

A COMPARISON OF CONFIRMATORY FACTOR ANALYSIS AND TASK ANALYSIS OF FLUID INTELLIGENCE COGNITIVE SUBTESTS

Jason R. Parkin

Dr. Craig Frisby, Dissertation Supervisor

ABSTRACT

Cross-battery assessment relies on the classification of cognitive subtests into the Cattell-Horn-Carroll (CHC) theory's broad and narrow ability definitions. Generally, broad ability classifications have used ability data analyzed through factor analytic methods, while narrow ability classifications have used data about subtest task demands. The purpose of this investigation is to determine whether subtest similarity judgments based on task demands data, and judgments based on ability measurement provide similar results. It includes two studies. First, middle school students ($N = 63$) completed six target fluid reasoning subtests that were subjected to confirmatory factor analyses to analysis subtest similarities. Second, school psychology practitioners ($N = 32$) sorted subtest descriptions into similarity groups. Their judgments were analyzed with multiple non-hierarchical cluster analyses. Results partially confirmed that the six target subtests were classified similarly using both data types, though need to be interpreted cautiously due to limitations. Implications for assessment practices are discussed.