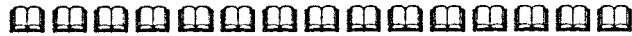


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CLINICAL UTILITY OF THE WISC-R AND THE FRENCH
PICTORIAL TEST OF INTELLIGENCE WITH NATIVE
AMERICAN PRIMARY GRADE CHILDREN¹

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Summary.—Cultural bias and the clinical utility of the WISC-R and French Pictorial Test of Intelligence were evaluated using scores of 22 male and 22 female Navajo primary grade children. There were no significant differences in performance on either test according to sex. As expected, the Verbal IQ and Full Scale IQ of the WISC-R and the Deviation IQ of the French provided significantly depressed estimates of ability. A prorated Performance IQ might be the least depressed measure of potential among these children.

Considering the volume of recent public litigation regarding the discriminatory effects of various assessment practices and special education placement with minority group children,^{2,3} it seems remarkable how little is known about cultural bias in standardized procedures of assessment with Native American children. While numerous studies have investigated cultural bias in individually administered intelligence tests with black and Chicano children, the studies of Native American children are so few as to make valid generalizations difficult. This is especially surprising when one considers that, according to the U.S. Bureau of Census (1973), over 837,000 people identify themselves as being of Native American origin. Furthermore, not all Native American children live on or near the reservations (U. S. Department of the Interior, 1974). It is reasonable to assume that some children may be attending regular public schools. More information seems desirable, especially for popular individually administered intelligence tests as well as certain less commonly used instruments which may potentially provide a less biased measure of intellectual ability. Such

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²Larry P., *et al.* vs Wilson Riles, *et al.*, United States District Court, Northern District of California, Case C-71-2270 RFP.

³Guadalupe vs Tempe Elementary School District, District Court of Arizona, 71-435, 1972.

information may be important for primary age children as the initial screening and identification of children with delayed abilities should occur during these years. The WISC-R (Wechsler, 1974) and French Pictorial Test of Intelligence (French, 1964) were selected as being potentially good measures of ability among Native American children.

METHOD AND RESULTS

Forty-four (22 boys, 22 girls) Native American Navajo primary grade children participated in this study. All of the children spoke Navajo as the primary language and attended a reservation boarding school in Northeastern Arizona. The mean age of the boys was 7 yr., 3 mo. ($SD = 7.24$ mo.) while that of the girls was 7 yr., 2 mo. ($SD = 7.20$ mo.). All students were tested by trained examiners, and the tests were administered in a counterbalanced order. Both the WISC-R and French were administered in English without interpreters. Two independent reliability checks completed on the examiner-scored record forms gave good coefficients of reliability (.99).

To determine if there were significant differences in performance according to sex, a two-factor (sex \times subtest) analysis of variance was completed for both tests. Sex was not a factor in performance on either the WISC-R ($F_{1,42} = .57, p > .05$) or French ($F_{1,42} = 1.34, p > .05$).

Not surprisingly, on those verbal subtests of the WISC-R which tap both receptive and expressive English skills (Information, Similarities, Vocabulary, and Comprehension) significantly low scaled scores were obtained. Mean scaled scores for these subtests were 4.02 ($SD = 2.53$), 3.48 ($SD = 2.61$), 3.39 ($SD = 2.35$), and 3.80 ($SD = 2.60$), respectively. Those verbal subtests which tap only English receptive abilities were somewhat higher, as the students' mean performance on Arithmetic was 6.4 ($SD = 3.39$), while that for Digit Span was 7.61 ($SD = 2.89$). The Performance subtests, however, seemed to provide generally a good non-biased estimate of potential. The students' mean standard scores on the Picture Completion, Block Design, Object Assembly, and Coding subtests were 9.11 ($SD = 2.99$), 10.0 ($SD = 2.63$), 11.32 ($SD = 2.26$) and 9.80 ($SD = 3.25$), respectively. As might be expected, the Picture Arrangement subtest resulted in a low mean scaled score (6.48, $SD = 3.45$) for these children.

The estimates of intellectual ability among these children demonstrated the wide range of cultural bias in the WISC-R. The Verbal and Full Scale IQs were 64.14 ($SD = 13.35$) and 77.06 ($SD = 11.77$), while the Performance IQ was nearly equal to that of the standardization sample (95.41, $SD = 12.02$). If Picture Arrangement were eliminated and a prorated-IQ determined, a non-biased estimate of intellectual ability was apparent, as the mean IQ then became 100.23 ($SD = 13.05$).

Similar to the WISC-R, the French also seemed to provide a considerable

range of measured ability. Both Picture Vocabulary and the Information and Comprehension Subtest provided a significantly low mean MA of 5-0 ($SD = 16.81$ mo.) and 5-2 ($SD = 18.62$ mo.), respectively. The other four subtests, Form Discrimination ($M = 7-0$, $SD = 16.57$ mo.), Similarities ($M = 6-10$, $SD = 18.52$ mo.), Size and Numbers ($M = 7-0$, $SD = 16.01$ mo.) and Immediate Recall ($M = 8-3$, $SD = 20.73$ mo.) seemed relatively bias free. The mean Deviation IQ was 86.55 ($SD = 11.89$).

In examining the concurrent validity of the Pictorial Test of Intelligence with the WISC-R, despite vastly different subjects the relationship between the Deviation IQ and Full Scale IQ (.66) is similar to that reported by Pasewark, Sawyer, Smith, Wasserberger, and Dell (1967).

Although some would question the practicality of assessing test bias through an analysis of mean differences (Kaufman, 1979), the present findings show that there were no significant sex differences on both the WISC-R and French test. A prorated Performance IQ may provide over-all the least biased indication of potential to perform. The French Test seems to have an acceptable level of concurrent validity with this population. While the various subtests may provide some relevant information pertinent to the abilities and deficits of these children, until more information is available, they can only be used with caution. Perhaps the four performance subtests may provide normal estimates of ability relatively free from bias. Certainly, more research with children from different Native American tribes is needed for more definitive generalizations.

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