior was designed per each student. The Social	Both students showed increases in pro-social behaviors (one student was keeping an appropriate personal space distance and the

| | | and the other was a Caucasian boy. They had adequate language scores. | Stories™ were written with Gray's guidelines. The Social Stories™ were not just used in isolation, but used with comprehension questions and in a role-play. Data was collected using a frequency count for appropriate social initiations, inappropriate social interactions, and inappropriate vocalizations. One to three behaviors were recorded per student each observation session. Baseline, intervention, and then a follow up probes were used for data collection. | other was entering conversations with peers and teachers without blurting) and/or decreases in the inappropriate behaviors. The positive behavior changes were maintained over time (5-10 weeks). The intervention was found to be suitable since it didn't require a large amount of time and can be implemented in an inclusive setting. The Social Story™ alone may not be the lone contributing factor. The modeling and the role-play could have been helpful in the positive changes without the Social Story™ component. They also suggested that students without adequate verbal abilities might not benefit from Social Stories™. Future research is needed to see |

				the impact of Social Stories™ in isolation, in a group-delivered method, and increased teacher involvement. Limitations included the data not consistently going in an upward trend and to incorporate rate measures.
Chan, O'Reilly, Lang, Boutot, White, Pierce & Baker, 2011	Quantitative	Three boys were selected from a public elementary school. The boys (David, Lloyd, & Quentin) were all the same age (8-year olds) and the same race (Caucasian). David and Lloyd are diagnosed with mild/moderate autism on the Childhood Autism Rating Scale (CARS), while Quentin is diagnosed with severe autism according to the CARS.	Three Social Stories™ were created for the boys, and presented to the kids via Microsoft PowerPoint®. The Social Story™ for the given boy followed Gray's sentence structures (descriptive, perspective, and directive). Students looked at the given Social Stories™ on a PowerPoint® once per day. Multiple-baseline across participants design to see how the students reacted to the Social Stories™. Students were	Mild to moderate improvement success was shown with all three participants. Results were not stable among the three boys. Lloyd was the most consistent with low data points. Quentin showed some success at first, but the data points became lower after 6 sessions. One student, David, did show a consistent upward trend. Researchers questioned the timing of the Social Story™ and that it may increase over time. More research needed

			observed during 30 minute session, and target behavior was recorded every 10 seconds.	on different research designs, peer comparison data (to make sure we aren't holding kids with ASD to a higher standard than their typically developing peers), and to see if Social Stories™ are more effective when paired with other interventions.
Crozier & Tincani, 2005	Mixed Methods (Literature Review and Research Study)	Alex, an 8-year-old boy, diagnosed with Autism by his pediatrician. Alex, also, had emergent literacy skills according to the Analytical Reading Inventory (ARI). He also can sit and listen to a story with adult assistance.	Alex had talking out as his target behavior. A modified social story was used for the target behavior. The story was different than Gray's guidelines in the 3:5 ratio of directive to perspective sentences, shorter length, and the complexity of words decreased. An ABAC reversal design was used in study. This included baseline, intervention sessions, and maintenance probes. Event	Alex demonstrated a reduction of his talking out behaviors from 11.2 talk-outs per 30-minute observation session from the baseline data to zero talks out per 30-minute observation session from the maintenance probes. The teachers reported that the intervention was promising, and planned to use this intervention in the future. Researchers felt that this was an effective intervention.

			recoding was used to record data during the 30-minute observation session.	Further research is needed to see how long the 1st intervention session was needed to achievement mastery and to see if the social story plus the prompt is more effective than without the prompts. Two limitations were the ABAC reversal design and the single subject. The research suggests there can be flexibility in forming social stories, which is contrary to Gray's views. Further research is needed to see the value of adding gestural, written or other prompts in addition to social stories. Alternate treatment designs, different applications of this tool, fading out strategies, and the effect of reading skills were also discussed for

				further research for social stories.
Crozier & Tincani, 2007	Quantitative	Three boys diagnosed with Autism Spectrum Disorder and are all in integrated preschools with parents from a middle-class background. Thomas and Daniel are both 3-year old- 9 months. James is 5-years old and 1 month. Both boys showed delays in cognitive and adaptive skills, however, Thomas had been attending a discrete trial home program for approximately 20 h per week. James did not participate in this home program.	Target behaviors were identified for each of the children. Social Stories™ were written according to Gray's guidelines and sentence ration. Duration recording was used for Thomas. Even recoding was used for Daniel and James. Classroom observations were used for data collection. All observations had 10 minute sessions and between 26-28 meetings.	Daniel and Thomas had success with the Social Story™ intervention. Both boys had an increase of desired behavior and a decrease in negative behavior. James did not have success with a solely Social Story™ approach. This could be due to many different reasons, such as lack of motivation to the lack of involvement of the discrete trial home program. His intervention included verbal prompts to increase the pro-social behavior. Limitations were that non-classroom staff implemented the intervention, it was not a part of the classroom routine, and that classroom teachers and/or parents were not

				involved with this study. Future research to include a variety of populations, to establish classroom routines with Social Stories™, and fading out the intervention.
Delano & Snell, 2006	Quantitative	The participants in this study included three boys with autism (two of ages of 6 years old and one that is 9 years old). All three boys were receiving special education with their diagnosis, and had adequate communication skills, pre-or early reading skills, have the ability to follow the directions, and participated in an inclusive environment during their day. Two of the participants were Caucasian, while the other student was from an African American background. They were	Target social engagement skills were noted during the pre-baseline phase. Social Stories™ following Gray's guideline were then developed for the behaviors. Baseline, intervention, covert probes, maintenance, and generalization phases were used for the test sessions. A multiple-probe-a cross-participants design was used to look at the students' social engagement skills. Videotaped observations were used for data collection, and data was coded for	Two participants with Autism showed an increase in the amount of time they spent socially engaged with the peers during the intervention phase, and the generalization phase. The other student showed social skill improvements in the intervention phase, but did not generalize the skills in the regular education classroom. All three students improved their target social skills, but one student could not generalize the skills in the general education classroom. After the intervention

		paired with a non-disabled peer for both the intervention and generalization phases. The peer was changed from one stage to another. The six typical peers were three boys and three girls. They were randomly assigned with their peer with Autism.	specific social skills.	had been faded out, all three boys did keep positive social skills, but they varied per student. The researchers believed that the study was positive in showing that the use of Social Stories™ for children with Autism was beneficial in improving their social skills with peers. Limitations included the lack of Social Stories™ as the sole independent variable, generalizability to other students with ASD, and the short amount of time with the intervention. Further research is needed to see more studies measuring the use of Social Stories™ to increase pro-social behaviors. Also more studies in this particular area with different

				ages/grade levels, specific target skills, maintenance skills, across environment, and to evaluate the isolated components of Social Story™ intervention.
Hanley-Hochdorfer, Bray, Kehle, & Elinoff, 2010	Quantitative	Three elementary school students (two males and one female) and one middle school student all diagnosed with Autism or Asperger's Syndrome by a community practitioner. The elementary students were 6-years old, 9-years old and 11-years old. The middle school participant was 12-years old.	Target behaviors were identified for the students, and Social Stories™ in accord with Gray's procedures. Classroom observations were used to collect data. Observers did a frequency count of two forms desired behavior during a lunch period. First form of desired behavior was verbal initiations Contingent responses by the giver were also in the frequency count. This was during an 11-week period including baseline data.	Social Stories™ were found to have limited effectiveness as an intervention to improve social engagement with peers during lunchtime. This study differs from a previous study done by Delano and Snell (2006), because it was done in a natural setting opposed to the controlled environment in the previous study. More research needs to be done to the variables that affect the success of Social Stories™ in order to look at the generalizability. Participant variables are also a concern, since this study had

				students with diagnoses of Asperger's Syndrome and autism. Though there was a little success, limitations and questions with this study, the professionals apart of this study liked many aspects of the Social Story™ intervention. More research is encouraged to find out the specific circumstances in which to successful teach social and communication behaviors. It is recommended that Social Stories™ be used in combination with other social skill programs.
Iskander & Rosales, 2013	Quantitative	Two elementary male students were chosen. One is 8 years old (Adam) and the other (Ronald) is 11-years-old. Both have dual diagnoses of PDD-NOS and ADHD.	Adam's target behavior was interrupting others and getting out of a seat. Ronald's target behaviors are being off-task and interrupting others. Social Stories™ following Gray's	The boys did show improvements in at least one of their target behaviors; however, it was not consistent across the kids and the certain behaviors (interrupting and

			guidelines were written for the boys' target behaviors. A multiple baseline design across behaviors was implemented, as well as reinforcements. Class observations were taken place for approximately 10 minutes three days a week. A frequency count was used for the classroom observations. A problem behavior questionnaire (PBQ) was given to the teachers of the students.	out of seat for Adam, and interrupting and off-task behavior for Ronald). The Social Story™ coupled with differentiated reinforcement was the most successful at improving pro-social behavior. The researchers stated that their article provides more support for Social Story™ to be used as an intervention for students with co-morbid diagnosis of PDD-NOS and ADHD, especially coupled with another intervention (differentiated reinforcement). Limitations included data recording, inconsistency of classroom activities, and teacher behavior. More research is needed to make sure that Social Stories™ are empirically validated.

