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## Research in Autism Spectrum Disorders

Journal homepage: http://ees.elsevier.com/RASD/default.asp



# Increasing recall of information of children diagnosed with Asperger's Syndrome: Utilization of visual strategies



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#### ARTICLE INFO

Article history: Received 21 August 2013 Accepted 25 September 2013

Keywords: Autism Asperger's Syndrome Visual prompts Recall Friendship

#### ABSTRACT

Social skills deficits are a hallmark diagnostic characteristic (American Psychiatric Association, 2013) of individuals diagnosed with Asperger's Syndrome (AS) or Autism. Interventions targeting social skills with this population have highlighted the effectiveness of visual strategies. This investigation examined the effectiveness of visual strategies in improving recall of personal information of others, a key friendship skill. In a social skills group, children played a game requiring them to recall information about each other. Visual prompts were found to be effective in helping children to recall information of other children. Children also demonstrated the ability to generate their own visual prompts to increase recall. Implications and directions for future research are discussed.

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#### 1. Introduction

Asperger's Syndrome (AS), first recognized in 1944, is primarily a social disorder (Myles & Simpson, 2002) characterized by qualitative, pervasive impairments in social interaction and narrow, repetitive patterns of interests and activities (DSM-IV-TR; American Psychiatric Association, 2000). Although the term Asperger's Syndrome has been subsumed under the category of Autism in the most recent version of the DSM (DSM-V; American Psychiatric Association, 2013), the acknowledgment that this group of individuals is plagued with social difficulties remains. While young, elementary schoolaged children with AS often cannot be distinguished from their peers in terms of academic progress, they can easily be spotted in social situations as "different." Children with AS have been described as having difficulties understanding the social rules of peer interaction, and though they may desire social interactions with others, they do not have the skills to successfully negotiate peer relationships (Myles & Simpson, 2002). Deficits in both verbal and nonverbal social skills have been documented, including such nonverbal difficulties as understanding facial expressions and emotions (Davies, Bishop, Manstead, & Tantum, 1994) or understanding the rules of social proximity; and corresponding verbal difficulties such as engaging reciprocally in conversations, and accepting and giving compliments and criticism (Attwood, 2000; Koning & Magill-Evans, 2001).

To date, there is limited research evaluating interventions for improving the social competence of young children with AS and, unfortunately, a growing body of evidence that many children with AS become adolescents and young adults who exhibit extreme deficits in social skills, and concomitant problems with sustained employment and psychiatric difficulties (Gutstein & Whitney, 2002). Given the impact that social skills deficits continue to impose on individuals with AS, and the developmental nature of social competence, it is imperative that effective social interventions be identified that can be easily

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implemented with young children. Some researchers suggest promising interventions involve teaching social skills to children with AS to remediate their deficits (e.g., Attwood, 2000), whereas others suggest a broader approach, addressing issues related to experience-sharing (e.g., Gutstein & Whitney, 2002). This investigation attempted to blend the two approaches by providing direct instruction and feedback with the opportunity to practice newly learned social skills in simple, nondistracting environments with evenly matched peers. The targeted skill focusing on sharing experiences of others, was the recall of personal information. Traditional direct instruction and feedback was enhanced by the use of visual strategies.

Research has demonstrated the powerful impact of a wide variety of visual strategies on social skill acquisition for children with AS (Reichow & Volkmar, 2010). For example, social stories, stories that detail desirable behaviors in particular social situations, have been demonstrated as effective in increasing prosocial behaviors (e.g., Reichow & Sabornie, 2009) and reduce problem behavior (e.g., Mancil, Haydon, & Whitby, 2009). Social scripts have also been used to increase communication skills with children with Autism (Reichow & Volkmar, 2010). Activity schedules, a series of pictures that depict the sequence of behavioral events are another popular and effective strategy (Reichow & Volkmar, 2010) to promote peer engagement (Betz, Higbee, & Reagon, 2008) and reduce problem behaviors (Schmit, Alper, Raschke, & Ryndak, 2000).

The literature on social skills interventions for children with Autism clearly indicates that visual strategies are effective in increasing prosocial skills and decreasing problem behavior (e.g., Reichow & Volkmar, 2010). In most cases, the visual stimuli are representative of some appropriate behavior for a child to engage in. The types of visual stimuli vary from stories, to static pictures, to videos. The current study sought to extend the social skills literature by evaluating the effects of visual strategies on recall of information.

Being able to recall information that peers divulge is an important skill when developing friendships. Children with Autism experience a "failure to develop peer relationships appropriate to the developmental level" (DSM-IV, p. 70). Rating scales have been developed that assess the quantity of discrete social skills to help practitioners determine a child's deficits. However, these scales do not articulate the meaningful qualities that underlie friendships. The Friendship Qualities Scale (FSQ; Bukowski, Hoza, & Boivin, 1994) represents a rating scale of interpersonal qualities. Research on this measure has demonstrated that qualities like companionship are a basic feature to children's friendships. Companionship includes behaviors such as being able to talk to someone about school or mutual interests. However, children with Autism may have impairments in the "awareness of others" (DSM-IV, p.70). This highlights the importance of skills such as listening to others and determining mutual interests.

The current study was conducted within the context of a social skills group for children with Asperger's Syndrome and Autism. When the group began, an ice breaker game was played to help the children to get to know each other. It was observed that the children were unable to recall information that was disclosed during the game. Thus, the objectives of the game were not being met because the children had difficulty recaling the information provided by peers. This impaired the children's ability to find mutual interests and develop companionship. The existing research on effective social skills interventions suggested that visual strategies could be used to enhance recall of information in this social skills group.

#### 2. Method

#### 2.1. Participants and setting

Five children participated in this study. All of the participants attended a regular occurring social skills group for children diagnosed with Asperger's Syndrome of Autism. This group was conducted once per week for 1.5 h each session. Skills that were targeted in this group included appropriate interactions and game play.

The five participants ranged in age from 8 to 9 years old. All of the children were in 3rd grade and had a formal diagnosis of Asperger's Syndrome from an outside source. Prior to treatment, ratings of social skills were obtained by using the Social Skills Rating Scale (SSRS; Gresham & Elliot, 1990) and/or the social skills subscale of the Behavior Assessment Scale for Children (BASC; Reynolds & Kamphaus, 1992). The SSRS is a narrow-band assessment of social skills and problem behaviors. Participant's mothers completed the parent report for of the SSRS. The BASC is a broad band rating scale that covers clinical behavior difficulties and adaptive skills. Participant's mothers completed the entire BASC and we report the social skills scale from the adaptive scale. Table 1 displays participant's standardized social skills scores. All social skills scores were below average or lower.

The social skills groups convened at a university clinic. Sessions were conducted in a large room with several areas including a seating area, and area with a table, and a play area. This specific intervention was conducted in a seating area. The children sat in chairs or on a couch that were arranged in a semi-circle. At the front of the area was a wall on which visual prompts were displayed. A clinician stood at the front of the area during the activities relevant to this study.

#### 2.2. Materials

There were several materials needed to conduct this intervention. To display visual prompts, pieces of paper were taped to the front wall of the area in which the intervention was conducted. Sets of paper equal to the number of children attending group were placed on the wall next to each other, with each child's name written on the top. During intervention a child's responses to questions were written on his respective piece of paper using markers. During the latter part of the intervention

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