



The Effectiveness of a Social Story Intervention in Decreasing Problem Behavior in Children With Autism Spectrum Disorder

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Abstract

This study explores whether or not Social Stories Intervention Strategy has positive effects decreasing problem behaviour of children with autism. Participants were ten children between the ages of seven and nine who attended a center for autism. A pre- post design was used to examine the effectiveness of the social stories Intervention Strategy on decreasing problem behaviour of the target children. Findings from this study indicated the effectiveness of the social stories intervention employed in teaching the target children problem behaviour. On the basis of the findings, the study advocated for the effectiveness of the social stories intervention employed in teaching the target children problem behaviour.

Keywords: Social stories, problem behaviour, children with autism

Introduction

According to Adel Abdullah Mohammed & Mourad Ali Eissa (2014), it is estimated that 1 in 88 children has been identified as having autism. The American Psychiatric Association (2000) describes communication, social development, and emotional regulation as core features of autism. These challenges can put this population of children at an increased risk of developing maladaptive behaviours to express their feelings. These problem behaviours may be reinforced by the attention they receive, leading the child with autism to continue to use them as they know no other way to get their needs met.

Given the unique learning needs of individuals with autism, social stories may provide an effective strategy to improve social competence. Carol Gray, a special education teacher, developed social stories in order to enable individuals with an autistic spectrum disorder to “read, interpret, and respond effectively to their social world” (Gray, 1994, p.5). A social story is a concise narrative about a situation, concept, behavior, or social skill that is written and implemented according to specific guidelines. Social stories are designed to bring predictability to a situation by providing specific and relevant social cues as well as defining the appropriate responses to a social situation (Adel Abdulla Mohammed & Mourad Ali Eissa, 2014).

Behavior Problems in Individuals with Autism

Aggression, property destruction, disruptions/tantrums, self-injury, and stereotypes are the primary challenging behaviors for children with autism (Horner, Carr, Strain, Todd, & Reed, 2002). For children with autism, problems associated with behavior in the classroom are common (Moyes, 2002). It has been determined, as discussed earlier, that communication difficulties are one of the principal areas of deficit for children with autism, with behavioral problems and social skills deficits being two other characteristics of the disorder. There is increasing acknowledgement of the fact that there is a strong correlation between the communication difficulty experienced by children and the number of behavioral problems they may display (Hodgdon, 1995), so it seems likely that a principal reason why children with autism may be displaying inappropriate behaviors is that they do not understand what appropriate behavior for the given situation would entail due to their difficulties with communication, especially receptive communication.

The challenge when teaching social skills to children with autism is that the teacher and the child are working from two different perspectives. It is important that the technique employed approach learning from the child’s perspective, helping the child identify what behaviors are important, and why the behaviors are important. The approach needs to be from the child’s perspective due to the fact that autistic children have trouble taking another

person's perspective (lack of "theory of mind") (Mundy et al., 1993). Autistic children need to learn social skills relevant to their own experiences so they can better understand what behavior is desired (Gray, 1995). The Social Story intervention (Gray & Garand, 1993; Gray, 1994) was developed to provide individuals with autism with the information they are missing so that they can interact appropriately in social situations.

Social Stories and Individuals with Autism

Social Stories are written only after the behavior(s) and the setting have been thoroughly observed (Gray & Garand, 1993; Gray, 1995; Gray, 2000). Gray (1995) explained a 3- step process for observing. First, at least one observation is required to thoroughly record when and where the problem behavior occurs, who is present, the routines taking place, the rules of the setting, the social cues given, signals for beginning and ending an activity, and any other observable data. Second, those people who are present each day in the setting are interviewed to determine how changes in time of day, routines, or expectations influence the behavior observed. Third, the observer is to consider the series of events observed, as they could be experienced by the student for whom the story is intended. Gray (1995) regarded this last step as critical for writing successful Social Stories, because it assists in "determining the focus of the social story" and helping the writer to "decide which aspects of a situation take priority".

Thus, developing a social story begins by identifying: (a) the problem behavior(s) (e.g., hitting, kicking, talking out, etc.), (b) the new behavior(s) to be taught (e.g., standing in line without touching others), and (c) the situations(s) where this lesson would benefit the person most (e.g., lining up with his or her classmates) (Gray & Garand, 1993).

A growing body of literature has examined the effectiveness of social stories with individuals with autism. Existing literature showed that social stories were effective in decreasing aggressive behavior (Adams, Gouvousis, Van Lue, & Waldron, 2004; Gray & Garand, 1993; Romano, 2002; Rowe, 1999), increasing appropriate behaviors (Agosta, Graetz, Mastropieri, & Scruggs, 2004; Kuoch & Mirenda, 2003, Smith, 2001), increasing the use of appropriate social skills (Barry & Burley 2004; Hagiwara, 1999; Pettigrew, 1998), increasing greeting behavior and initiation of play activities (Feinberg, 2001), increasing on-task behavior (Brownell, 2002), increasing appropriate meal-eating behavior (Staley, 2001; Adel Abdulla & Amal Mostafa ,2012) and decreasing precursors of tantrum behaviors (Simpson & Myles, 2002).