Mancil, Haydon, & Whitely, 2009	Quantitative	Three elementary students between the ages of 6 and 9. Two male and one female were used in the study. They were in kindergarten and 1st grade. The three students had a diagnosis of autistic disorder. They also had intelligible speech in full sentences, and could read on grade level.	All three students had the target behavior of pushing. A Social Story™ for each kid was developed that followed Gray's guidelines. Each kid had a paper-version and a PowerPoint® version. Event recording and frequency count was used collect data during transitions and recess. An ABABCBC multicomponent reversal design was used for the study.	The use of a Social Story was validated in this study in decreasing the observable and measurable behavior of pushing. Teachers of these students also liked the intervention as represented by teachers filling out a Likert-type scale. The positive results were also generalized to other environments. Limitations include the small sample size, the addition of verbal prompts, and the different varieties of Social Stories™. Future research is needed to look at the addition of verbal prompting, varying the type of research designs, and looking at different social and academic behaviors.
O'Connor, 2009	Qualitative (Case Study)	The child selected for the case study was a	The child struggled with turn taking,	The child showed positive results with the

| | | student with who the author works with. The child is a male that struggles with turn taking. The child is identified with autistic spectrum disorder with associated learning disability. | especially during PE and swimming lessons. Gray's Social Story™ DVD "Turn taking-a social concept" was used in conjunction with turn taking games. The DVD was implemented 15 minutes before the child went to each PE and swimming lesson. Turn-taking games were played on the bus to the swimming lessons with his teaching assistant. The Social Story™ was also printed off to serve as a visual reminder. | swimming lessons (he improved his turn taking behaviors), however, it was not successful for PE lessons (his turn taking behaviors did not increase, nor did his behavioral outbursts decrease). This could be due to the sensory issues presented by the gym acoustics coupled with the noise level of children. The researchers found that another intervention would benefit being added to Social Stories™ in order to generalize the skills. Sensory issues also need to be taken into account. The intervention was time-consuming and lacked personalization with the DVD. Researchers also thought that a weak central coherence might affect whether |

				the child can fully understand the information presented. The researchers suggest that Social Stories™ be used in combination with other interventions.
Okada, Ohtake, & Yanagihara, 2008	Quantitative	Study 1 had two students named Taro and Kenji. Taro is 12-year-old boy and Kenji is a 13 year-old boy. Both students had autism and a moderate cognitive impairment. Taro was reading at a 1st grade level, while Kenji was at a 4th grade level. Study 2 had an 11-year old boy named Tatsunori. Tatsunori was identified with attention deficit-hyperactivity disorder and mild cognitive impairment. His reading level was at 1st grade. He was not diagnosed with Autism	In Study 1, Taro had a Voice Trek to record his obstinate and hostile behaviors for 6 minute randomly selected blocks during a 15-minute period. Videotaped observations were used to collect data. Kenji was video-recorded to see his behaviors while sitting on couch during his free time for 10 minutes, for days a week. In Study 2, Tatsunori's teachers (when able to) rated and recorded his hand washing behavior weekly. A Social Story™ meeting Gray's expectations was used for each	In Study 1, the social stories improved the target adaptive behaviors without the addition of perspective sentences. Adding the perspective sentence to the Social Story™ did show any additional growth. Limitations (such as researchers unable to clarify a relationships between the two stories and a disruption in the student's normal routine) and questions posed by researchers led to Study 2. Both types of interventions were successful with Tatsunori; however, he does

		Spectrum Disorder.	student, as well as another social story that did not include perspective sentences.	not have the ASD diagnosis. Thought it was successful without the perspective sentence, the perspective sentence contributed to the adaptive behavior change. The researchers believed that the perspective sentence was meaningful and help to show the importance of hand washing. Three parameters were changed from Study 1 to Study 2. These included a specificity parameter, a time parameter and a likeability parameter. Researchers believe that using a perspective sentence that is specific, valuable and contingent is more likely to effectively change adaptive behavior. More research is necessary to make sure that this discovery is

				generalizable in the areas of component analyses and parametric analyses.
Okada, Ohtake, & Yanagihara, 2010	Quantitative	14-year-old boy diagnosed with autism, was reading at 1st grade over above level.	The child was videotaped for short amount of times to analyze his inappropriate posture across a variety of classroom settings for five days across 11 weeks. The videotape observations were used to collect the data. Terano's teacher also recorded anecdotal notes. Four types of Social Stories™ meeting Gray's guidelines were used. There were different types of sentences in each story.	Since the Social Stories™ were being assessed to see what perspective sentences would aid in Terrano's posture in school, two areas (elbow position and head position) across two settings (morning circle and lunch time). Terrano's elbow position during lunchtime showed improvements, but researchers were cautious about saying that a particular perspective sentences in a Social Story™ made the impact. Little to no success was measured in other areas. The teacher was also interviewed and said some improvement, but not significant. Researchers

				suggested that Social Stories™ be used as part of multi-component behavior intervention.
Ozdemir, 2008	Mixed Methods (Case Study and Research Study)	Three boys were selected who were diagnosed with autism and lived in upstate New York. All three were between the ages 7-9 years old, had communication skills, have a level of reading skills, and interacted with same-age peers in an inclusive environment on a daily basis. One boy was an African American, and the two other were Caucasians.	All three had disruptive behaviors that were targeted for a Social Story™. The first boy's target behavior was using a quiet voice in class. The second participant's target behavior was tipping his chair backward or sideways, which sometimes resulted in his falling on the floor. The last participant goal behavior was waiting in line to get his lunch in the cafeteria. Three stories were developed for each of the boys, and followed the guidelines set by Gray. A single-subject, multiple-baseline design was used, including baseline, intervention and fade out stages. During the	The study was positive for all three boys. Their goal behaviors significantly increased during the intervention phase compared to the data expressed in the baseline. All three had a slight increase in their disruptive behaviors, but still were low during the Fade A. During Fade B, two of the three participants had an increase, but still remained low. The other participant showed a slight decrease during the last fade out stage. The Social Stories™ showed positive affects with the students and were well received by the staff. The study also showed the benefits of using visuals for

			intervention state, the boys each read their Social Story™ (with help from a teacher or the teacher read it to the student) once or twice a day for 27 sessions. During the fading out sessions, the students' Social Stories™ were changed, and then every other session. Data was recorded through classroom observations through a 15-s cued partial interval recoding system during 20-min for each child per week.	children with Autism. Limitations in this study included generalizability to other children with autism and other behaviors; the students in this study have functional verbal language and reading skills, and the small sample size. More empirical Social Story™ research is needed.
Quilty, 2007	Quantitative	Three students with ASD and three paraprofessionals were used for this study. The children and staff members were selected since the work together for at least an hour during the school day, the child has a diagnosis of ASD, target behaviors for social and/or	Training was provided for the paraeducators for social stories, which were adaptations of Grey's methods. Target behaviors for each student were also identified. Data was collected on the student's target behavior through classroom observation. This occurred	The data showed that paras could be effectively taught how to write and implement social stories. The data also showed a decrease in the target behaviors after the intervention was put into place. The researchers felt that this study provided support for social story interventions for

		adaptive behaviors, and students and paras did not have extensive experience in Social Stories™.	through 27 school days.	students with ASD. Limitations included small number of paraeducators and students that are not representative of all paraprofessionals and students with ASD. Another limitation was using visual cues added to social stories, which was a variation on Gray's guidelines. The overall research showed positive effects for paraeducators, as well as pro-social skills in children with ASD.
Quirmbach, Lincoln, Feinberg-Gizzo, Ingersoll, & Andrews, 2008	Mixed Methods (Review of Literature and Research Study)	45 children diagnosed with Autism Spectrum Disorder (ASD) with ages from 7-14. 42 were male, while 3 were female. Children were assessing using the Autism Diagnostic Observation Schedule, the Wechsler Intelligence	Classroom observations were used to collect data. They were given randomized Social Story™ ratios either with standard or directive and then a control group. The social stories effectiveness was then measured by pretest posttest repeated	The results of this study imply that Social Stories™ may not be an appropriate social skill intervention for students with Extremely Low Verbal Comprehension Skills. The children that significantly increased important game

		Scale for Children-4th edition, and have at lease a first grade reading leaving on the Reading Recognition and Reading Comprehension subtests of the Peabody Individual Achievement Test-Revised.	measured viewing the improvement of four types of social skill during game play.	playing skills were those students with ASD that Verbal Comprehension skills that were in the borderline range or above (scores above 68 on the WISC-IV). There are many benefits to using social stories, since they are portable, cost-efficient, can be tailored for groups of children or individual children, and takes little time to implement. Limitations included non-natural game playing settings. Further research was suggested to include how to maintain these skills over a longer amount of time, and to reduce poor behaviors such as cheating and losing poorly.
Reichow & Sabornie, 2009	Quantitative	An 11-year-old Caucasian boy named George with the diagnosis of	Target behaviors were determined, and a Social Story™ created from Gray's	There was an increased frequency of acceptable verbal greeting

		autism. High-functioning student due to the fact he has an IQ of 101 and above average grades at school.	methods. Classroom observations were used to collect data. A frequency count was used to measure how many of acceptable verbal greeting initiations George used at school. This occurred during 35 observations that lasted 5 minutes. Baseline was measured prior to the intervention, and cue fading to see what happens when the text is eliminated but when visuals are used to prompt.	initiations when the student was given a Social Story™, as well as maintained it during the cue-fading phase. This study shows support through empirical evidence that Social Stories™ can be used solely to develop social skills. The study raises questions about the effectiveness of visual cues in Social Stories™ and as supports. There were limitations in the study that suggest more research with more participants with different behaviors paired with a variety of interventions.
Reynhout & Carter, 2008	Mixed Methods (Case Study and Quantitative)	One girl named Debbie that was 8 years and 8 months. She was diagnosed with autistic disorder. She had a score of 40 on the PPVT-III (approximately 2 years of age for her receptive language skills).	An ABC design was used to measure the effectiveness of the Social Story™ (written in conjunction with Gray's methods and followed with comprehension questions). Data was retrieved	The Social Story™ intervention was ineffective for Debbie, though the researchers said that this is a new study and cautions against making assumptions on this study. Debbie was

| | | Her score on the CARS was 41, which puts her in the severely autistic range. On the ABI, Debbie had results that were consistent with intellectual disability. | from video recordings of a specific class event (story reading lessons), which was around 10 minutes with 10-second partial interval recoding. | unable to answer the comprehension questions with visual and verbal supporting, which could make the Social Story™ harder for the student to generalize. Students may need a certain level of language skills to access the Social Story™. Limitations included verbal prompting, student's lack of interest in the story, and the length of the stories for storybook reading. Intervention was acceptable for the teacher according to the Intervention Rating Profile (IRP-5). Publication bias was noted as a result of other tests showing positive results. Future research is needed to address the limitations and questions posed in this study, due |

				to the fact that the results are inconsistent.
Reynhout & Carter, 2009	Mixed Methods (Literature Review and Questionnaire Review)	105 questionnaires were given to 97 to Aspect school in New South Wales, Australia, and 8 to Catholic Special Schools in that area.	A questionnaire was formed to have questions about their background and questions related to their use of social stories (did not need to follow Gray's guidelines). The teachers were to respond by rating their answers on a Likert-type scale. Teachers were also asked to provide copies of their own social stories. Then asked if they felt that social stories were or were not effective.	45 out of the 105 questionnaires were returned. 81 samples social stories were used. The survey brought in many results. Social stories were widely used with many different ages and ability levels (expressive and receptive language skills, cognitive abilities and different degrees of Autism). They were also used for a wide range of behaviors. Teachers used this strategy since they were easy to implement, covered a wide range, and they believed that social stories were a valid strategy. The majority of the stories deviated from the Gray's methods. Teachers were positive about social stories, but

