

Participation in daily life activities of children with sensory modulation disorder (SMD)

Tami Bar-Shalita¹, Jean-Jacques Vatine², Shula Parush¹

¹*School of Occupational Therapy, Faculty of Medicine of Hadassah and the Hebrew University of Jerusalem, Jerusalem, Israel,* ²*Reuth Medical Center – Sackler Faculty of Medicine, Tel-Aviv, Israel*

'Sensory modulation' refers to a complex process of perceiving sensory information and generating responses that are appropriately graded to, or congruent with, the situation. This capacity is a critical component of human function that affects the efficiency of one's interactions with the physical and human environment, ability to adapt to daily life challenges, and quality of life. Individuals with sensory modulation disorder (SMD) routinely demonstrate exaggerated avoidant and defensive behaviours or inappropriate responses to benign sensory input that do not match environmental demands or expectations. These abnormalities, termed 'Sensory Modulation Disorder' (SMD), were recently acknowledged as a subtype of Sensory Processing Disorder. Based on parent reports, the prevalence of this disorder has been estimated at 5% of the paediatric population, without disabilities, in the USA. Despite the suggestion of specific functional implications of SMD, no study has comprehensively examined the participation, of children with this disorder. **Objectives:** to describe the participation in daily life functions of children with SMD compared to controls, and to identify measures that can predict group classification of children with SMD.

Methods: 78 children ages of 6 to 11: 44 with sensory modulation disorder (SMD) and otherwise healthy (33 males, 11 females) and 34 without SMD (18 males, 16 females) participated. Group classification was determined using two measures: the Short Sensory Profile (SSP) and the Full-form Sensory Profile. Daily occupations were assessed using the Participation in Childhood Occupations Questionnaire (PICO-Q).

Results: Children with SMD scored significantly lower than controls on all three participation scales: ('level of activity performance'; 'level of enjoyment of the activity', and 'frequency of performance of the activity'). Correlations between the PICO-Q scales and the SSP were found high, moderate and low respectively. Logistic regression indicated that all three participation scales are significantly associated with group classification, with odds ratios of 3.13, 2.05, and 1.73 respectively.

Conclusions: These findings are the first, to our knowledge, to confirm that children with SMD have participation restrictions in daily occupations.

Contribution to the practice: Our results have significant clinical implications supporting the need for practitioners and caregivers of children with SMD to promote participation.