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Using Social Stories and Comic Strip Conversations to

Promote Socially Valid Outcomes for Children with Autism

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ABSTRACT

Very little is documented regarding the efficacy of Social Stories and Comic Strip Conversations for promoting an understanding of social situations and the appropriate social behaviors of individuals with autism spectrum disorder (ASD). In addition, few studies on the efficacy of Social Stories have examined whether outcomes are socially valid. The purpose of this article is to respond to some of the gaps in the literature on the efficacy of a frequently used intervention for children with ASD and to describe a family-centered collaborative approach to developing Social Stories and Comic Strip Conversations. The results of intervention employing an A-B design are reported for two case vignettes. Clinical implications, limitations of the available data, and potential factors contributing to outcome variability are discussed.

KEYWORDS: autism, social stories, comic strip conversations, intervention

Learning Outcomes:

As a result of this activity, the reader will be able to:

 (1) develop a social story and comic strip conversation

 (2) recognize the role of families in assessment and intervention for children with autism spectrum disorders, and

 (3) assess the effectiveness of social story intervention using parents as informants.

Using Social Stories and Comic Strip Conversations to Promote Socially Valid Outcomes for

Children with Autism

Over the last decade much enthusiasm has surrounded the use of Social Stories[1] for

remediating the social, behavioral, and communicative impairments characteristic of Autism

Spectrum Disorder (ASD). Social Stories are short stories constructed to inform, advise, and

reflect upon social situations. Comic Strip Conversations[2] are similar to Social Stories as they are

both visual systems designed to support a child's understanding of social situations, but comic

strips rely on the participation of the child who co-constructs them. Very little data have been

accumulated to examine the influence of Social Stories (SSs) on the communication and

perspective taking of children with ASD when used in conjunction with Comic Strip

Conversations (CSCs). Furthermore, few studies have investigated the efficacy of SSs using

parents as a major source of information to assure that outcomes are socially valid and relevant

to family priorities. The purpose of this article is to respond to some of the gaps in the literature

on the efficacy of a frequently used intervention for children with ASD and to describe a family-

centered collaborative approach to developing SSs and CSCs. First, a literature review describes

SSs and CSCs and offers suggestions for developing them. Next, methods for measuring

outcomes associated with SS Intervention are considered. Finally, a collaborative assessment

approach, data collection procedures utilizing parents as informants, and the results of

intervention using SSs and CSCs employing an A-B design are reported for two case vignettes.

Social Stories and Comic Strip Conversations

In theory and in practice, SSs are designed to minimize those factors identified as potentially confusing during interaction to provide individuals with autism "direct access to social information[3]" (p. 2). The logic behind SSs is rooted in an understanding of social cognition in ASD and the belief that this understanding should be reflected in attempts for remediation.[3] Social Stories (SSs) use situations from a person's actual experience to visually present social information while incorporating reading as a major component of the activity.[1, 4, 5] To construct an effective SS, it is important to consider the perspective of the child for whom the story is written. When the child's perspective is understood, the author may focus on what a child may "see, hear, and feel in the targeted situation[3]" (p. 3).

For many, intervention using SSs is believed to be effective not only because it draws on what may be personally relevant and motivating for the individual, but also because the activities, by nature, are in accord with what is commonly identified as best practice for persons with ASD (e.g., Gray[4]; Smith[6]). SSs capitalize on the strengths of persons with ASD which typically include precocious literacy skills and a predilection to use visualization in the development of understanding. In a related vein, researchers largely concur that processing difficulties are particularly salient when persons with ASD are asked to process stimuli that are of a transient or non-spatial nature. As Grandin[7] asserts, "the visual image of all written steps is essential" (p. 37).

Gray and Garand[3] suggest SSs are usually composed of two to five short sentences; however, the SS literature is replete with examples of SSs that are substantially longer (e.g., Kuoch & Mirenda;[8] Rogers & Smith Myles;[9] Rowe;[10] Safran, Safran, & Ellis[11]), suggesting that

longer stories can be appropriate and effective when responsive to the child's language level. Indeed, experience suggests that longer SSs are often necessary to construct stories that provide adequate context which often "includes (but is not limited to) *where* and *when* a situation takes place, *who* is involved, *what* is occurring, and *why*" (italics in original; Gray,[5] p. 171).