				were concerned about the maintenance and generalization. The ability levels of cognition, severity of autism, and receptive language of the students appeared to have no effect of the efficacy of the strategy. Expressive language appeared to be correlated with the effectiveness of the method. The teachers believe that social stories are effective or somewhat effective, though this was subjective. The stories that were most effective were the ones that strayed more from Gray's guidelines. They were found to have a greater amount of directive sentences, and not as many descriptive sentences. Limitations were discussed. They

				included low-return rate, subjective and teacher opinion responses on questionnaire, and teacher perceived efficacy. Researchers stated to be cautious of the results of this research. Further research was encouraged. More research should include more teachers from different educational programs, looking at the specific parts of the social story design, and to look at maintenance and generalization.
Samuals & Stansfield, 2011	Mixed Methods (Literature Review and Research Study)	Four young adults between the ages of 17 and 32 participated in this study. 3 of the students were stated as having ASD; one of the students had Prader-Willi Syndrome with behavioral characteristics of ASD. All	Eight Social Stories™ were followed using Gray's formula. Event recording on specific settings, situations, and times were used for the quantitative aspect. Behaviors were collected as events per the given	The Social Stories™ did show a positive result for developing socially appropriate communication and behavior for a short amount of time in a community based setting. This was a novel study, since the aides of the

| | | participants were male, and had a connection to a residential organization that supports adults with challenging behavior. | observation session. Staff responses were collected informally which was added for the qualitative part. The study was separated into a baseline phase, intervention phase, fading phase and a follow-up probe. The first three stages last 2 weeks, and the follow-up probe lasted for a week. | young adults were used to collect data. Limitations included small-scale study, a controlled environment, limited data collection opportunities, the specific episodic recording, and the short intervention period. More research was suggested since there is a lack of research articles on Social Stories™ for young adults with ASD. Further research was also suggested to see the how the pro-social behaviors can be maintained over time with Social Stories™, also to see how people with Learning Disabilities benefit from this intervention. A note of caution was also added to make sure Social Stories™ are not overused with the |

				population of individuals with ASD.
Scattone, 2008	Quantitative	One 9-year-old boy named Matthew who was diagnosed by the author (who is a psychologist) with Asperger's Disorder. He had a composite IQ of 109 according to the Kaufman Brief Intelligence Test (KBIT). According to his scores on the Wechsler Individual Achievement Test (WIAT), his Basic Reading score was 126 and his Numerical Options score was 114.	Three Social Stories™ were made following the guidelines set by Gray. Each one had specific skills, and the responses associated with it. The Social Story™ was read to Matthew and then videotaped observations followed. Observers recorded target skills such as eye contact (looking at his conversation partner 3 seconds or more), smiling, and initiations during 5 min observations 1-2 times per week. The observers used a partial-interval recording procedure.	All though the same intervention was used for all three skills, they varied significantly from each other. Eye contact and initiations improved with the intervention, but at different rates. Smiling was inconsistent and did not significantly improve. The researcher suggested that the improvements to the Social Stories™ allowed the skills to be generalized after the observations. His mother did state that the Social Story™ videotapes were not able to keep Matthew's attention. Further research was suggested to see that whether Social Stories™ paired with video modeling were better together,

				rather than in isolation. She also stated that the single probe data should be viewed with scrutiny. Other ideas for more research were having the child self-analyze their own videotapes, more participants, and longer observations. The researcher concludes that though Social Stories™ with video modeling was effective for the majority of skills, more exploration needs to be done with this technique.
Scattone, Tingstrom, & Wilczynski, 2006	Quantitative	Three boys (Drew, Billy, and Steven) with ages ranging from 8 to 13 years old who were diagnosed on the Autism Spectrum Disorder.	Target behaviors were determined for each kid. The Social Stories™ were designed for each student. Classroom observations on defined social interactions during one 10-min free-time activity per student 3 days per week for about 11 weeks.	Drew and Billy both improved their social interactions when measured by percentages. Steven did not have any meaningful growth with Social Stories™. Many limitations were found in this study (verbal prompting additional

				therapies, and treatment integrity). Researches suggest that Social Stories™ are not as meaningful for changing behavior when used as a sole intervention, as previous research suggested. Also, those Social Stories™ may be more effective with certain groups of individuals on the spectrum. More research is needed to justify Social Stories™ as an effective intervention.
Soenksen & Alper, 2006	Mixed Methods (Subjective Interview and Research Study)	A five-year old boy name TJ was identified with having hyperlexia but getting special education services under the category of ASD was selected for the study.	TJ's target behavior was getting attention from peers appropriately. The independent variable was written and verbal cues with a Social Story™. The Social Story™ was written from Gray's guidelines. The dependent variables were observations	TJ had a positive increase in his pro-social behaviors across multiple settings (recess, choice time, and math). The classroom teacher and paraprofessionals also liked many features of the intervention, especially the ease of implementation and the ability to have this

			during social activities such as recess, lunch, math time, and choice time. A multiple baseline across settings design was used with subjective evaluations and social comparison. Observations were during a 15-minute observation period four times each week. A frequency count was used to record the pro-social behaviors. Social validity was also measured by subjective interviews from individuals working with the student (teachers, paraprofessionals, etc.).	intervention in an inclusive setting. Overall, the results were favorable for the student and the staff working with TJ. Several limitations were noted. These included the single-subject design, three settings only at school monitored, and only two behaviors measured by data. Further research is needed to see the quality of verbal responses, the addition of prompts to Social Stories™, and treatment fidelity.
Tarnai, 2011	Mixed Methods (Literature Review and Research Study)	6 boys ranging from 9 to 11 years old. All diagnosed with autism and pervasive developmental disorder-not otherwise specified. The children were selected because	Target behaviors were determined. Two stories were written for each kid, one following Gray's sentence ratio and one that omits the expected sentence ration. Classroom	This study agrees with past studies that both types of interventions are beneficial for students with ASD. The study found though Social Stories™ are effective with the Grey's sentence ration,

| | | they had 2nd grade or above reading fluency and comprehension according to their Dibels Oral Reading Fluency assessments (DORF). Participants also had a Level VII with the Communication Matrix Profile. | observations were used for measuring students' table setting abilities collected data. This was evaluated by a percentage of the criterion achieved based on task analysis steps. Baseline and intervention data was recoded over 7-11 sessions depending on the student. | it is not the biggest reason for the effectiveness of this intervention. Explicit teaching and instance reinforcement in this study also made this a successful. Intervention, and other research-based practices should be included with Social Stories™. Further research to suggested seeing the influence of this intervention with differing students groups with a variety of characteristics, and to look at question sentences recommended by Gray. |

3.2.1. Research design

Out of the 25 research articles, 18 articles (71.4%) in this meta-synthesis used a

quantitative research design (Beh-Pajooh, Ahmadi, Shokoohi-Yekta, & Askgary, 2011;

Bernard-Ripoll, 2007; Chan & O'Reilly, 2008; Chan, O'Reilly, Lang, Boutot, White, Pierce & Baker, 2011; Crozier & Tincani, 2005; Crozier & Tincani, 2007; Delano & Snell, 2006; Hanley-Hochdorfer, Bray, Kehle & Elinoff, 2010; Iskander & Rosales, 2013; Mancil, Haydon, & Whitely, 2009; Okada, Ohtake, & Yanagihara, 2008; Okada, Ohtake, & Yanagihara, 2010; Quilty, 2007; Reichow & Sabornie, 2009; Reynhout & Carter, 2008; Scattone, 2008; Scattone, Tingstrom, & Wilczynski, 2006; Soenksen & Alper, 2006). Six of the 25 research articles (24%) used a mixed methods research design, which uses a combination of quantitative and qualitative information (Adams, Gouvousis, VanLue, & Waldron, 2004; Ozdemir, 2008; Quirmbach, Lincoln, Feinberg-Gizzo, Ingersoll, & Andrews, 2008; Reynhout & Carter, 2009; Samuaels & Stansfield, 2011; Tarnai, 2011). One of the research articles utilized a quantitative research design in the form of a case study (O'Connor, 2009).

3.2.2. Participants and data sources

All of the 35 research studies were related to individuals with Autism Spectrum Disorder. Sixteen of the studies (45.7%) in this meta-synthesis dealt with individuals identified with Autism Spectrum Disorder, Autistic Disorder, or Autism (Adams, Gouvousis, VanLue, & Waldron, 2004; Beh-Pajooh, Ahmadi, Shokoohi-Yekta, & Askgary, 2011; Chan & O'Reilly, 2008; Chan, O'Reilly, Lang, Boutot, White, Pierce & Baker, 2011; Crozier & Tincani, 2005; Crozier & Tincani, 2007; Delano & Snell, 2006; Mancil, Haydon, & Whitely, 2009; Okada, Ohtake, & Yanagihara, 2010; Ozdemir, 2008; Quilty, 2007; Quirmbach, Lincoln, Feinberg-Gizzo, Ingersoll, & Andrews, 2008; Reichow & Sabornie, 2009; Reynhout & Carter, 2008; Samuals & Stansfield, 2011; Scattone, Tingstrom, & Wilczynski, 2006). No singular studies use individuals only diagnosed with PDD-NOS. Two of the 35 studies (5.7%) included

persons diagnosed with Asperger's Syndrome (Bernard-Ripoll, 2007; Scattone, 2008). One of the 35 studies (2.8%) had a student dually diagnosed with PDD-NOS and ADHD (Iskander & Rosales, 2013). Another study had participant diagnosed with Autism and a co-morbid disorder of cognitive impairment (2.8%) and in the same study, there was another individual that did not have autism, but had ADHD and a mild cognitive impairment (2.8%) (Okada, Ohtake, & Yanagihara, 2008). While another study (2.8%) had a participant diagnosed with both Autism Spectrum Disorder and a Learning Disability (O'Connor, 2009). Two studies (5.7%) had students with Asperger's and ASD (Hanley-Hochdorfer, Bray, Kehle, & Elinoff, 2010; Tarnai, 2011). Two other studies (5.7%) represented children (one child had Prader-Willi Syndrome with characteristics of an individual with ASD and the other child had hyperlexia and was receiving services for students with ASD) that were not identified with Autism, but had characteristics of Autism and may be diagnosed at a later time (Samuals & Stansfield, 2011; Soenksen & Alper, 2006). One study (2.8%) did not involve any participant with a diagnosis since it was a review of questionnaires for teachers about using social stories (Reynhout & Carter, 2009).