Collectively, these studies showed that social stories can improve a wide range of behavior among individuals with ASD (Crozier & Sileo, 2005). The purpose of the present study was to examine the extent to which social stories can be used to decrease problem behaviour of ten children with ASD. The primary research question was, what effects will social stories have on problem behaviour of children with autism?.

Method

Participants

Participants were ten children between the ages of seven and nine who attended a center for autism . Parental informed consent forms were sent home by the center director to parents of potential participants telling them about the study and requesting them to give permission for their children to participate. Through a previous comprehensive psychological evaluation each targeted child had received a primary diagnosis of Autistic Disorder. All children were also capable of communication using speech assessed through a combination of teacher report and observation. They were so-called high functioning.

Each child also had the following characteristics: (a) meet the full criteria for autism according to The Scale for Screening Autism Disorder(Mohammed, 2003), (b) functional verbal communication, (c) able to read and comprehend words, and (d) ability to follow directions.

Measure

Problem Behavior scale (Logsdon, 2012). The *Problem Behavior scale* includes 42 items on two subscales: (a) externalizing problems and (b) internalizing problems. Internal consistency reliabilities was .96 for the scale total and from .81 to .95 for the subscales.

Procedure

Problem behavior level of each child was measured on Problem Behavior scale. The assessment was done in an environment familiar to the children and during their usual intervention time. Treatment consisted of using social stories to decrease problem behaviour. The pretest scores were analyzed to ensure parity among the children.

Each child in the treatment group received 14 teaching sessions. The duration of each session would be from 15 minutes to 20 minutes, depending on child's capacity. While treatment group children received the training using social stories ,the control group continued with usual special classroom interventions. At the completion of the treatment session, children from both groups were tested again on Problem Behavior Scale.

Results

Social stories and problem behaviour

The first objective of the study was to determine if use of social stories would be more effective for the treatment group compared to the control group .For this purpose, the post intervention scores of both treatment and control groups were analyzed. Table 1. shows Z Value results for the differences in post- test mean rank scores between experimental and control groups in problem behaviour scale. The table shows that (Z) values were(-2.739)for social cooperation,(-2.660)for social interaction, (-2.668)for social independence, and (-2.635)for the composite score. These values are significant at the level (0.05) in the favor of experimental group.

Table 1. Z Values results for the differences in post- test mean rank scores between experimental and control groups in problem behaviour

Variables	Groups	N	Mean Ranks	Sum Ranks	Mann-whitney	Z Value	Sig
Externalizing Problems	Control	5	8	40	Zero	-2.635	0.05
	Experimental	5	3	15			
Internalizing Problems	Control	5	8	40	Zero	-2.635	0.05
	Experimental.	5	3	15			
Composite	Control	5	8	40	Zero	-2.611	0.05
	Experimental	5	3	15			

The second objective of the study was to determine the effect of social stories on the development of social skills in children with autism. The treatment consisted of training through use of social stories. The children's problem behaviour was measured pre and post intervention. Table 2. shows Z Value results for the differences in pre- post- test mean rank scores for the experimental group in problem behaviour scale. The table shows that (Z) values were(-2.041)for externalizing problems,(-2.060) for internalizing problems, and (-2.060)for

the composite score. These values are significant at the level (0.05) .This indicates that use of social stories had a positive effect on decreasing problem behaviour in children with autism.

Table 2. Z Values results for the comparison of mean rank scores of experimental group at pre- and post intervention in problem behaviour

Variables	Negative Ranks		Positive Ranks		Z Value	Sig.
	Mean	Sum	Mean	Sum		
externalizing problems	3	15	Zero	Zero	-2.041	0.05
internalizing problems	3	15	Zero	Zero	-2.060	0.05
Composite	3	15	Zero	Zero	-2.060	0.05

Discussion

The present study evaluated the effects of social stories intervention on problem behaviour of children with autism. The study results showed that the social story intervention was effective in decreasing externalizing problems, and internalizing problems of all children participated in this study. The social stories developed for the study were written according to the Gray's guidelines (1993).

The present study contributes in several ways to the effectiveness of social story literature. First, findings from this study demonstrate the potential benefits of using the social story intervention as the sole intervention to decrease problem behaviour of children with autism. The results of this study were similar to those found previously for children with autism populations (Crozier, &Tincani,2005;Cullain,2000; Kuttler, Myles& Carlson, 1998; Romano, 2002). Second, pre- post experimental design was used in the present study. Many studies on the effectiveness of social stories have used nonexperimental designs that are plagued by threats to internal and external validity (Kuoch and Mirenda, 2003; Reynhout and Carter, 2006).

Furthermore, the children in this study did not receive any type of reinforcement or behavior modification strategies while participating in the sessions. Removing strategies such as prompting techniques, token systems, and other reinforcement systems reduced the potential for confounds within the study. Therefore, one can conclude that the social story intervention was primarily responsible for the change in problem behaviour of children participated in the study .

In summary, social stories effectively decreased problem behaviour of the children who participated in this study. Overall, results from this study contribute to the social story literature for decreasing problem behaviour of children with autism. The present study lends empirical support to the notion that children with autism, specifically young children with autism, can be taught and can learn appropriate behaviour.

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