

Relationship Between Social Severity and Sensory Processing in Children with High Functioning Autism Spectrum Disorders

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Introduction: Although diagnostic criteria for autism does not include sensory processing deficits, literature describes many sensory processing abnormalities for these children, including both hyposensitivities and hypersensitivities to a variety of sensory stimuli in children with autism (Liss, Saulnier, Fein, & Kinsbourne, 2006; Myles et al., 2004).

Objectives: Participants will understand the relationship between sensory processing and social severity in children with high functioning autism spectrum disorders (HFASD) and implications for occupational therapy.

Methods: A linear regression design was used to compare the scores between a social severity assessment and a sensory processing assessment of children with HFASD. Children with HFASD (N = 36), and a control group (N = 26), ages 6 to 10, participated in the study.

The Social Responsiveness Scale (SRS, Constantino & Gruber, 2005), a quantitative trait measure of autistic social impairment was collected from the parent perspective and used to assess social severity. The Sensory Profile (SP, Dunn, 1999), a 125-item questionnaire that describes responses to sensory events in daily life and measures the degree to which children exhibit problems in sensory processing, modulation, behavioral and emotional responses and responsiveness to sensory events, was used to assess sensory processing.

Results: Definitely atypical responses in at least one sensory system (auditory, visual, vestibular, touch, multisensory, and oral sensory) were seen in 100% of the severe HFASD subjects, 60% of the mild to moderate, and 23% of the typical subjects. Moderate to strong correlations were found between the SRS scores and each of the six sensory system scores. Regression analysis indicated a significant predictive relationship between the six sensory system scores and the SRS raw scores, with an R square value of .709, with multisensory processing and touch processing having the strongest predictive relationship to the SRS raw scores.

Conclusions & Contribution: The relationship between the SP sensory system scores and the SRS scores indicates that auditory, visual, vestibular, touch, multisensory, and oral sensory processing are related to social responsiveness and have significant importance for understanding the neurobiology of autism and implications for the importance of the use of sensory modulation for improving social skills in children with autism.