The bulk of the research articles had observations as their data sources for recording changes in the individual's behavior. Eighteen of the 25 articles (72%) gathered data from classroom observations (Adams, Gouvousis, VanLue & Waldron, 2004; Beh-Pajooh, Ahmadi, Shokoohi-Yekta, & Askgary, 2011; Chan & O'Reilly, 2008; Chan, O'Reilly, Lang, Boutot, White, Pierce & Baker, 2011; Crozier & Tincani, 2005; Crozier & Tincani, 2007; Hanley-Hochdorfer, Bray, Kehle, & Elinoff, 2010; Iskander & Rosales, 2013; Mancil, Haydon, & Whitely, 2009; O'Connor, 2009; Ozdemir, 2008; Quilty, 2007; Quirmbach, Lincoln,

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Feinberg-Gizzo, Ingersoll, & Andrews, 2008; Reichow & Sabornie, 2009; Samuals &

Stansfield, 2011; Scattone, Tingstrom, & Wilczynski, 2006; Soenksen & Alper, 2006; Tarnai,

2011). Six of the 25 articles (24%) collected their data through videotaped observations and

then took the behavior information from watching the recordings (Bernard-Ripoll, 2007; Delano

& Snell, 2006; Okada, Ohtake, & Yanagihara, 2008; Okada, Ohtake, & Yanagihara, 2010;

Reynhout & Carter, 2008; Scattone, 2008). One of the 25 (4%) articles used a questionnaire to

several teachers to gather their perspectives of social stories (Reynhout & Carter, 2009).

3.2.3. Findings of the studies

The findings of the 25 articles included in this meta-synthesis can be abridged as follows:

1. Many limitations existed in all the studies represented. These limitations came in all

   shapes and sizes. The majority of the researchers felt that small-sample size or single

   subject-design did not accurately represent the entire population of individuals with

   Autism Spectrum Disorder. Other limitations included environmental differences,

   research designs, data collections, and many others. These limitations questioned the

   actual results of all studies represented in this metasynthesis.

2. Due to the lack of validity in connection to the many limitations, more research was

   suggested in nearly every article. Further investigation would help dispel the various

   problems in the research studies, as well as to solidify the findings with individuals with

   autism. Different ages and ability levels need to be explored before researchers can

   stated that the intervention is effective or ineffective.

3. Different sentence parts were also examined or questioned, since Carole Gray had

   developed the parts for specific purposes and in certain ratios. Some of the stories were

found to be effective using the specific parameters set by Gray, while other stories were equally as successful useful when they deviated from the set instruction. The substitution of different types of sentences was also discussed in a few articles.

4. The teachers associated with the study (either collecting data for the researchers or carrying out the intervention) liked Social Story™ or social story intervention. These teachers found the intervention to be successful, easy to implement, and would carry out the strategy again with other students. Though the researchers had many queries about the studies, the teachers associated with them had positive feelings about the Social Stories™ or social stories.

5. Average to high expressive and receptive language skills of the individual were correlated with the success of the Social Story™ or social story. Individuals with lower scores in either or both areas did not have the same type of success with the intervention. In some articles, researchers used average to high expressive and/or receptive language skills as a determining factor to include the person in the study. This was true for the children and adults that were subjects in the study.

6. Cognitive skills and/or reading abilities were also found to influence the triumph of the intervention. Cognitive tests and informal or formal reading assessments were used in several of the studies to help see if Social Stories™ or social stories were linked. The results showed that students with average to high scores in these areas were more likely to show success with the given story.

7. Numerous researchers concluded that the Social Story™ and/or social story intervention was positive. Though there are numerous limitations associated with the studies,

researchers deduced that this strategy decreased inappropriate behavior and increased pro-social manners. More research in specific areas was suggested in order to recommend this strategy for all individuals with ASD.

8. A group of researchers had mixed opinions of Social Stories™ and/or social story. Though the intervention had helped shape positive behaviors in the subjects, concerns with the duration of success, degree of effectiveness, and many others were brought to light. Again, more research was needed to solidify whether Social Stories™ and/or social stories are successful for people associated with ASD.

9. A scarce amount of researchers found that there was insufficient evidence to prove that Social Stories™ and/or social stories. In one of the articles, the scholars did not find evidence-based practices associated with the story. In the other study, the intervention was not successful in changing behavior, which led the researchers to conclude that the Social Story™ approach was ineffective.

10. Other interventions involved in the studies were also believed to aid the effectiveness of the Social Story™ or social story. These additional supports ranged from verbal prompts to DRO (Differentiated Reinforcement of Other Behaviors) procedures. Other studies recommended other interventions to be added in order to best support the Social Story™ or social story. These involved computer-assisted presentation, Auditory Integration Trainings, and adding in other social skill programs to aid in the success of the initial intervention.

3.3 Emergent themes

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Ten themes arose from reviewing the 25 research studies in my meta-synthesis. These emergent themes include: a) multiple limitations existed that question the validity of the studies; b) more research is needed in a variety of areas with Social Stories™ and/or social stories; c) the impact of the different sentence parts in the Social Story™ and/or social story; d) teachers with students participating in the intervention displayed fondness for the Social Stories™ and/or social stories; e) the impact of students' language skills (expressive and receptive) on the effectiveness of this strategy; f) the impact of students' cognitive abilities and/or reading abilities on the effectiveness of the Social Story™ and/or social story; g)studies that found this was a positive intervention for the participants; h)mix of positive and negative reviews about the intervention; i)studies that found this type of intervention was negative to the participants, and j)other interventions that added to the success of the Social Story™ and/or social story. These ten theme clusters and their formulated connotations are described in Table 3.

Table 3

Theme Clusters	Formulated Meanings
Multiple Limitations Existed that	● Limited quantitative and qualitative data that supports that Social Stories™ are an effective intervention.

Question the Validity of the Studies	• Parenting styles™ during homework times affected the validity of a Social Story.
	• Small number of the participants and a lack of generalization and follow phases limit the effectiveness of the social stories.
	• The study's single subject design and short intervention time viewed as limitations, due to fact it was used with only one student and that the intervention lasted for only a few weeks.
	• Since there is a quite a range of students with Autism Spectrum Disorder, it is unclear whether all students with ASD would benefit from videotaped emotions and Social Stories™.
	• The ABAC design employed in an article was unable to show a correlation with verbal prompts and reducing challenging behavior. One participant in the study and using an indirect assessment are two other limitations. A functional analysis could have given the researchers more evidence on the function of the student's behavior. The study wanted further information to solidify the findings.
	• Rate measures would have been more effective for data collection than simple frequency counts. Inter-observer agreement was also low, which means that data was discarded from this study.
	• Another study had three limitations that affected the data interpretation. An outside experimenter implemented the intervention, instead of classroom staff. A reversal design was used in the data, and another study design could have given more details on the given intervention. The last limitation was not having a prompt only condition for one student.
	• Other interventions that were implemented negate the sole benefit of the Social Story™ intervention. Another factor was lack of generalization to other children with autism and to other behaviors. A short intervention phase is the last limitation of this study.
	• The Social Stories™ did not feature the correct version of the environment of the target behavior. The intervention accorded in a structured setting instead of a non-structured environment such as recess or in the general education environment. Social Stories™ may only effective when the target environment is accurately represented.
	• Limitations include using a frequency count for data collection, the inconsistency of classroom schedule when the behavior was observed, and teacher behavior.
	• The results of the study are impacted by the following limitations: single subject sample design, verbal prompting was included in the study, and two different story presentations of the Social Story™.

	● Preferred condition implemented last could have limited the effectiveness of the intervention, since the two other interventions could have aided into the last intervention's effectiveness. ● Limited generalizability was due to the multiple facts, such as the study was a single-subject design, had two target behaviors, and involved two settings. The study also did not collect maintenance data. ● Unclear if the results of the study could be transferred to other children with lower functional verbal language and reading skills. The small sample of the study does not represent the whole population of children with autism, thus it limits the validity of the study. ● The small amount of both paraprofessionals and students with ASD question the findings of the study. The guidelines of Gray's Social Stories™ were also modified with visual cues with limited sentences to aid students with severe impairments. Though this modification was intended to help students, the results should be interpreted with caution. ● Play sessions were unnatural in the study. ● Many limitations existed in the study. The study involved only one participant and there was only one skill. The study will be difficult to generalize since it was specific to one individual. The Social Story™ was also not matched against another intervention. The study was also an ABC design. ● The results of the study should be treated cautiously with the ABC design. The additional teacher prompting and the differing lengths of story read lessons. The story may not have been of interest to the participant, so may have decreased motivation in the Social Story™. ● The data from the teaching surveys is limited since it reflects perceived effectiveness rather than actual efficacy. There was a limited range of schools represented in the sample size. ● The external validity of the study may be weakened by a few limitations. There were a small sample size and only eight stories. The individuals had characteristics of ASD, but did not have formal diagnoses. The study was done in the typical living environment of the individuals. Using support staff for data collection may have not been the most accurate method of recoding the information, since they had other tasks they needed to complete at the time. Episodic recording was also a simple way of recording the day. The short intervention period was the biggest limitation of the study. ● The study was limited since it only involved one student. One pre-intervention probe and one generalization probe was taken after the intervention was completed, since this does not provide

	conclusive evidence for day-to-day behaviors. Due to this, the results need to be viewed with extreme caution. ● Future research is needed to see if Social Stories™ are effective, since many factors limit the generalization of the results. Steven may have had better results with the Social Story™ if the story had been more tailored to him. Billy was also going through chelation therapy during the time of the study. Treatment integrity was another issue due to manner in which it was recorded. The age of the students may have also influenced the success of the Social Story™. ● Several limitations existed in the study. Having only one child participating in the study is one of the limiting factors. Three settings were evaluated in correlation with Social Story™ all three in the school. Data was only collected on two behaviors, and these behaviors do not represent the entirety of a successful social interaction. The positive changes of the Social Story cannot be entirely tied to the intervention. Additional prompting from peers, teachers, and the first author may have also added in the effectiveness. Treatment fidelity in terms of staying with Gray's guidelines was not measured. These listed limitations question the external and internal validity of the conclusions of this study.
More Research is Needed in a Variety of Areas with Social Stories™ and/or Social Stories	● Further research is needed for continued proof of Social Story™ success. Research should look at how often the participant talks about the Social Story™ during the intervention, and after the intervention has ended. Social Stories™ in-group treatment situations should also be researched. ● Future research should look at various ages and developmental stages of persons with Autism Spectrum disorders with this intervention. Different environments should also be assessed. ● Future studies on this topic should look at guidelines for writing social stories. The use of gestural, written, or other prompts with added verbal prompts should be assessed in combination with social stories. This could be look at by alternative treatment designs. Further studies could also look at fading out procedures for social stories in order to provide independence towards the students. Reading skills of children linked to the effectiveness of the social story should also be investigated. ● This popular educational intervention needs to be investigated to see the full impact of this strategy. Future research should look at inclusive environments and examine the affect of the different components of the Social Story™. A group-delivered intervention for Social Stories™ could also be examined, since a child could feel alienated by being the one kid participating in this intervention. General education teachers making and carrying out Social Stories™ could be another method to research. Future studies