Gray[1] suggests sentences in a SS should take the form of either a *descriptive* sentence that provides information about the setting, people, or activities (e.g., "On most days, the children at school go outside for recess"), a *directive* sentence that informs children on what they need to do in a given setting (e.g., "Before we go outside, I need to stand in line with the other children"), and a *perspective* sentence that describes the feelings, beliefs, or reactions of others (e.g., "My teacher likes it when I stand in line"). Some stories also include a *control* sentence that is written to identify strategies the child might use to recall the information in a social story (e.g., "When I stand in line, I will think of the letters in the word 'line' as four children standing next to each other").

Gray[4,5] indicates that there is a preferred ratio of 0 or 1 directive sentence for every 2 to 5 descriptive, perspective, control sentences. However, Gray's ratio reflects her preference to avoid merely listing behaviors that the individual is expected to perform and the rationale is not rooted in theory or empiricism.[8] In fact, several studies have documented positive influences of SSs when they do not conform to Gray's suggested ratio and instead include more than the suggested directive sentences.[8] Contrary to Gray's[1] judgment that, "the most important…types of sentences are the descriptive, perspective and control sentences" (p. 3), it appears as though the precise characteristics of a successful SS need not depend on sentence type ratio. Rather, an

emphasis on constructing SSs that are responsive to the specific contexts and targets of intervention may be more appropriate.

Also critical to the development of an effective SS is the description of a social situation that is objective and realistic, selection of vocabulary that is meaningful to the child, use of syntactic constructions that are sensitive to the child's developmental level, and avoidance of inflexible language (e.g., "always") that can be construed literally or scripted inappropriately (for a full description, see Gray[4, 5]). Beyond the content of SSs, how often and when a SS is read is also important. SSs are taught using repetition because there is some indication that repetition and opportunities for practice are necessary to establish new and more appropriate behavioral routines.[1] Prompting a child to review a SS prior to an anticipated inappropriate behavior also appears to be associated with good outcomes.[12]

Compared to SSs, CSCs have entertained far less attention from researchers and professionals. Also developed by Gray,[2] a CSC utilizes the visual system and involves drawing, writing, and conversation. CSCs are designed to explicate the feelings and behaviors of those involved in challenging situations. They incorporate a basic set of symbols (e.g., bubbles to denote thinking, talking, interrupting) to illustrate what people do, say, and think. Color is also used to identify emotional content and Gray[2,5] provides suggestions for a conversation color chart.

CSCs are designed to improve social interaction by facilitating joint attention and shared meaning-making. The idea is that the writing and drawing involved in CSCs helps the child with ASD to participate in social exchanges with a competent adult and it is through these exchanges that the interlocutors negotiate a shared understanding of social events. This in turn, may

promote theory of mind (ToM) or the understanding of others' minds and perspectives[5] that

many researchers have concluded is a root cause of the core deficits characteristic of ASD (e.g.,

Baron-Cohen;[13] Baron-Cohen, Leslie, & Frith;[14] Leslie & Frith[15]). No research to date, however,

has examined whether CSCs promote children's knowledge of others' minds. As such, Gray's

proposition is based on clinical opinion and remains theoretical. In fact, the literature on the use

of CSCs for individuals with ASD is limited to proposed best strategies for effective

construction[2,5] making this a woefully understudied intervention. If CSCs are potent for

explicating others' perspectives, the most powerful demonstrations may occur in the context of

interpersonal conflict because, while engaged in dialogue about disputes, interlocutors are

naturally more likely to incorporate talk about thoughts and feelings and their causes. Indeed,

researchers have demonstrated that conflict may be a powerful means for facilitating ToM

development among typically developing children.[16,17]

A small but growing body of literature has documented that interventions using SSs have

been associated with observations of fewer inappropriate social behaviors of children with ASD

in a range of home and school settings.[6,8,12,18,19,20,21,22,23,24] Despite the contributions of these

studies, none has examined SSs when used in combination with CSCs even though this

combination appears clinically promising.[2,5] In fact, this strategy may have greater potential for

promoting behavioral and cognitive development than SSs used in isolation because CSCs are

specifically designed to facilitate shared-meaning making.

