



The Woodcock-Muñoz Foundation

# **RESEARCH BRIEF**

## **DOCTORAL DISSERTATION ABSTRACT**

### **STRUCTURAL MODELING OF THE WAIS-R AND TESTS OF EXECUTIVE FUNCTION UNDER COMPREHENSIVE CHC THEORY**

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## **Abstract**

Tests of executive function are frequently administered in neuropsychological assessment batteries to evaluate abilities such as organization, planning, concept formation, set shifting, and response inhibition. Although executive dysfunction is thought to cause academic and vocational difficulties, school psychologists and educational diagnosticians typically do not evaluate executive functioning as part of a standard assessment battery. Recently, several psychometric batteries purporting to measure executive processes (e.g., the Cognitive Assessment System, the NEPSY, and the Woodcock-Johnson Tests of Cognitive Ability—Third Edition) have been published. Many of the measures on these batteries are newer versions of traditional neuropsychological assessment instruments. Controversy over what these newer tests of executive functioning actually measure has arisen in the literature. The Cattell-Horn-Carroll (CHC) cross-battery approach to assessment, developed by McGrew and Flanagan, is a structured multiple intelligence theory that provides a framework to conduct psychoeducational assessments. Their approach calls for systematic administration and interpretation of various subtests from different batteries to more thoroughly and accurately assess cognitive abilities. The purpose of this study is to examine the factor structure of tests of executive function according to Comprehensive CHC theory. A confirmatory factor analysis was conducted using the Wisconsin Card Sorting Test, the Stroop Color and Word Test, the Trail Making Test, the Rey-Osterrieth Complex Figure Test, and selected subtests from the Wechsler Adult Intelligence Scale-Revised. Three models representing CHC classifications and the WAIS-R three factor structure were proposed for comparison. Results of the study found that the best fitting model was conceptualized using CHC classifications of both the executive function tests and the WAIS-R subtests. The results suggest that executive functions can be examined by providing content-matched control tasks; CHC theory provides a framework to develop and assess content-matched controls for executive function tasks. Implications for school psychologists and educational diagnosticians are proposed.

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