	could also look at the measurement limitations that existed in this study. ● Future research should look at ways to maintain Social Stories™ over a period of time with different parties (general education teacher and parents). ● A myriad of different areas are needed to confirm the results of the study. Increased studies dealing with Social Stories™ with preschool children with ASD in order to confirm the effectiveness of the given intervention. Another avenue is to see how to maintain the effects of intervention when the intervention has been faded out or if the intervention needs to remain in order to be truly effective. Additional strategies should look at the inclusion of Social Stories™ in daily routines, and too see the durability of intervention over longer periods of time. ● The findings show that further research should occur in a number of areas. Social Stories™ need to be solely examined to see if they are effective in improving pro-social behaviors, not as part of a treatment package with other interventions. Specific target skills need to be researched to see how well they fit into Social Stories™. Maintenance of Social Stories™ is another area that needs to be explored. Variety of settings in which the intervention is attempted should also be investigated. ● Further research should look a the specific conditions in which Social Stories™ are effective in teaching social and communication behaviors. Until that research is set, then Social Stories™ being used, as part of treatment package seems most judicious. ● Studies in the future should look at the components of both the Social Story™ and differentiated reinforcement interventions across target behaviors. The different components should investigate how they impact and affect the specific behaviors in question. Maintenance data should also be explored to see if the reinforcement schedule and follow up probes show the problem behaviors continue to remain at low levels. ● Though the results of the study are positive, more research is needed. Future research should be done on whether or not giving one verbal prompt in the withdrawal phases manifests in the maintenance of skills. Another area researchers could investigate is using different research designs (e.g., multiple baseline, alternating treatment). Researchers could look at a variety of social behaviors, and explore if this intervention could be successful as academic stories (e.g. defining the steps to use to complete problems). Researches could examine the benefits of using many Social Stories™ to see if the positive effects occur quickly with other Social Stories™. ● Future research needs to address the weaknesses in the study.

	- Though positive effects have been shown with this Social Story™ research, additional empirical research is needed to further validate this as a successful intervention in the field of autism. - Future research could look at whether children with autism are able to generalize plays skills in more natural settings and with same-age play partners. Secondly, research could look at whether children with autism can hold onto their game play skills over a longer length of time. Thirdly, additional studies should look at the how social stories affect other types of social skills i.e. "being a good sport about losing a game", "how to play fairly", or "how to respond assertively when others cheat". Lastly, future research could have the social stories focus on the students being able to lose games without becoming angry or feeling rejected. - Future research could look at the relation of Social Stories™ to visual cues. Future studies could also look at the components of Social Stories™ and the ways to enlarge the chance of the best possible results. - There were various concerns in the current research of this particular intervention for children with ASD. A variety of research designs would be appreciated to show trends of success with Social Stories™. Also, the effects of this intervention with children who have been diagnosed with autism and a cognitive impairment needs to be investigated. In addition, language levels should also be explored for students with or without autism to see language is an indicator of success. Future research should look at sentence types as a necessary component for the intervention. More research is also needed to see if the specific ration of sentences by Gray yields better results, than social stories that do not have the specific ratios. - Future research is needed to address several problems found in the current study. Different research designs, behaviors and participants are needed to solidify results. In an increase in studies that focus on the connection between Social Stories™ success and language and cognitive levels is needed to see if that is a predicator of success. - Research is needed in to look into the "active" components of the given social story that helps bring around a positive change for behaviors. Since individuals with Autism Spectrum Disorders struggle with newly acquired skills, the maintenance and generalization of the skills introduced in the social stories warrant further investigation. - Further studies could look at the impact of Social Stories™ over longer lengths of time. This could then look at intervention and fade stages according to each individual. Different types of fading should also be measured, such as intermittently reintroducing

	Social Stories™ to maintain the pro-social skills. This could involved many different methods to increase motivation for the continued success. ● Future research should look at having peer model target behaviors in a multiple baseline across participants. Also, the observation period could be lengthened to see if the participant could hold onto the target behaviors for an extended amount of time. Though Social Stories™ paired with video modeling has shown some success for student with Asperger's Disorder, the exact role the interventions together play needs to be examined further. ● Social Stories™ paired with other interventions (e.g., prompts, reward systems, video feedback) should be investigated. Other interventions paired with Social Stories™ could help some students that may not benefit from using only Social Stories™. ● Additional research is needed to ensure the effective of Social Stories™. Varying ages and ability levels needed to be investigated in future research. In addition, future research should look at non-school settings, such as home and in the community. Lastly, controlled studies needs to be implemented in following studies, in order to separate the effects of any confounding variables from the treatment effects. ● Looking at the construction of social stories and Social Stories™ for different student populations with differing traits is needed for future research. Future researchers could also follow up on the use of questions sentences with Gray's construction of this intervention.
The Impact of the Different Sentence Parts in the Social Story™ and/or Social Story	● The social story strayed from Gray's guideline in certain areas. First, the subject's story had a ratio of 3 directives to 5 perspective sentences, which deviates from the recommended by Gray, which is 1:2-5. Secondly, the story omitted words such as "sometimes" or "usually". These words are generally used to protect against the overgeneralization of students with autism. The study suggests that there might be flexibility in Gray's specific story construction guidelines. Currently, the specific parameters have not been authenticated. ● The data shows that the inclusion of a perspective sentence yields further development of the target behavior. ● Findings indicate that the effectiveness of a Social Story™ does not depend on the perspective used in the story. The data in this study show that using only the perspective of the most preferred person in the story may be the most effective way to change the behavior. ● Some of the guidelines set Gray were modified to include visual cues with 1 to 2 sentences per page. This was added to help students with more severe benefits access the Social Story™. Though this was added to aid these students, it is still unknown that

	every child with ASD can achieve positive behavioral change with this intervention.
	● The results from this current study suggest that the most effective component of the Social Stories™ was the direct sentences. The standard and the directive scripts both gave positive results for game play. The directive sentence may ready the student to utilize their strategy for pro-social behavior. In conclusion, the children in both the standard and direct groups displayed appropriate game play skills during the trials.
	● The Social Story™ was made up of 1 directive sentence to 5 directive/perspective sentences; this follows the recommended ratio by Gray in 2000. Comprehension questions and answers were also added. The story was illustrated to help with any communication difficulties.
	● The Social Story™ followed Gray's guidelines in 2000 and 2003. No other interventions were used.
	● The group of stories that were stated as very effective had a higher ratio of directive sentences than those outlined by Gray. Those with higher number of descriptive sentences were not as successful. The researchers believe that the directive sentences are most successful, since explicit instruction for children with autism has been a research proven strategy. Due to this, the clear and explicit directions on the appropriate behavior may be the most significant statements in the social story according to the present study.
	● This study showed that social stories that did not follow the recommended construction by Grey were more successful than those that follow the prescribed guidelines. These were according the teachers reporting these results.
	● Eight Social Stories™ were written, two for each paraprofessional to use with their selected student. The stories were written according to Gray's criteria that were revised in 2004, which involves a control sentence with directive and perspective sentences. The control sentences were successful in stabilizations of the behaviors.
	● The story used descriptive, perspective, and directive sentences in the study. Control sentences were not used, because the individual would not be able to understand those types of sentences. At the time the study was done, Gray had not suggested affirmative and cooperative sentences.
Teachers with Students Participating in the Intervention Displayed Fondness for the Social	● Peter's teacher believed that the Social Story™ helped him deal effectively with frustration. ● The IRP (Intervention Rating Profile)-15 questionnaire's data indicated that the teacher that the social story was a successful intervention. Though the third participant did not show benefits

Stories™ and/or Social Stories	from the social story, the teacher still believed in the high acceptability for that intervention plan. ● Favorable teacher's opinions of the modified social story were displayed in the findings. A modified social story was not only effective in reducing negative behaviors, but was also well accepted by teachers and easily included in their classrooms. ● The classroom teachers and the special education teacher reported positive impressions of Social Stories™ on both an interview by the first author and the social validity questionnaire. ● The scores on the Intervention Rating Profile suggest that the intervention was satisfactory, since their scores were 5.8, 4.75, and 5.0. Since the mean for each statement across reader was higher than 3, this indicates that the intervention was socially valid. ● Outcomes of the social validity questionnaire signified positive results with the intervention in the classrooms. The teachers believed that this method could be used with a variety of children, would not result in negative results, and was an appropriate way to handle the problem behaviors. Both of Adam's teacher and one of Ronald's teachers strongly agreed that they viewed a positive change in the problem behavior after the intervention had taken place. ● A social validity scale looked at the team's beliefs of the effectiveness of the intervention for the teacher and informal interviews with the participants and teachers. In the social validity scale, all teachers reported that the Social Stories™ did not take a lot of time to implement and that they would use the intervention in the future. They also liked the computer-assisted version of the Social Story™ better than the paper format. All teachers noticed an alteration in student behavior. In the interviews after the interventions had taken place, when given a choice on which format they liked the best and would like to use, each participant chose the computer form. They used the computer form after the final paper phase without any assistant from adults. Data was not collected, but the teachers anecdotally reported that the participants viewed Social Stories™ around once a day. ● The IRP-15 was used to look at teacher levels of satisfaction with the intervention. The scores can range from 15-90, with higher values showing a greater acceptance level. If a score is above 52.50, then they are viewed acceptable. The scores on the IRP-15 for Pic was 76, the score for Nathan was 88, and the score was 86. This scores for all three were well within the acceptable range. ● Adam's teacher had a score of 76 on the IRP-15, which shows that the scores are above 52.8. Adam's teacher also felt that the Social Story™ had, for the first time; given him an idea of other's people

	perspectives on his behavior and the impact of his behaviors on other people. ● The score of 78 was found on the IRP-15, which shows that the intervention was acceptable. ● Nearly all teachers involved in this study believed social stories as very effective or somewhat effective. Though the teachers gathered positive impressions, only about half the teachers in the study collected data before, during and/or after the intervention. Thus, almost half the positive impressions from the teacher ratings previously discussed were subjective. ● The staff reported increased confidence when dealing with problem behaviors of their students. They felt that it was easier to talk with students about negative behaviors by using the right words, and less anxiety overall. ● Matthew's mother completed the IRP-15, and her score was 89. This falls well within the acceptable range for the Social Story™ intervention. ● Teacher responses on the IRP-15 for Steven were 55, for Drew were 78, and for Billy were 68. All scores were inside of the acceptable range for an intervention.
The Impact of Students' Language Skills (Expressive and Receptive) on the Effectiveness of this Strategy	● For the third participant, there was a lot of variability in his performance during the baseline phase. The data showed that the social story had no true effects on the participant's performance, this could be due to their cognitive and language skills, and to the degree that the individual's autism disorder had impacted them. The information gleaned from the interview and the anecdotal recording showed that the language and reading skills might be a rationale behind the ineffective of the social story. ● The advanced language skills of the participants in the study may have lead to their successes with the treatment effects. Due to that theory, students without such verbal ability may not benefit as easily from Social Stories™. Additional intervention components may be needed to achieve positive results. ● All the members in this study had functional verbal language, at least beginning literacy skills, and low levels of unsuitable behaviors. It is undecided if intervention would have been effect with children with fewer verbal and reading skills, and higher degrees of problematic behaviors. ● In order for individuals to participate in this study, participants not only had to have a current diagnosis of autism, but had the ability communicate verbally with others, have pre-or early literacy skills, and had daily opportunities in an inclusive environment with same-age peers. ● The students in the study all had some form of reading ability (primer and beyond).