Methods for Examining the Efficacy of Social Stories

Previous research on the efficacy of SSs has documented change through systematic

observations of target behaviors (e.g., Barry & Burlew;[18] Cullain;[19] Kuoch & Mirenda;[8] Kuttler,

Smith Myles, & Carlson;[21] Norris & Dattilo;[22] Swaggart, et al.[23]). These investigations are important because they reveal some dynamic changes in discrete behaviors. Moreover, systematic observation confers the advantage of yielding objective data that may be (but have not been consistently) scrutinized in terms of interrater reliability. On the other hand, this method is limited in that it is not an appropriate index of socially valid outcomes.

As an alternative to systematic observation and in efforts to capture social validity, some researchers have examined the efficacy of SSs as indexed by informant measures of target behavior change. For example, Rowe[10] evaluated SS intervention, in part, by monitoring the testimony of educational assistants over time. More recently, Smith[6] evaluated the implementation of a SS training program in a school setting by assessing educator impressions of SS effectiveness using rating scales and reports of expected and unexpected outcomes. In addition to systematic observation and for purposes of gathering evidence for social validity, Theimann and Goldstein[24] obtained the subjective ratings of naïve judges who observed videotaped interactions and rated children on a number of social dimensions.

Generally speaking, narrative descriptions and properly designed rating scales are two time-honored alternatives to systematic observation for capturing the social validity of treatment. Data obtained through the use of questionnaires, surveys, rating scales, and interview or diary information allows researchers and practitioners to gain insights into behavior and functioning where observational data would be difficult or impossible to gather. Such assessment strategies are also welcomed from a family-centered perspective.[25] Family-centered assessments take advantage of the knowledge of those who are closest to child and rely on the important others in the child's life who know the child best. Involving caregivers as informants and interpreters of

children's behaviors is important because it reflects the growing recognition that "families are experts regarding their children [and] they are reliable and invaluable sources of information[26]" (p. 38). This notion gains importance when one considers the often cited social impairments of ASD that influence not only the child with ASD but also the child's parents, professionals, and friends. The use of subjective and family-centered assessments may serve to raise awareness of the frustrations and triumphs experienced by all as they endeavor to understand, communicate, and interact successfully with one another.

This article describes the use of CSC and SS intervention to teach appropriate social behaviors to two children with ASD. Important aspects of intervention including the development of the treatment targets and the data collection procedures were collaborative and family-centered.

<div align="center">Designing Intervention</div>

There were two critical components to designing the intervention. The first was learning about the families' priorities for intervention. The second was developing the intervention plan so it was responsive to the families' needs. Both of these components are described in greater detail in the following sections. In addition, the stories of two children, Timothy and Victoria (both pseudonyms), are presented to share the collaborative assessment and intervention approach used with families to develop and implement perspective taking SSs and CSCs. The SSs for Timothy and Victoria are presented in the Appendix and their CSCs are presented in Figures 1 and 2, respectively.

Learning about the Family

An expert in ASD worked in close collaboration with parents to learn about their children with ASD and family priorities for communicative and social behavior. A personal history was first conducted to understand the nature of the children's educational setting as well as their parents' accessibility to and participation in support services. To ensure the content of intervention was personally relevant, the expert in ASD also explored various areas of child functioning. Using a semi-structured audiotaped interview, parents were asked to reflect upon and identify social situations in which their child demonstrated inappropriate behaviors, experienced communicative challenges and failed to understand others' thoughts or perspectives resulting in a some type of recurring interpersonal conflict. The interviewer explored context in terms of persons, precursors, and settings.

Developing the Intervention

The content of intervention was informed through the aforementioned collaborative efforts and developed by a team of graduate and undergraduate student-clinicians and their mentors. SSs were constructed according to the guidelines provided by Gray[4,5] with the exception that Gray's basic ratio (discussed previously) was not followed. Rather, the goal of these particular interventions was to promote perspective-taking skills and to reduce the frequency of a recurring social conflict. For this reason, inclusion of a maximum number of perspective sentences and mental state terms (e.g., *want, think, know, happy, sad, mad*) were incorporated.

To ensure that SSs were responsive to parental concerns and sensitive to the child's receptive and expressive language, the SSs were reviewed and edited by parents. Color

illustrations were inserted to accompany text because they are often beneficial in helping

children process written and spoken information during communicative exchanges.[1] The topic of

the CSC followed that of the SS (e.g., "How to be nice to my sister") but was constructed in

collaboration with the child.

