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Comparative analysis of test performance of South African learners on index/scales of the Wechsler Intelligence Scale for Children, Fifth edition (WISC-V) and the Kaufman Assessment Battery for Children, Second edition (KABC-II)

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Abstract

The use of psychological assessment for the purposes of placement, diagnosis, curricular planning, and intervention is widespread among South African practitioners. However, test development within South Africa is scarce, which results in the use of internationally developed measures that have not been standardised or normed for the South African population. This practice brings into question the validity and applicability of these measures in South Africa. This research investigated and compared the construct and concurrent validity of the Wechsler Intelligence Scale for Children, fifth edition (WISC-V) and the Kaufman Assessment Battery for Children, second edition (KABC-II). More specifically, the Verbal Comprehension Index (VCI) on the WISC-V was compared to the Knowledge Scale (Gc) on the KABC-II; the Visual Spatial Index (VSI) on the WISC-V was compared to the Simultaneous Processing Scale (Gv) on the KABC-II; the Fluid Reasoning Index (FRI) on the WISC-V was compared to the Planning Scale (Gf) on the KABC-II; and the Working Memory Index (WMI) on the WISC-V was compared to the Sequential Processing Scale (Gsm) on the KABC-II. The theoretical underpinning of each assessment measure indicates that these indexes/scales assess similar cognitive abilities and processes. The purpose of the comparison was to determine not only the nature of the relationship between the indexes/scales on the WISC-V and KABC-II but also whether there is a significant difference between the scores achieved on those indexes/scales that claim to measure the same/similar underlying constructs. The method used to carry out this research was a non-experimental, within-group, correlation quantitative study. The sample was 50 referred learners from a private remedial school in the South of Johannesburg. The data was analysed using the Pearson correlation and a paired samples t-test. The results indicated *good* construct validity: strong correlations were identified between the VCI and Gc; VSI and Gv;

FRI and Gf; WMI and Gsm; and, interestingly, WMI and Gc. The WMI was designed to measure constructs of short-term memory. However, a strong correlation with the Gc scale suggests a significant association between WMI and knowledge, crystallised intelligence, and prior learning on the WISC-V as compared to the KABC-II. The t-test found differences between all four scales: the VCI/Gc and WMI/Gsm comparisons were statistically significant. These results showed an incongruence in the inclusion and exclusion of narrow abilities on the WISC-V and KABC-II – specifically between the inclusion of the Digit Span Backward subtest on the WMI and the Verbal Knowledge Scale on the KABC-II (which allows for pointing responses that reduces the influence of language and verbal input). The research conclusion was that although these tests show *good* construct validity, the score discrepancy is significant, and they can therefore not be used interchangeably in the South African context.

Keywords: Wechsler Intelligence Scale for Children, fifth edition (WISC-V), Verbal Comprehension Index (VCI), Visual Spatial Index (VSI), Fluid Reasoning Index (FRI), Working Memory Index (WMI), Kaufman Assessment Battery for Children, Second Edition (KABC-II), Knowledge Scale (Gc), Simultaneous Processing Scale (Gv), Planning Scale (Gf), Sequential Processing Scale (Gsm), General Intelligence (g), Cattel-Horn-Carrol (CHC) Theory, Construct Validity, Concurrent Validity.