	- As shown in the current research, children who have an absence of basic verbal comprehension skills may not have successes with a Social Story™ intervention. - There is a possibility that students initial difficulty with answering the questions related to the text may be linked problems with expressive language. Gray has been noted to state that basic language skills are linked to the success of Social Stories™, but there are not statements of what constitutes basic language skills. The study suggests that language skills be examined closely to see if the Social Story™ intervention is appropriate for students with moderate intellectual disabilities. Teachers should also monitor student comprehension carefully. - The student's age equivalence of 2 years for her receptive language may have been instrumental for the failure of the Social Skill™ intervention for this particular individual. - According to study results, receptive language skills of the students did not seem to impact the effectiveness of the intervention according to teacher ratings. Expressive language skills, however, did seem to positively affect the results. Expressive language skills correlated with effectiveness of the social stories.
The Impact of Students' Cognitive Abilities and/or Reading Abilities on the Effectiveness of the Social Story™ and/or Social Story	- The third participant in the study had lots variability in the performance during the baseline phase, as well as showing the social story had no effect later on. This was unlike the two other participants who showed positive benefits from the social stories. This may be due to the fact that the third participant had lower cognitive and language skills. The third participant also had a more severe degree of autism disorder than the other two individuals. - The participant had a full-scale IQ in the superior range, which may have helped lead to the positive results of the Social Story™. - Pre-requisite skills for children to be entered into the study needed to include emergent literacy skills and have the ability to sit and read a book with adult facilitation. The social stories were matched according to the child's reading level. Story vocabulary was also match to a corresponding read level via a standardized reading assessment. The data showed that this was effective for identifying story vocabulary. - The outcome of this study suggest that people who have Extremely Low Verbal Comprehension skills on the Wechsler Intelligence Scale for Children-Fourth Edition (WISC-IV) may not benefit from Social Story™ interventions that is all written words. This is an important reflection for treatment providers for children with autism. This study's results showed that a large sample of children with ASD who had borderline range or above scores on the Verbal Comprehension skills on the WISC-IV reaped positive game

	playing skills using a Standard or Directive social story intervention.
	● George had an average intelligence of 101 as measured by the Wechsler Intelligence Scale for Children, 3rd edition. Above average grades (A's and B's) are also gleaned from his report cards at school. The results of the study showed that George also showed positive benefits from the Social Story™.
	● The student's significant level of intellectual disability correlated with the ineffectiveness of the intervention.
	● The cognitive ability of the students seemed to change the effectiveness of the intervention as viewed by teachers. Teachers rated stories written for children of above average cognitive ability with the highest efficacy.
	● The student that benefitted from the intervention had a Vocabulary score of 117, a Matrices score of 99, and a Composite IQ of 109 from the Kaufman Brief Intelligence Test. Basic Reading was measured on the Wechsler Individual Achievement Test (WIAT) and was 126. This individual, Matthew, was the only student involved in the study, and his reading and intelligence scores correlated with the success of the strategy.
	● The study showed that cognitive abilities play a role in the effectiveness of the intervention. Drew and Billy both improved their social interactions from the Social Stories™. This might be due to the fact that their intelligence scores were in the average range for cognitive ability. Steven had a lower intelligence score of 67, and did not show any improvements with his social interactions.
	● TJ had positive results from the intervention across all settings. A Developmental Reading Assessment (DRA) showed that TJ was reading at the third grade level. This is far above his kindergarten grade level (which correlates with his hyperlexia), however his reading comprehension was much lower.
Studies that found this was a Positive Intervention for the Participants	● The results of this study give credit to the idea that the Social Story™ intervention is positive support in decreasing inappropriate behaviors.
	● In the area of decreasing challenging behaviors, social stories may be an effective intervention based on the results of this study. More support for this intervention is shown by this research.
	● In conclusion, using videotaped segments of emotions and Social Stories™ to clarify the different feelings was successful in teaching a single child with Autism Spectrum Disorder about his own emotions. The study was able to recognize and understand the different feelings, and then use this knowledge in real-life situations.
	● Overall, this study demonstrated that a social story that deviates from the norms defined by Gray in 2000 was effective in changing

	the student's behavior. This study met its goal of looking at the effectiveness of a modified social story. ● The current study adds to the positive Social Story™ literature, since the results of the Social Story™ interventions showed a decrease in deviant actions. This study also extended the previous studies by examining the maintenance and generalization of the Social Story™, as well as looking at the social validity from participants. ● The present study's results advice that properly constructed Social Stories™ without other behavioral interventions can be useful in decreasing the disruptive behaviors of children with autism. ● This study showed that with when paraprofessionals were directly taught how to develop, use and evaluate Social Stories™, and that the Social Stories™ were effective in improving target behaviors of the selected students. In conclusion, the studies showed that teaching paraprofessionals how to write and implement Social Stories™ resulted in an increase of pro-social behaviors for students with ASD. ● The standard and directive story formats were both effectual in eliciting, generalizing, and maintaining the target social skills for members that had prior game play experience and borderline range or above on the WISC-IV intelligence test. ● The discoveries of this research provide support for adding Social Stories™ in a video treatment package for teaching difficult social interaction behaviors to young children with Asperger's Disorder. ● Due to the fact that the participant met or exceeded the occurrences of the target behaviors across various settings, the study indicates the effectiveness of the Social Story™ in increasing the frequencies of the pro-social behaviors. The subject was also able to maintain these behaviors during a specified length of time.
Mix of Positive and Negative Reviews about the Intervention	● The intervention package looks like it successful in the inclusive classroom setting. Though the intervention appears to be useful in changing student behavior, the design of this study and the different particular parts make it hard to come up with the successful components of Social Stories™. Modeling and role-playing the different pro-social behaviors could have also had the same effect. ● The intervention yielded mild to moderate success in changing behavior with the Social Stories™. Social Stories™ last over a long amount of time, high treatment fidelity, and teachers and staff liked the intervention, which added to the likability of this intervention. Though this intervention showed success in this study, the researches noted that this intervention is seldom used in isolation for students with disabilities. Results of this particular study showed that there were positive effects for two out of the

	three students that participated in the intervention. The third student was not successful with the Social Story™ intervention. ● Evidence supports the effectiveness of social stories to lower disruptive behaviors in students with ASD. Though the results have been positive, practitioners caution with using this strategy with other students diagnosed with the same disability since the outcomes may not be as promising. Social Stories™ have best results when paired with other interventions. ● Though studies have shown that Social Stories™ are a well-accepted strategy for students with disabilities, further research is still need to cement this strategy as an empirically validated method of changing behavior when used solo. ● The degree of the successfulness of the Social Stories™ for the individual child is unclear. ● Questions about whether the story would have given the desired change without verbal greeting initiations were raised. It is unclear if the Social Story™ would as successful in changing behavior without those prompts. ● Though the data gave a positive indicator of Social Skills™, more researched is needed to draw conclusions from these initial findings. ● While teachers believe that the social story intervention is usually effective, they were unsure about the continued maintenance and generalization of the certain skills presented in the given story. This is consistent with what teachers expressed in systematic reviews in other journal articles cited. ● The Social Stories™ had a positive effect on improving social behaviors in adults with social skill deficits, but the effect was short-lived as evident in the behaviors returning after the intervention ended. ● The data shows that Social Stories™ may be effective for some children with autism spectrum disorders, though the population that they best serve has not be singled out.
Studies that Found this Type of Intervention was Negative to the Participants	● The weaknesses of the study do not fully represent an evidence-based practice. Continued research could identify the components and parameters important to the success of Social Stories™ in improving socials skills for kids with ASD and related disabilities. ● The intervention was unsuccessful, and needs to be investigated further. The role that language skills and intellectual ability have in the effectiveness of Social Stories™ need to be investigated
Other Interventions that Added to the Success of the Social	● The study successfully added in verbal prompts with the Social Story™ to improve the participants' pro-social behavior. ● There is a problem with just evaluating social stories as the independent variable in this study. Two of three students were also

Story™ and/or Social Story	apart of a discrete trial program focusing on language and academic skills. The students had been apart of the separate intervention for longer than a year prior to the study. It is unknown if the students would have responded to the social story intervention the same without having exposure to discrete trial training. In addition, another student had begun a behavior control in the middle of the intervention, thus his positive behavior changes cannot be based solely on social stories. Finally, having peers apart of the Social Stories™ may have prompted the non-disabled peers to interact with the children with ASD. This adds in a peer-mediated aspect to the intervention.
	● Until further research solidifies the conditions in which social stories are effective to teach social and communication behaviors, social stories should be paired with other treatment packages.
	● Reading the Social Story™ by itself appeared to be less useful than when it was used in combination with the DRO (Differentiated Reinforcement of Other Behaviors) procedures. Both participants demonstrated a decrease in their negative target behaviors when the Social Story was paired with the DRO procedure.
	● Teachers can easily apply putting Social Stories™ in a PowerPoint and students enjoy using it.
	● The student's sensory issues would need another intervention to go along with the Social Stories™. Auditory Integration Training would be a possibility.
	● It is not clear that only Social Stories™ should be the only intervention to improve pro-social behaviors of student with Autism. We believe that multi-component interventions that look at biomedical or sensory issues, reinforcement, structured teaching, tasks demands, and skills building will be more effective in changing behavior.
	● The operant condition associated with playing games may have aided the success of the social story. Games help children with autism, because they have structured rule, they are consistent, children are having fun with another person, and the kids liked the chance to win games.
	● It is unclear whether the Social Story™ was the establishing operation (EO) or just a visual prompt. The cue card may or may not provide the same results. It is unknown if other prompts, such as naturally occurring prompts may attain the same results.
	● It is debatable that teacher prompting could be thought of as another intervention.
	● Most social stories are used in combination with other interventions, which make data analysis confusing. This makes it difficult for teachers to non-biased judgments on the effectiveness of this particular intervention.