Timothy

Timothy, a verbal six-year-old first-grader previously diagnosed with ASD, presented

some unique intervention challenges. At pre-intervention his score on the Autism Diagnostic

Observation Schedule[27] exceeded the 'autism cutoff' suggesting that his diagnosis of ASD was

valid. Timothy also achieved a standard score of 97 on the Peabody Picture Vocabulary Test (3rd

ed.)[28] indicating relatively high receptive language skills although his mother reported that he

experiences challenges when required to process language rapidly. Timothy received speech and

language therapy approximately three hours per week and also participated in a social skills

group once a week with the speech-language pathologist and other children requiring social

skills support. Timothy used SSs frequently at school (1 to 2 times per day over the previous 2

years) but did not use them at home. SSs at school focused on increasing appropriate behaviors

during recess and lunch, among others, and were characterized as effective.

Timothy had many friends with whom he enjoyed climbing trees, swimming, playing at

the park and going to the golf course. Timothy also enjoyed spelling and drawing. His mother

reported that he often created comic strip characters or super heroes like "Antman" and wrote

small books complete with illustrations of the action figures.

At the time of assessment and intervention, Timothy lived with his mother and only

sibling who was a 4-year old girl who was also diagnosed with ASD. Timothy's sister was

functionally nonverbal and received intensive behavioral intervention at home as well as a

variety of support services in an inclusive preschool program with other children with disabilities.

When asked to reflect upon Timothy's social, behavioral and communicative challenges, Timothy's mother reported that he (like many children with ASD) was aggressive in a range of settings and experienced difficulty understanding others' perspectives. Of particular concern was his cruel behavior toward his sister whom he did not understand (e.g., saying "I don't like [name]!"). As noted previously, Timothy's sister experienced significant communicative challenges. Timothy's mother frequently explained to him the causes underlying these challenges. She reported repeated attempts to explain 'autism' in order to make clear why his sister did the things she did. She also asked Timothy to perspective-take by imagining how he might feel if someone said "I don't like Timothy!" Unfortunately, Timothy's behavior toward his sister remained problematic.

Victoria

At pre-intervention, Victoria was a verbal 12-year-old girl diagnosed with ASD who attended the sixth grade. Her inclusion in this class had been difficult to maintain in the past due to her health status which was complicated by unpredictable and inconsistently managed seizures. Like Timothy, Victoria's score on the ADOS exceeded the cutoff score suggesting a valid diagnosis of ASD. Victoria achieved a standard score of 64 on the PPVT-III and received speech and language therapy five times per week which focused on receptive and expressive language skills. Victoria had used SSs in the past at school but did so inconsistently. Those SSs focused primarily on inappropriate social behaviors such as biting and hitting and where characterized as effective, albeit not sustained.

Victoria was an active girl who enjoyed gymnastics, bowling, shopping, bicycling, rollerblading, iceskating, skiing, and playing the base guitar. Her favorite activity, however, was swimming. At the time of intervention, Victoria lived with her mother. Her three older sisters attended college and visited frequently.

Not surprisingly, when asked to reflect on Victoria's challenges, her mother reported significant impairments in perspective-taking. Central themes involved a lack of 'fairness' and 'compassion' in the way she behaved toward and spoke to friends and family. Of particular concern was Victoria's inability to understand why and when others did not want to continue an activity that she was enjoying. Unfailingly, cessation of others' participation in such an activity (e.g., swimming) was met by Victoria's use of stinging comments and insistence that others continue the activity. Like Timothy's mother, Victoria's mother also frequently explained to her child that saying mean things can hurt people's feelings. As with Timothy, this strategy met with no discernable success.

<div align="center">Evaluating Intervention Outcomes</div>

Brief individualized diaries were developed to obtain parents' daily and general impressions of the specific behaviors targeted in the SS and CSC. More specifically, each mother rated her general and subjective impressions regarding change by indicating the degree to which she agreed with a statement (e.g., "Based on my judgments today, Timothy is nice to [his sister]") on a ten point Likert-type scale anchored by 'strongly disagree' and 'strongly agree' with higher values reflecting greater confidence that the problem behavior had abated. If there were no opportunities that day to observe the target behavior, respondents were instructed to circle a 'Don't know' response option. "Don't know" responses were treated as missing data.

