



The Woodcock-Muñoz Foundation

RESEARCH BRIEF

DOCTORAL DISSERTATION ABSTRACT

RELATIONSHIPS AMONG COGNITIVE ABILITIES, VOCATIONAL APTITUDES AND VOCATIONAL INTERESTS IN AT-RISK EIGHTH GRADERS

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The Woodcock-Muñoz Foundation (WMF) is a private non-profit operating foundation that supports the advancement of contemporary cognitive assessment practices. The Doctoral Dissertation Abstract Project is part of the Foundation's efforts to disseminate research findings that bridge the theory-to-practice gap in cognitive assessment.

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Abstract

Relative to instrument choice and target population, this study was the first empirical attempt to explore the relationships among Cattell-Horn-Carroll (CHC) cognitive abilities, as measured by the Woodcock-Johnson, Third Edition (WJ-III COG) and vocational aptitudes and interests, as measured by the Occupational Aptitude Survey and Interest Schedule-2 (OASIS-2 AS) and the Career Decision Making System-R, Level One (CDM-R), respectively, of at-risk adolescents prior to their entrance into high school. The sample included 169 eighth graders. Roughly 66% were male and 47% were members of ethnic minority groups. Pearson correlations revealed many significant pair-wise relationships among the three constructs, however, most were small ($r \leq .29$) and of limited usefulness. Consistent with the literature, moderate to strong relationships ($.31 \leq r \leq .53$) were found between General Intellectual Ability (g) and Comprehension-Knowledge (Gc) and General and Verbal Aptitudes, between Visual Processing (Gv) and Spatial Aptitude, and between Processing Speed (Gs) and Perceptual Aptitude. Previously unreported relationships ($.29 \leq r \leq .50$) were found between (g) and Spatial and Perceptual Aptitudes, between Fluid Reasoning (Gf) and General, Verbal and Spatial Aptitudes, and between Long-Term Retrieval (Glr) and Verbal Aptitude.

Multiple regression analyses revealed that cognitive abilities together accounted for the greatest variance in General and Verbal Aptitude scores; however, only 24% and 28%, respectively. Cognitive abilities and aptitudes together accounted for only small percentages of the variances in Crafts (10%), Scientific (7%) and Social (14%) interest scores. Sex was a significant predictor of Crafts and Social interests. No single cognitive or aptitude factor was found to be a significant predictor of scientific interests.

Consistent with the literature, the results of this study indicated that vocational aptitudes scores cannot be adequately predicted from intelligence test scores, and that vocational interests are largely unrelated to cognitive abilities and vocational aptitudes. In order to measure these three constructs reliably and validly, they must be measured directly.

Although characteristics of the sample and the aptitude and interest tests limit their generalizability, the results of this study supported the need for similar studies using CHC theory as a foundation.

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