

## **ABSTRACT**

**DISSERTATION:** Development and Decline of Sensory and Motor Skills in a Normative Sample

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**OBJECTIVES:** This cross-sectional study evaluated the trend in sensory and motor skill development for an archival dataset used in the standardization of the *Dean-Woodcock Sensory Motor Battery* (D-WSMB). Measures from the D-WSMB were organized into three broad categories according to a factor model identified by Davis, Finch, Dean and Woodcock (2006). Three primary hypotheses were evaluated: a confirmatory factor analysis would support the Davis et al. model for the current dataset, performance on sensory and motor tasks would exhibit a pattern of development and decline across age levels, and gender would not be a significant factor in variability in performance.

**RESULTS:** CFA results indicated the Davis et al. factor model was a poor fit for the current dataset but that each measure loaded significantly on the factor to which it was assigned. Curve estimation identified a significant quadratic relationship between age and

performance on each of the skill categories. A significant age and gender interaction was noted for each skill category. CONCLUSIONS: The statistically poor fit of the Davis et al. factor model was thought to be due to potential correlations between factors and between measures within the factors, although further research is needed to evaluate the impact of these relationships on model fit. Results confirmed the hypothesis that sensory and motor skill exhibit a pattern of development and decline across age levels, which can guide the interpretation of performance in a clinical setting. Further research is needed on the nature of the age and gender interaction to clarify the impact on performance on measures of sensory and motor skills. In an addendum to this study, performance on individual measures of the D-WSMB was plotted to provide further guidance in the interpretation of results in clinical settings.