The mothers were also invited to report any and all information that would be helpful for understanding how they perceived the treatment had or had not impacted them and their children. They did so frequently by providing testimony concerned with the nature, context, and frequency of the observable social and communicative target behaviors and their feelings regarding the intervention.

A simple A-B design, which is often used by[29] and recommended for[30] clinicians, was selected to evaluate the intervention outcomes. Baseline diary data were collected over an approximate two week period before the introduction of the CSC and SS that are of interest in this article. The CSCs and SSs intervention phase occurred three times a week for approximately six weeks in the home. The CSC was constructed with Timothy and Victoria during the first intervention session. In subsequent sessions, the CSC was reviewed with additional comments being incorporated as appropriate. This was followed by a reading of the SS based on the CSC.

Intervention Results

Respondents were asked to complete the diaries as often as possible and a minimum of three times per week. Data were scrutinized across and within baseline and intervention phases using visual analysis. Results are presented to Timothy and Victoria, respectively.

Timothy

On average, Timothy's mother completed the diaries 5.6 times per week. Figure 3 illustrates her subjective ratings of Timothy's general ability to behave nicely toward his sister. Although baseline data indicated some variation, stability is noted with a modal rating of six. An immediate and abrupt change coincided with the introduction of the intervention. On the eighth

day of data collection (which corresponded to the fifth day of intervention), data fell below the majority of baseline data points where they remained unchanged until the 18th day of data collection (which corresponded to the eighth day of intervention). At this time, Timothy's mother reported a "huge breakthrough" and from this point forward her subjective ratings were invariant and high. Specifically, immediately following the eighth day of intervention, Timothy's mother reported that she explained to Timothy (as she had before) how ASD affected his sister before taking him to school and that he asked clarifying questions to better understand his sister's sensitivities. He then used a dry erase board to communicate with his sister who remained engaged during a recitation of the alphabet and a counting activity. Timothy's mother also reported that when she picked Timothy up from school, he had candy for his sister and wanted to take his sister to the candy store where he held her hand, picked out some candy and at one point said "Isn't my sister cute?"

As the rating data show, this positive behavior continued. Timothy's mother's testimony was consistent with her high ratings of his behavior. She reported that Timothy now kisses her goodbye, holds her hand, asks "Are you okay" (if she looks upset), helps her when she wants to watch a movie, and gives her toys among other nice things. In addition, Timothy also tolerates his sister's tantrums and hitting and explains to his mother "It's okay mom…She just doesn't understand." As the mother reported "It was beautiful!" It is clinically interesting that over the course of intervention, Timothy's reaction to the CSC changed. Initially, he exhibited difficulty attending and responding to the CSC, but later appeared quite engaged. Timothy offered comments such as "making mad faces at [my sister] is not good" and refused to read the first frame (see Figure 1) because they included the statement "I hate [my sister]." He did, however, enjoy the final frame of the CSC because it showed that "she was feeling good."

Victoria

On average, Victoria's mother completed the daily diaries 6.2 times per week. Figure 4 illustrates her subjective ratings regarding Victoria's ability to stop insisting that others continue an activity when they no longer want to. The data reveal no changes from the baseline to the intervention phase. This is consistent with the mother's testimony that no change had been detected. Of clinical interest is that over the course of the intervention, Victoria's response to the CSC also changed but not like it had for Timothy. For Victoria the activity of constructing a CSC and reading a SS, which emphasized others' perspectives and which recommended Victoria understand and accommodate others, was anxiety provoking. Specifically, she often became upset at the point in the CSC where the statement is read "And that's okay" (see Figure 2) and rewrote in bold letters "NOT OK" suggesting a degree of inflexibility to negotiate with others this difficult social situation. This CSC was subsequently rewritten several times so that the words "NOT OK" did not appear and would therefore not be reinforcing.

Discussion & Clinical Implications

This article reported on the use of CSCs and SSs for reducing the inappropriate social behaviors of two individuals with ASD. Treatment efficacy was measured using a method designed to tap social validity with important aspects of intervention employing a family-centered approach. Professionals collaborated with parents to identify the goals of intervention, to determine the appropriateness of the intervention procedures, and to evaluate its effects. As a result, some dynamic, evolving and contextual aspects of child functioning were revealed.

