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Examining Sensory Processing Tools for a School System

Rachel Chaney, OTS and Lisa Wilkey, OTS

Introduction

A child with sensory processing issues leads a life that differs significantly from typically developing children. There are numerous types of sensations that children encounter every day in different environments, especially in school. If a child does not process the incoming stimuli correctly then their motor response is affected. As a result of this, the child is unable to perform to their fullest potential in school. The Sensory Profile (SP) and the Sensory Processing Measure (SPM) are two tools that help assess sensory processing.

1 Ask: Research Question

What is the best sensory processing screening tool to use in the school system (Sensory Processing Measure vs. Sensory Profile)?

2a Acquire: Search Terms

Patient/Client group: School-aged, Sensory Processing **I**ntervention: Sensory Profile, Sensory Processing Measure **C**omparison: Validity, Reliability **O**utcome: Most Effective Sensory Processing Tool

2b Acquire: Selected Articles

Brown et al. (2010): Examined the convergent validity of the Sensory Profile, the Sensory Profile School Companion (SPSC), and the Sensory Processing Measure (SPM) – Home and Main Classroom forms.

Miller-Kuhaneck et al. (2007): Multiple reviews, focus groups, case studies, and two pilot studies used to explore the development of the Sensory Processing Measure-School and the findings of initial studies.

Ohl et al. (2012): A single group pre-post study to examine the test-retest reliability and internal consistency of the Sensory Profile Caregiver Questionnaire.

3a Appraise: Study Quality

Brown et al. (2010): Level of Evidence: III. Small n size for the two groups; mothers (n=30) and teachers (n=19). The children being assessed were typically developing, with no known sensory processing difficulties. Limitations of this study include a small sample size and recruitment by convenience sampling.

Miller-Kuhaneck et al. (2007): Level of Evidence: III. Small n size for the first (n=23) and second (n=26, n=25) pilot studies. The second pilot study included typically developing children and children receiving OT services, making it applicable to any school-aged child. Limitations of this study include a small sample size.

Ohl et al. (2012): Level of Evidence: III. Small n size (n=55). Only recruited caregivers of children who were 36-72 months old, making it non-applicable to children of all ages. Limitations of this study include a small sample size and a need for demographic information.

3b Appraise: Study Results

Brown et al. (2010): The SPSC and SPM-Main Classroom were significantly correlated with each other ($\rho=0.74, p<.01$). This shows that the tools are measuring comparable sensory processing constructs. However, the tools do not measure the exact same constructs, as each one assesses unique areas. Specifically, the SPSC assesses the child's behavioral and emotional responses, whereas the SPM assesses social participation and praxis. Therefore, both tools are still necessary to use in a School System.

Miller-Kuhaneck et al. (2007): Pilot Study 1 & 2 scores: See Table.

This preliminary evidence suggests that the SPM-School is a valid tool for assessing sensory processing issues in a school system.

Ohl et al. (2012): Classification scores: See Table.

This evidence suggests that the Sensory Profile has acceptable reliability and validity. In addition, quadrant scores should be used to analyze children's sensory processing patterns over factor and section scores.

Pilot Study	#1	#2
Individual Environment	$\alpha = .97-.99$	$\alpha = .87-.99$ (OT) $\alpha = .70-.99$ (No-OT)
Social Participation	$\alpha = .93-.99$	$\alpha = .91-.97$ (OT) $\alpha = .98-.99$ (No-OT)

Classification	ICC	Cronbach's α
Quadrant	.80-90	.89-95
Factor	.69-.88	.82-.93
Section	.50-.87	.67-.93

4 Apply: Conclusions for Practice The evidence from these three studies show that neither the Sensory Processing Measure nor the Sensory Profile is better than the other, as they both have moderate-high levels of validity. While the two tools are similar, they each measure distinct sensory processing issues that are necessary to identify in a student. Ultimately, the practitioner should choose which tool by identifying what specific constructs they would like assessed in the child.

References:

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3. Ohl, A., Butler, C., Carney, C., Jarmel, E., Palmieri, M., Pottheiser, D., et al. (2012). Brief Report-Test-retest reliability of the Sensory Profile Caregiver Questionnaire. *American Journal of Occupational Therapy, 66*, 483-487.

Either. The Sensory Processing Measure and the Sensory Profile are each beneficial assessments to use in the school system.

