



The Woodcock-Muñoz Foundation

RESEARCH BRIEF

DOCTORAL DISSERTATION ABSTRACT

PRACTICE EFFECTS AND THE WISC-III: THE MEANING OF INDIVIDUAL DIFFERENCES

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Siders, A. B. (2005). *Practice effects and the WISC-III: The meaning of individual differences*. Retrieved from ProQuest UMI Dissertation Publishing (UMI Microform 3161333).

Abstract

The aim of this study was to gain insight into the known practice effects that occur when children are tested twice on the same intelligence test. Specifically, do the variables of motivation, memory, attention, speed, and learning ability correlate significantly with children's gains from test to retest on the Wechsler Intelligence Scale for Children-Third Edition (WISC-III)? Because practice effects are notably higher for Performance than Verbal tasks, these variables were correlated with both types of tasks. Fifty middle-class male and female Caucasian children ages of 11-13 years were tested twice on the WISC-III Performance Scale and Information subtest (mean interval = 14 days). During the initial testing session, the children were also administered the Auditory Continuous Performance Test and selected subtests from the Woodcock-Johnson Tests of Cognitive Ability-Revised (WJ-R) and the Kaufman Adolescent and Adult Intelligence Test to assess their motivation, memory, attention, speed, and learning ability.

On the six WISC-III Performance subtests, gain scores ranged from 1.10 to 3.14 scaled-score points with a mean gain of 1.90. On Information, the gain was 1.24 scaled-score points. A 6 X 6 zero-order correlation matrix was computed for the Performance subtests' gain scores. There were no significant positive correlations among the gain scores, suggesting that there was no unitary construct underlying the gain scores on the separate Performance subtests.

The correlations of the predictor variables with gain scores ranged from -.45 to +.40 with a mean of +.01. Several variables correlated significantly and meaningfully with specific gain scores. Seven multiple regression analyses were performed, but did not yield any new significant information beyond what was found in the correlation analyses.

The results suggested that (a) there is no "g" factor to explain the relatively large gains that children display on Performance subtests, (b) children with lower ability had larger gains on Information and Block Design than did children of higher ability, (c) children's long-term memory was positively related to their gains on Object Assembly, and (d) children's motivation and attention were positively related to their gains on Coding. The first two major results are contrary to hypotheses, but the latter two findings are consistent with hypotheses. All findings, both those that were supported and those that were not, are interpreted in relation to two theories: Feuerstein's theory of learning potential and the most recent version of Horn's fluid-crystallized (*Gf-Gc*) theory known as Cattell-Horn-Carroll (CHC) theory.

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