Involving the family in intervention efforts is important. The immediate benefit to clinicians is the potential to improve intervention outcomes through the use of information gleaned from those who know the child best—the family. Further, families can support intervention efforts more fully outside of direct service when they understand the goals and methods of treatment. As such, families should be seen as valuable partners for promoting positive change in their children with ASD.

Speech-language pathologists also have a responsibility for data collection. They can easily employ an A (baseline) - B (treatment) design in their practice. Speech-language pathologists can and should be collecting baseline and intervention phase data using a variety of informants and systematic observational techniques.

The variation in outcomes reported for Timothy and Victoria have important clinical and theoretical implications. Timothy's mother reported significant positive changes associated with intervention that went beyond the explicit content given in the SS and CSC. For example, the targeted SSs and CSCs did not instruct Timothy to hold his sister's hand, buy candy for her, or kiss her goodbye. Rather, Timothy exhibited novel 'caring' behaviors toward his sister suggesting that the changes in his behavior were based on shifts in understanding. As noted previously, Gray theorized that SSs [1,3,4] and CSCs [2,5] may be potent for effecting change because they facilitate the acquisition of social cognitive understanding. The results of Timothy's intervention provide some support for this notion and suggest development of ToM knowledge. The outcomes of his intervention stories are also consistent with the ToM hypothesis of ASD that proposes the core social and behavioral deficits of ASD are rooted in 'mind blindness.' [13, 14, 15] When goals of intervention with children with ASD target ToM competence, CSCs and SSs

may prove to be powerful tools because they make explicit the content of others' minds. This information may be used to construct more accurate understanding of social situations upon which social behaviors are founded.

SSs and CSCs, however, may not always be associated with good outcomes as was true for Victoria. Unlike Timothy, Victoria's intervention did not produce any palpable changes. Factors that moderate the effects of SS and CSC intervention include, but are not limited to, the level of receptive and expressive language skills, the severity of ASD, and age. The techniques for how the SSs and CSCs were designed in the context of child characteristics also need to be considered. The early impressions of her interventionist were that Victoria did not perceive the SS and CSC as having any real import. Perhaps more time and effort to make explicit the purpose and importance of the SS and CSC was necessary. Although collaborating with parents (or educators and other professionals) in the identification of target behaviors is appropriate and useful in many clinical contexts, there are undoubtedly situations where it is appropriate to engage the child more centrally. This may be accomplished by following the child's lead and tailoring the content of SSs and CSCs to the child's conception of what constitutes a difficult social event in his or her life. Once identified, the context may be used to explicate others' perspectives. Gray [5] cautions that although parents and professionals may characterize a child behavior as inappropriate, the child with ASD "may view the actions or statements of others as out of context, illogical, or overwhelming" (p. 168) and proposes that "there are no 'bizarre' behaviors, only human responses that originate from an experience that is not fully understood or appreciated" (p. 168).

Professionals also need to carefully consider the characteristics of ASD in relation to the child's age and cognitive and language ability in order to forecast factors that may impact performance. Further, they need to understand a child's educational programming experiences and health status as both can affect a child's responsiveness to intervention. For example, Victoria was unsuccessful in an inclusive educational program as well as a special independent school. She had to be home schooled as she was unable to adapt to the expectations for performance outside the comfort and safety of her home. In addition, her health status was complicated because of unpredictable and inconsistently managed seizures. Victoria's lack of consistent and effective educational experiences may have decreased the likelihood of her responsiveness to a structured task (e.g., reading social stories) associated with specific performance demands (e.g., considering perspectives other then her own). As well, her complex seizure disorder may have influenced her ability to attend and respond as expected considering her age and linguistic level. It may also be, however, that the social stories raised awareness in Victoria of something unexpected, that is, others may not always share her perspective, desire or belief. This is evident in her qualification of one of the CSC and SS frames indicating that others might not want to do what Victoria wanted to do and her insistence this was "Not Okay!"

Given limitations posed by an A-B design, inferences of causality with regard to Timothy's case are inappropriate. The threats to internal validity include history and maturation. A full scale and controlled study is needed to demonstrate the potential of SSs and CSCs for helping individuals with ASD develop social knowledge. Only then can we begin to identify factors that are associated with specific outcomes. Furthermore, the two case vignettes examined in this article combined the effects of CSCs and SSs. Future research should employ controlled studies to isolate CSCs and SSs to determine the relative influence of each. This represents an

exciting and rewarding area of study that may influence practice in attempts to facilitate more

sophisticated functioning among individuals with ASD for a range of behaviors and settings.

