Behavioral Indexes of the Efficacy of Sensory Integration Therapy

KEY WORDS
- behavior
- efficacy
- pediatric
- sensory integration

Over the past decade, there has been an increase in research investigating physiological and behavioral indexes of self-regulation in young children. Selfregulation refers to a person's abilities to regulate his or her responses to specific stimuli and is purported to include physiological, emotional, and behavioral factors that are interdependent (Calkins & Dedmon, 2000). Although a fairly predictable pattern of self-regulation has been identified in early development, important individual differences exist in the abilities and expressions of these behaviors. Numerous studies have shown that poor self-regulation is related to disruptive and aggressive behaviors, poor attention, and lower scores on cognitive measures (Calkins & Dedmon, 2000; Davis, Bruce, & Gunnar, 2002; Richards, 1987). The ability to integrate sensory information is one source of variation that accounts for individual differences in self-regulation. Although various definitions exist, sensory integration is generally described as a neurological process that reflects an individual's ability to organize internal and environmental sensations to regulate and function efficiently in the environment (Bundy & Murray, 2002; Dunn, 1997). Sensory modulation disorder (SMD) describes problems in regulating and organizing the degree, intensity, and nature of responses to sensory input in a graded manner that interferes with age-expected social, cognitive, or sensory functioning (Interdisciplinary Council on Developmental and Learning Disorders, 2005; Miller, Reisman, McIntosh, & Simon, 2001). Persons with SMD display overresponsivity, underresponsivity, or lability in response to sensory stimuli (Dunn, 1997; Miller et al., 2001). These processing abnormalities often are associated with concomitant sensory-seeking or sensory-avoidant behaviors that reflect a person's attempt to regulate the sensory input and achieve an optimal or

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OBJECTIVE. The study examined behavioral treatment effects of classical sensory integration therapy.
METHOD. This study used a prospective longitudinal, single-subject ABAB design. The participant was a boy, age 3 years and 5 months, with average nonverbal intellectual skills, delayed communication skills, and sensory modulation disorder. Difficulties with modulating sensory input and delayed communication skills affected his occupational performance in preschool. Behavioral data were collected in the preschool by teachers who were blind to the type and timing of sensory integration therapy.
RESULTS. Improvement in behavior regulation was observed, including increased engagement and decreased aggression, less need for intense teacher direction, and decreased mouthing of objects.
CONCLUSION. Classical sensory integration therapy may be associated with improved self-regulatory behaviors.

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