Wechsler Intelligence Scale for Children-Fourth Edition
(WISC-IV)

Publisher/Date:
• Pearson Assessment, 19500 Bulverde Road, San Antonio, TX. 78259.
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Purpose:
• Individually-administered test of intelligence, general aptitude, and
cognitive skills for children ages 6-00 to 16-11.

Provides:
• An overall estimate of intellectual functioning (FSIQ), as well as separate
index scores for verbal ability (VCI), perceptual organization/conceptual-
fluid reasoning (PRI), working memory (WMI), and clerical processing
speed (PSI). 7 additional “process scores” can be calculated which can
provide a deeper clinical analysis of performance.

Standardization Issues:
• 2,200 examinees (n=200 in each of 11 age-groups), representative of the
March 2000 US Bureau of the Census data, by age, gender, race,
ethnicity, parent education level, and four major geographic locations. The
Arithmetic subtest’s sample size was about half that of the rest of the test.
Sample sizes for many of the “special group” analyses were small (Autistic
Disorder n=12 to ADHD n=89) and their representativeness, questionable.

Reliability and Validity Issues:
• Composite scores appear to be highly-reliable, and most reliability
coefficients from the 10 subtests retained from its predecessor (WISC-III)
have improved substantially. Validity statistics reported in the manual
appear strong. One issue arises with regard to validity toward the deaf
population, with the absence of deaf children in statistical validity studies
(although a consultant and “experienced specialists” provided clinical input
regarding subtest appropriateness).

Additional Points:
• Subgroup comparisons for 16 clinical subgroups are available in the
manual (“see cautionary note in the above Standardization Issues).

• Flanagan & Ortiz (2001, Essentials of Cross Battery Assessment) have
analyzed and classified individual WISC-IV subtests by degree of cultural
loading and linguistic demand (Culture-Linguistic Interpretive Matrix, or “C-
LIM”), to aid in nondiscriminatory interpretation of test scores. Use of the
C-LIM assists practitioners in selecting tests that provide more accurate or
fairer estimates of true ability as well as to systematically evaluate the influence of cultural and linguistic factors on test performance. Users of the WISC-IV with culturally and linguistically diverse populations are strongly encouraged to familiarize themselves with the work of Flanagan, Ochoa, and Ortiz.

- A parallel, Spanish form, of the WISC-IV was developed in 2005. Demographics of the norm sampling were calibrated to the US Hispanic population by country of origin, parental educational level, and region of residence. Items, responses, and instructions were modified to minimize cultural bias across regions of origin. Scores are calibrated to WISC-IV norms (children are tested in Spanish but provides comparison to all US children the same age), but supplemental demographic tables are included allowing for comparisons to the Hispanic total sample and subgroups.

- *Harcourt Assessment’s Technical Report #4* outlines an alternate composite intellectual estimate (“General Ability Index,” or “GAI”), and outlines its appropriate substitute for the Full Scale IQ (FSIQ) in learning disabilities evaluations to reduce possible bias in ability-achievement discrepancy calculations. Further, the *National Association for Gifted Children’s Position Statement* indicates that the GAI should be considered as a substitute for the FSIQ in making eligibility decisions for Gifted and Talented students, for concerns similar to those outlined in the Technical Report #4. The validity study using the Gifted Sample as reported in the test’s manual yielded mean scores as follows: VCI=124.7, PRI=120.4, WMI=112.5, PSI=110.6.

- *Pearson Assessments* summarized socio-economic status (SES) study findings (Fletcher-Janzen & Daniel), suggesting that the effects of SES correlated .39 on WISC-IV FSIQ, thereby attributing about 15% of variance in WISC-IV to effects of SES, as opposed to KABC-II’s 6%.

- Sattler & Dumont’s analyses of a variety of demographic variables suggest that Processing Speed Index (PSI) scores tend to be 5 points higher for boys than girls, otherwise, the other factors and FSIQ appear equal by gender. In terms of parental education level, large differences were seen. Mean FSIQ’s of children from college-educated parents exceed those of children whose parents had an 8th grade education or less by about 20-points (similar trends were seen for mean Index scores: 22-points on Verbal Comprehension Index [VCI], 15-points each on Perceptual Reasoning [PRI] and Working Memory [WMI] Indices, and about 7-points on Processing Speed Index [PSI]).

- In terms of racial differences, WISC-IV appears to be a slight improvement from its predecessor, the WISC-III. Mean WISC-IV FSIQ scores for
Caucasian children were about 11.5-points higher than those of African American students, and about 10-points higher than Hispanic children. Asian Americans exceeded the Caucasian group by about 3 points. The four mean Index scores for Caucasian group were essentially similar, but the score patterns differed somewhat from one another in the other three racial/ethnic groups. African American children had mean WMI and PSI scores that were 4-5 points higher than their VCI and PRI scores. Hispanic children had mean PRI, WMI, and PSI scores that were 3-6 points higher than their VCI scores. The Asian American children had mean PRI and PSI scores that were about 5 points higher than their VCI and WMI scores.

- In terms of geographic location, the mean WISC-IV FSIQ of children in the test’s standardization sample who were from the Northeastern and Midwestern portions of the US scored about 4-points higher than those from the South and West. A similar trend was seen in the individual Index scores, with Verbal Comprehension (4-5 points) and Processing Speed (3-4 points) showing the higher discrepancies.

- The WISC-IV may fail to report sufficient evidence with regard to item and test bias studies.

- The updated version does offer a closer alignment to contemporary theory as well as increased clinical utility and improved psychometrics from the WISC-III. From a CHC-perspective, however, users of the WISC-IV will need to utilize a cross-battery approach to supplement for missing measures of Auditory Processing (Ga) and Long-Term Retrieval (Glr).

- There is purposeful overlap in administration-ages between the upper-limits of the WPPSI-III and the WISC-IV, giving examiners the option to administer either test (based on the child’s functional level) for children ages 6-00 to 7-03. In this range of overlap, the WPPSI-III should be administered in the case of suspected intellectual delay (providing a better floor), English-language learners, and children with language impairments. Conversely, the higher-ceiling would make the WISC-IV the test of choice for gifted children or children suspected of higher-ability, within this window of overlap. For other children, the examiner’s use of clinical judgment is recommended, though the WISC-IV’s expanded clinical utility is something to consider.