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Appendix: Social Stories developed for Timothy and Victoria

Timothy

"How to be nice to my sister"

I have a younger sister, [name].

She is learning how to talk.

Sometimes she uses hands to talk.

Or she uses her picture book to talk.

Sometimes I don't want to play with [name] because she makes me mad.

Sometimes I get mad and frustrated because [name] can be hard to play with.

Sometimes she might hit me and doesn't play how I want.

She might do this because she has a hard time talking and using her words.

When [name] makes me mad, I might yell or say mean things.

I might say "I don't like [name]!"

This makes [name] sad. This makes my Mommy sad too.

My Mommy gets sad because she loves me and [name], and she wants us to get along.

I'm the big brother so I can help my Mommy by being nice to [name].

I can help teach her how to play and talk.

When [name] makes me mad, I will try to remember to not say mean things.

When [name] makes me mad, I can say "I don't want to play right now!"

I could also ask a grown-up for help.

My Mommy loves it when [name] and I play nicely.

Victoria

"Do I Know How Others Feel?"

I like to swim and have fun in the water.

My mom and my sisters like to have fun in the water too.

Sometimes I like to keep doing things, like swimming, when others want to stop.

 My mom, my sisters or my friends might not want to do what I want to do.

It hurts my feelings when people don't want to keep doing what I want to do.

When other people don't want to keep doing what I am doing, that's okay.

They may be tired.

They may want to go home.

Or they may want to do something else.

When they want to do something different, I will try to remember that they might feel differently

than I do.

It makes others happy when I understand how they feel.

Even though I want to keep playing, I can say "Thank you for playing in the water with me.

Maybe we can play in the water another time."

List of Figures

Figure 3: Parent Subjective Ratings of Treatment Efficacy for Timothy

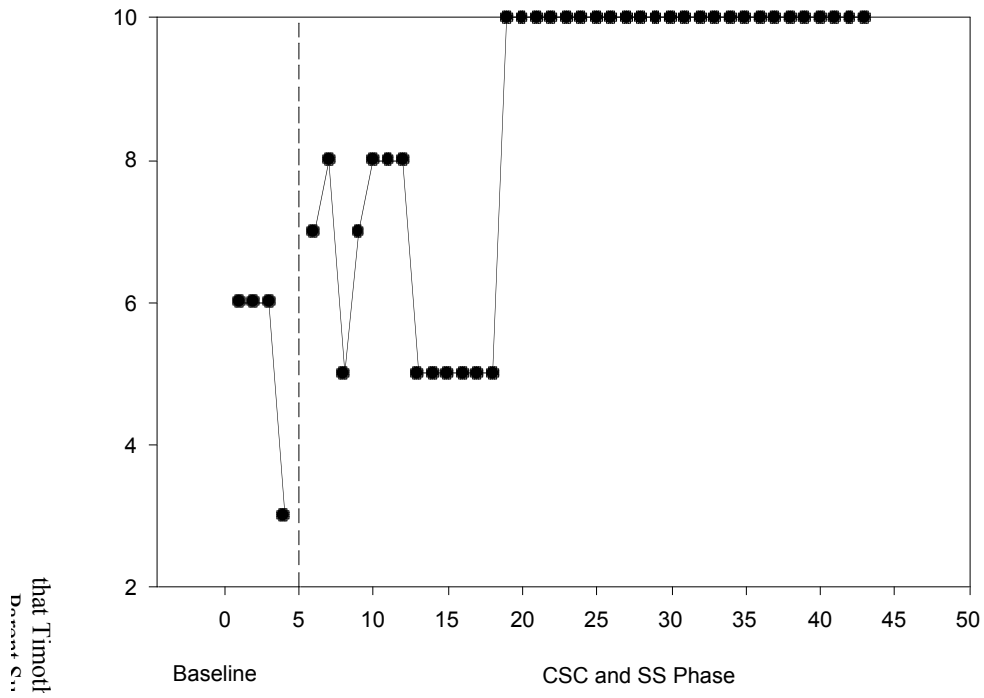Baseline   CSC and SS Phase

Figure 4: Parent Subjective Ratings of Treatment Efficacy for Victoria