

# Association of Sensory Processing & Behavioral Challenges in Children

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**PURPOSE:** More than two-thirds of children with developmental disabilities have sensory processing disorders (SPD). Sensory processing is an internal neurological mechanism that influences behaviors. The purpose of this study is to evaluate the influence of sensory processing systems on the externalizing behaviors of children (e.g., aggression, tantrums, hyperactivity, and conduct issues).

**DESIGN:** Observational cross-sectional retrospective study of medical records of 143 children aged 2-11 years ( $M = 6.20$ ,  $SD = 2.49$ ) attending a pediatric outpatient clinic. The common diagnoses were poor coordination (32%) and autism (25%).

**METHOD:** Sensory processing was evaluated using the Sensory Processing Measure (SPM) home form that comprises five primary domains (vision, auditory, tactile, proprioception, & vestibular), and in two higher-order domains (praxis & socialization). Externalizing behaviors were measured using the Behavioral Assessment System for Children (BASC-3). Correlation and regression analyses were used to examine the association between these constructs.

**RESULTS:** All seven SPM domains were significantly correlated with mean level of externalizing behaviors. Multiple linear regression analysis indicated that an 8-factor model could explain about 51% of the variance in externalizing behaviors, with three significant predictors: proprioception ( $\beta = .48$ ,  $p < .001$ ), socialization ( $\beta = .24$ ,  $p = .006$ ), and age ( $\beta = .23$ ,  $p = .001$ ).

**CONCLUSION:** Results indicate that children with more sensory processing challenges are likely to have more externalizing behaviors. Findings suggest that interventions targeting proprioceptive system and socialization may reduce behavioral problems, particularly as they grow older. This study is the first step of larger investigation focused on establishing validity of the SPM and BASC-3 as reliable and valid tools that can measure the effectiveness of Ayres Sensory Integration therapy<sup>®</sup> to reduce behavioral challenges of children.

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