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Research in Autism Spectrum Disorders 1 (2007) 164–173

<http://ees.elsevier.com/RASD/default.asp>

# Relationship between social competence and sensory processing in children with high functioning autism spectrum disorders

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Received 18 September 2006; received in revised form 29 September 2006; accepted 3 October 2006

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## Abstract

*Purpose:* This study examines the relationship between social competence and sensory processing in children with high functioning autism spectrum disorders.

*Methodology:* Children, ages 6–10 ( $N = 36$ ), with high functioning autism spectrum disorders were assessed using the Social Responsiveness Scale (SRS) and the Sensory Profile (SP). A bivariate correlational design was used to compare the scores (Spearman Rank Correlational Coefficient).

*Results:* Significant differences were seen between mild to moderate and severe categories of SRS scores, based on Mann–Whitney  $U$  test ( $p < .05$ ). Moderate to strong correlations were found between the SRS scores and all four sensory processing quadrant scores.

*Conclusions:* This study adds a clearer understanding of the relationship between sensory processing and social competence for children with high functioning autism spectrum disorders. The degree of correlation indicates that sensory processing is a function of severity within autism spectrum disorders and may be an important factor to consider when addressing the social performance of these children.

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*Keywords:* Asperger's disorder; Social responsiveness; Pervasive developmental disorders

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## 1. Introduction

Many studies have described social skills deficits as a core feature in children with high functioning autism spectrum disorders. Additionally, although not part of the diagnostic criteria, sensory processing difficulties and differences have been widely documented in these children. Both social skills deficits and sensory processing problems can limit a child's ability to engage in everyday occupations and to participate fully in home, school and community activities. While occupational therapists frequently address sensory processing problems and occasionally address social skills deficits in their interventions for children with high functioning autism spectrum disorders, no study has investigated the relationship between these two skill areas that support performance. Using a newly developed assessment of social competence, the Social Responsiveness Scale (Constantino & Gruber, 2005) along with the widely used Sensory Profile (Dunn, 1999), this study sought to investigate the relationship between core social and sensory characteristics in children with high functioning autism spectrum disorders (HFASD).

## 2. Literature review

The United States Department of Health and Human Services, Centers for Disease Control and Prevention (Department of Health, 2006), recognizes a prevalence rate for pervasive developmental disorders (PDD), more commonly known as autistic spectrum disorders (ASD), between two and six per 1,000 individuals. Approximately four times more males than females are affected, with no major differences noted by race. Individuals with diagnoses of high functioning autism (HFA), Asperger's disorder (AD), and pervasive developmental disorder-not otherwise specified (PDD-NOS), who have a nonverbal IQ score above 70 are included in the category of HFASD.

Individuals with HFASD show many deficits, the most significant of them being a sustained impairment in social behaviors that contributes to difficulties in all areas of functioning (American Psychiatric Association, 2000). These deficits have lasting effects into adulthood, and can reduce a person's ability to participate in many meaningful occupations and important occupational roles. As adults, only 5–15% of individuals with ASD achieve a normal or near-normal social life and acceptable functioning in school or work. Very few achieve enough independence to marry or own their own homes (Howlin, 2000; Howlin & Goode, 1998; Nordin & Gillberg, 1998).

Although the diagnostic criteria for ASD do not include sensory processing deficits, the literature describes many sensory processing abnormalities for children with ASD. Several research groups have identified modulation difficulties including both hyposensitivities and hypersensitivities to a variety of sensory stimuli in children with autism (Dunn, Myles, & Orr, 2002; Liss, Saulnier, Fein, & Kinsbourne, 2006; Myles et al., 2004; Watling, Dietz, & White, 2001). Myles et al. (2004) found that children with AD had significantly more difficulty in social-emotional responsiveness and with attention than the children with autism. This indicates that sensory overload, as demonstrated by behavioral responses, are more likely to occur in children with AD. Pfeiffer, Kinnealey,

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