	● Social Stories™ used with video modeling were successful improving the conversational prowess of a boy with Asperger's Disorder for two of the three target behaviors. Each skill had a different level of improvement. ● More research should be done to look at the beneficial combination of Social Stories™ with other interventions (e.g., prompts, reward systems, video feedback). This is specific to a case where the intervention was somewhat effective, and if the effects had improved if different components would have been added. ● We cannot be certain that the positive changes in the focus areas were due solely to the Social Story™. Peers, teachers, and the first author could have added prompts to TJ that were beneficial to the target behaviors.

4. Discussion

In this section, I will condense the main themes that arose from my examination of the (put in the amount of articles) included in this meta-synthesis. I then will tie in these emergent themes to my professional work as a special educator.

4.1. Data Collection Designs that Question the External and Internal Validity

No data collection method will capture the true essence of the study. This is why there are a variety of methods to collect data in studies, whether it is a frequency count for data collection or an ABC design method. An emergent theme in the studies pertaining to Social Stories™ and/or social stories was that there limitations that affected the external and internal validity of the study. Additional research is needed to ensure that Social Stories™ and/or social stories are effective with a variety of research methodologies.

All data collection is flawed to some extent. Though I can do episodic recording for a Behavior Intervention Plan, I will never fully capture all the aspects of the behavior, as well as the events that led to it. I can only do my best to record all the data and paint the best picture of

the events that occurred to try and limit that in the future. Whether it is in a study or in the classroom, data collection will also have questions that affect the validity of the study.

4.2. Environmental Issues as a Limiting Factor

Outside factors were viewed as a limitation in the study results. Those issues ranged from parenting styles to the different environments the intervention took place. These issues were found to play a part in the way the results, whether it be positive or negative. Whether a parent had a stricter parenting style which meant different results or that the interventionist was not a direct service provider, the author believed that it had some affect on the study, and without it the study may not have been the same.

Tying into the fact that all data collection is blemished, environmental issues can play as a limiting factor in all issues that involve individuals. When I first started teaching, I had no idea about the capacity that a single problem could have on a student on the Autism Spectrum Disorder. I had only been teaching for a couple months when my 5-year-old student diagnosed with ASD was unable to get ketchup for his lunch. This particular student would add ketchup to his pizza, his vegetables, his salad, and sometimes, even his fruit. One day, the lunch staff did not have ketchup. My typically well-behaved young man broke down sobbing on the floor for 2 hours and refused to eat his lunch. He refused to take a phonics survey, and did not do well for the rest of his day. One seemingly tiny condiment determined the rest of his day. If this student had been participating in a Social Story™ intervention on this day, his results would not have been an accurate measure. It is important to take in the individual difference and to view the results with that in mind.

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4.3 Small-Sample Size or Single-Subject Designed Viewed as a Limitation

Limitations can come in many shapes, and in this particular case, sizes. Throughout the many articles featured in this metaanalysis, the small population of participants was viewed as a restriction in the articles. Many of the articles stated that due to the fact there is a small sample size, the results would be difficult to generalize with other individuals diagnosed with ASD. Future research was discussed in detail in order to confirm both the positive, negative and mixed results of the studies. Without this information, it would be unclear if a variety of ages, ability levels, mix of genders, etc. confirm whether Social Stories™ and/or the modified equivalent, social stories are successful for all individuals diagnosed with ASD.

Though the articles stated that the small-sample size or single-subject design limited the effectiveness of the intervention, I viewed it as a positive from the studies. Too often, we as educators, try to generalize one skill to an entire population. We exclude the individual preferences of students in our population, and try to make one-size fits all policy. Looking at my past experiences with Social Stories™, I have found that if it works for one student with ASD than I am fortunate that it works for that given child. I had one student my second year of teaching who benefitted from using his Social Story™ about being safe out in the playground. He did not have buy in with a reinforcement schedule whether it was verbal and/or tangible stickers. I did try and adapt it to another student last year, but found that it was ineffective for that child. That given child worked better with a token board for his positive interactions. Though the Social Story™ and reinforcement system (i.e. token board) were both ineffective with one of the two students, I would not critique the single-subject design, but I would note that

each child has their individual preferences. An intervention only works if the student has buy in, not that a large sample size has shown success for one disability category.

4.4. Questions Regarding the Skill Maintenance from the Social Stories™ and social stories

Maintaining the positive effects of the study over an extended amount of time is a concern that is related to social skill instruction. Students with Autism struggle with taking a skill learned in a structured environment and generalizing it to non-structured, more natural setting. This could involve the fading out of verbal and visual cues, and applying the learned setting without adult support. Many different ideas were brought up from the studies to help make an easier transition from the individuals being taught the skills to them applying in the needed context. Ideas, like involving the Social Stories™ in the daily routines and fading out procedures, helped involve the skills the classroom settings with necessary support. These help transfer the important skills introduced in the story into a realistic context, and with the most unpredictable item, other humans.

The length of the intervention is another key area to look at, since it can help determine if the skills would best be met with a longer amount of time. If the Social Story™ and/or social story is not being effective with one or more individuals during the length of the assessment, then perhaps the student needed an increase in the time the story was read, the days it was introduced, or times that it reintroduced to make sure that skill remains consistent in the weeks or months after it has been faded out. Students with Autism continue to need support in their social skill instruction throughout their lives. Autism is not a temporary way of thinking; autism is a life-long disorder where they will struggle with there social relationships. Continuing to look at the individual needs for a person diagnosed with ASD will help support the skill maintenance,

whether that is working on generalizing that skills in a natural setting or extending the length of the intervention. The key is that the skill maintenance addition is effective for that unique entity.

As a special education teacher, I continue to struggle with transferring the skills taught in my resource room to the general education setting. Regardless of the disability category of the child and the social skills intervention or program, it is very difficult for the child to apply those important interaction skills in a natural context, especially one that involves strong emotions. I have had individual discussions, made Social Stories™, written emails to parents, and had group discussions, but one of my students will threaten other students that he feels are not being nice to him (i.e. won't play with him, etc.) four out of five times the opportunity is presented. This happens in the natural setting of the playground, and can range from "I will kill you!" to "I am going to hit you!" This student is diagnosed with High Functioning Autism, and struggles with social interactions, especially those that he feels have wronged him in some way or shape form. I have found that my past attempts have not been useful in this area, and that I needed to have him re-read his Social Story™ before every morning recess in order for it to be a successful recess without threats of bodily harm to peers. This has been successful for the last week, and I will continue to need to assess if I need to add in extra readings or fade out the script with verbal prompts from the paraeducator. I continue to have to monitor the effectiveness of the social and behavioral interventions, and to make sure that I am supporting them into natural, unpredictable settings.

4.5.The Impact of the Different Sentence Parts in the Social Story™ and/or social story

Carol Gray was very specific about selecting the different sentence types and putting in a selected amount of the sentences types. There five sentence types (descriptive, perspective,

coaching, affirmative, and partial), with descriptive sentences being the only required sentence type. These sentences were developed with the goal of breaking down the specific skill, explaining its importance to individuals, and connecting those skills with the individual. Gray has recommended ratio of sentences to each other (i.e. one directive sentences to between two to five perspective sentences). The results of the article analysis showed that though there are recommendations for specific sentences in stories, that there can be flexibility in what types and amounts of sentences could be used.

Though there were conflicting opinions about which sentences was the most successful (descriptive, control, and perspective), the majority of the studies believed changing the ratio or trying different sentence types did not affect the positive results of the intervention. Some studies believed that sticking to Gray's guidelines were successful, but adding in illustrations and comprehension questions were helpful with keeping attention engaged. Overall, adding to stories with different sentences or illustrations was successful since the story becomes more tailored to the specific individual.

The meta-synthesis results mirrored my teaching practice. I have found that tailoring interventions or programs to my student's individual needs has only added to the success of the intervention. Though a recent district consultant came to Juneau and spoke about using on approach solely to protect the fidelity of the intervention, I believe it is important to tailor my instruction to my students. If I am doing a social skills lesson from *Social Thinking* by Michelle Garcia-Winner or *SuperSkills* by Judith Coucovanis, I deviate from the script or activity in order to best connect the skills with my kiddos. My students can connect with the information on a

personal level and be more likely to generalize it into a personal situation. I believe it is vital for me to honor individual differences and to formulate it into my instruction for all students.

4.6.Teachers Displayed Fondness for the Social Stories™ and/or social stories

The metaanalysis of the 25 studies found that the teachers and professionals had a positive reaction to the Social Story™ or social story. Seven of the studies used the Intervention Rating Profile-15, which measures the social validity of the intervention. The results of the IRP-15 for all seven of the articles stated that the given social skills tool was successful. Other evaluation tools were informal interviews with the teacher and/or other staff that carried out the intervention or worked with the individuals. A social validity scale was also used to measure the effectiveness of the intervention through the feedback of the individuals apart of the intervention. The teachers who participated in the study reported positive feelings about the intervention.

Overall, the teachers and professionals involved in the studies liked the intervention and felt that it made a positive difference in the lives of the individuals that were apart of the intervention. These teachers reported that it was easy to implement, was not time consuming, and that they felt that it was successful for aiding the students in their social interaction skills. One of the biggest indicators of success for the Social Story™ or modified social story was that the teachers stated they would use it again with other students.

As I have worked with over 10 different general education teachers and 7 different special education teachers over my six year career as a special education teacher, I have learned that teachers are more likely to do intervention that they like, feel comfortable with and feel is successful for there students. With the introduction of district-wide curriculums for reading and math in the Juneau School District, I have seen this play out with teachers getting upset over the

given program they are used for whole-class instruction and intervention groups. Some teachers

enjoy making tailoring there own curriculum by piecing together themes by themselves, while

other teachers love the structure and format of having a reading or math program to follow.

If teachers do not like the program and/or intervention, I believe that it will be less successful

than if they have good feelings about it. I also believe that teachers know the best fit for the

individual needs of there students. I feel most comfortable with using *Reading Mastery* than

Wonderworks (the *Reading Wonders* intervention reading program), thus I use the intervention.

Though the instructional coach and the district consultant would disagree with my mode of

choice with reading, I like the *Reading Mastery* package and due to my fondness for the

intervention, my students have shown success on informal reading assessments.   I continue to

use the program, because I am comfortable with teaching this program, I have experience and

training on it, and the individual needs of the students are being considered in this

implementation.

4.7.The Impact of Students' Language Skills (Expressive and Receptive) on the

Effectiveness of this Strategy

Language is vital in comprehending the written words of the Social Story and/or social story.

The participant must be able to comprehend what is written, apply it to him or herself, and show

an overall comprehension of the story to apply changes to their behavior in a social situation.

Researchers were curious about the level of language skills necessary for the effectiveness of this

strategy. The results of the analysis of the research studies showed that the students with

advanced language skills were more consistent with Social Story™ and /or social story benefits,

than students with lower expressive and receptive language scores. In some studies, the ability

to communicate and understand basic demands was imperative for the individual to be apart of

the study. Expressive and receptive language skills were a correlation to the success of the given

intervention.

Language skills are vital in determining the social skills programs that I use with the students

on my caseload. I typically do no use a Social Story™ for students with expressive and/or

receptive language deficits; since it requires literacy skills that child may not have at this point.

Even reading the story to the child can be tedious, since the story will need to be broken down

for comprehension. For my students with language exceptionalities, I replace the verbal and/or

written cues with pictures. I use short, concrete phases that are matched to there comprehension

level or reading level. I slow down the rate that I introduce the social skill area, and use

repetitions of key phrases.

For my students with average or advanced language skills when compared to same-age peers,

I can use Social Stories™, along with a direct instruction program with role modeling. I use

longer phrases with these students in my speech and in reading passages. I can talk more about

the reason why we act certain ways in public, instead of just giving simple steps for initiating

contact. Language skills are just another reason why it is important to look at the needs of an

individual, instead of one-size fits all philosophy.

4.8. *The Impact of Students' Cognitive Abilities and/or Reading Abilities on the Effectiveness of*

the Social Story™ and/or social story

Since this is a written intervention that is read by the student or to the student, cognition

and/or reading abilities are taking into account with Social Stories™ and/or social story.

Researchers looked to see if there was a correlation between these abilities to the success of the

intervention. The evidence from the meta-synthesis suggests that higher cognitive abilities and/or reading abilities lead to a greater chance of success.

Intelligence scores were used to measure cognitions, while reading skills were measured by observations and standardized reading assessments. One of the tests even used it for the pre-requisite skills has having pre-literacy skills, and being able to sit and listen to a book. According to the results from the majority of the studies, the higher the scores for cognition meant the intervention was more successful. This was the same for reading abilities, including the piece of matching vocabulary to student reading level.

In my own classroom, I have found that students with average to above intelligence scores (80-120) with average to above average scores on the reading components of the Woodcock Johnson III: Tests of Achievement tend to better with Social Stories™ than students with lower scores in one or both of cognitive (the Juneau School District used the Wechsler Intelligence Scale for Children-Fourth Edition or the WISC-IV or the Wechsler Individual Achievement Test-Third edition or the WIAT-III) and academic achievement tests (the Juneau School District uses the Woodcock Johnson-Third Edition). I had one female student that had an average intelligence, but shad low to low-average scores on reading fluency and reading comprehension subtests on the WJ-III did not have as much success with this positive behavior support as another student. She would read the stories, but struggled with generalizing her play skills out at recess.

My other male student had average to above average scores on the WISC and the WJ-III had an exceptional success with Social Stories™ throughout his life. His mother had developed many social stories to help him cope with life and to make good decisions in social situations.

This student was able to take the information in the stories, apply it to himself, and generalize it in the recess setting (approximately four out of five times presented). This individual may have been more successful with the given intervention due to his individual strengths in the areas of cognition and reading, though other isolated factors (i.e. his mother liked the intervention, thus was presented in a positive manner) could have also been at work.

4.9.Studies that believed this was a Positive Intervention

Though the study limitations questioned the external and internal validity of the selected articles, several articles believed that the Social Story™ and/or social story interventions were positive for the individuals selected. The studies that listed the results supported this intervention and help decrease or change challenging behaviors. The target skills selected were positively impacted, and helped students develop prosocial behaviors.

As stated in previous paragraphs, I have had positive reviews of Social Stories from my own classroom experience. I have had students that have benefited from Social Stories at school and at home. Those students loved having a story tailored to them that spoke to them about a social or behavioral challenge and gave them a strategy that aided them. Two boys that were most successful with this strategy had high-functioning autism and were of fond their given social story. There were no qualms when the students read their story, and the target behaviors decreased. I personally believe that the Social Story™ intervention is successful for selected individuals, and can be paired with other interventions to form prosocial behaviors.

4.10. Mixed Reviews about the Given Intervention

Like all intervention programs, there are positives and negatives associated with them. Though various studies found that the Social Story™ and/or social story intervention was

successful with there students, other studies had a mixed opinion about this methodology.

Concerns, such as maintenance and generalization data, were discussed. Some of the effects of

the Social Story™ were short-lived, thus researchers have an apprehension of the story actually

changing behavior. Other fears were that the Social Story™ or social story would not be as

effective alone. Other interventions ranging from a direct-social skills program to verbal

prompts helped the story be meaningful for the individual and develop the pro-social behaviors.

A different level of improvements per person was another significant worry about the

effectiveness of the intervention for all people diagnosed with Autism Spectrum Disorder.

As a new teacher to the Juneau School District, I was desperate to fit and have my superiors

like me. A colleague of mine suggested that I use a Social Story™ with a low-functioning

student with characteristics similar to a student with Autism (he would later be diagnosed with

autism spectrum disorder and a comorbid disorder of a cognitive impairment). My colleague

promised that this intervention would solve the majority of his school difficulties (keeping his

shoes on, walking in the hallway, going to the bathroom, etc.). I felt that it was important to the

take the advice and so I made a Social Story™ complete with pictures to address keeping his

shoes on his feet during the school day instead of throwing them when he was displeased. I

made it during a weekend, and brought it to school hopeful that this new strategy would solve a

myriad of inappropriate behaviors.

Monday morning at 8:00 a.m. when I was going over the Social Story with my student, he

did the unthinkable. I read him the first page and pointed at the associated Boardmaker picture,

and he then threw it across the classroom. Thinking that it was just a fluke, I gathered it up again

and he then proceeded to rip the cover page off. The rest of the day didn't improve, as he did not

get through two pages being read to him. I was shocked since the other teacher swore this would

work for the given child. I had followed the guide from Carol Gray, and written it to the

specifications. After a week of trying to force my student into reading the Social Story™, I

finally gave up and tried another social skills program called *SuperSkills*. The intervention was

successful for him, and I continued to use other Social Stories™ with other students. I did not

completely throw away the Social Story™ method away; I instead started to diversify with other

intervention programs. That was one of the first of many experiences that I figured out one

program will not work for every child.

4.11.   Other Interventions that Added to the Success of the Social Story™ and/ or social story

Along with the opinions that were discussed in the previous paragraphs, Social Stories™

and/or social stories being paired with other interventions in the classroom was a consistent

theme throughout the articles. Researchers believe that these additions to the given intervention

may have aided in successful results. There were so many different interventions that ranged

from simple verbal prompting to a computer-designed story format. With the additions of

various other tools, researchers felt that the Social Story™ or social story would be best in

combination with other programs.

Teaching has been more of a mix and match from the different interventions strategies. I love

the direct instruction approach from Social Thinking, The Zones of Regulation, SuperSkills, and

Social Stories™. I also love the stories, such as *Have You Filled a Bucket Today?*, *Mean Soup*

and *The Pout-Pout Fish*, and I love there unstructured and kid friendly approaches for dealing

with situations. Role-playing and peer conversations happen more naturally and in the moment.

These interventions work great independently, but together they make a bigger difference.

Teaching a *SuperSkills* lesson on the importance of having a friendly face can easily be paired with *The Pout-Pout Fish*, students will remember the catchy book and be able to apply that in a social setting. My practice has only improved from mixing and matching the skills and programs that I have learned.

5. Conclusion

The Social Story™ or social story intervention has been shown in many cases to be effective in changing the social behavior of individuals with Autism. Though there are positive results with this intervention, many questions have been raised to how effective the intervention actually is with certain individuals and in what settings. The many limitations that existed throughout the study questioned the external and internal validity of the study. Those restrictions came in all shapes and sizes, and ranged from a single-subject design to parenting styles. In all cases, the researchers felt that the given study drawbacks warranted further research in a variety of areas.

Though many limitations existed and researchers questioned the positive results from the study, teachers of the individuals involved like the intervention. The Interventional Rating Profiles came back with affirmation that the teachers liked the Social Story™ or the social story and would use that intervention again with other students. The positive feelings about this intervention may have been detrimental to the success of the intervention with several of the students. Further research would need to be done to see if this was true with the research that felt that the Social Story™ or social story was successful. The same could be said about the researchers that felt that it was a poor intervention or had concerns about it. Those teachers could have unconsciously affected the study by displaying negative attitudes about the intervention to their students.

Though the majority of the teachers liked the intervention, the articles did showcase that each individual with autism response to the Social Story™ or social story differently. Though these people had diagnoses or characteristics of the Autism Spectrum Disorder, the individuals had various cognitive, receptive and express language, and behavioral differences. No child or adult responded in exactly the same way to the Social Story™ or social story that of another person. Though some cases were successful, the levels of success and in what area were unique to the individual.

This important fact of the metasynthesis reminds me that each person labeled with the Autism Spectrum Disorder is exceptional in their own right. Though we in special education like to group and categorize children into fitting into one disability group, they still have special talents and preferences that can be missed if we try so hard to categorize them.   Not every person with Autism will react to the same intervention in the same way. Those unique qualities can strongly influence any specific approach or program recommended for that given exceptionality. Each individual with Autism is just one individual with Autism.

Treating each person as an individual is essential in my job as a special education teacher. Though it is easy to discuss students on my caseload in connection to their disability category, I have found that each child reacts to the same intervention differently. There will never be one cure-all program for one disability group that will work the same with each child. I have found that in my six years as a special education teacher, and am always reminded of it when I get a new child on my caseload. Each child regardless of disability is as unique as a snowflake and it is important that they are treated in such a way.

Not only am I reminded of this important aspect of education, I have also learned that it is always important to look at the influence of opinion and philosophy in the success of an intervention or program. This can be with teachers, administration, and consultants in a school district. A special approach, whether it is a Social Story™ for social skills or a type of way to teaching reading skills, is easily influenced by the thoughts of the creators. Though they believe that it can work for all students regardless of individual preferences and have data to prove it, their philosophies towards the given instruction have shaped the results and the scope in how they see the benefit of their work. As best as we can as educators, it is important to have an open mind towards other views, whether it be Applied Behavior Analysis or Stanley Greenspan's Floortime Approach. This open mind will not only help us interact with our colleagues, but will help find the best way to teach our special and amazing students.

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