Test of Nonverbal Intelligence, Third Edition
(TONI-3)

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- PRO-ED, 8700 Shoal Creek Blvd., Austin, TX 78757-6897. Published, 1997.

Purpose:
- Individually-administered nonverbal test for ages 6-00 to 89-11, to assess aptitude, intelligence, abstract reasoning, and problem solving in a completely language-free format. The test includes two, 45-item parallel-forms.

Provides:
- One composite score, assessing level of nonverbal intellectual development—primarily fluid intelligence, abstract reasoning and problem solving.

Standardization Issues:
- Norms were derived from 2,060 individuals in 1995, and another 1,391 individuals in 1996 (n=3,451). The sample was chosen to reflect US population at that time in terms of geographic location, gender, community type, ethnicity & race, disabling condition, and SES. The norm sample was divided into 23 age-groups. An initial pool of 307 items was reviewed by a panel of experts who then pared down the pool to 183 items. The 183 items underwent item-analysis, and finally bias analysis, resulting in the final two-form, 45-items per form, version.

Reliability and Validity Issues:
- Interrater-reliability was very high, at .99. Alternate-form reliabilities between the 20 age-groups ranged from .74 to .95, and test-retest reliabilities (one-week separation) ranged from .89 to .94, however, information on stability in individuals younger than age 13 or over age 40 is lacking. Internal-consistency reliabilities for the individual age-groups were strong and ranged from .89 to .97. In terms of validity the authors do present the test as “a work in progress,” to be further-developed with accumulated data, and the authors indicate that the test is not based on any particular theoretical model of intelligence. Study of concurrent-validity with the WISC-III resulted in marginally-adequate coefficients ranging from .53-.63, and higher correlations with other nonverbal tests. Other studies quoted unfortunately included outdated instruments (i.e., WISC-R, WAIS-R), and rather small sample sizes. Correlations with the CTONI (another nonverbal test) resulted in respectable fit of between .74-.76. While based on a relatively small sample (20 students with LD), the test
correlated well with achievement scores from the WJ-R in the areas of Broad Reading and Broad Math (.73 and .76, respectively).

**Additional Points:**

- Mean minority group scores fell within the average-range, suggesting the test as a relatively culture- or language-free measure. Mean scores by subgroups included English Language Learners, 93; African-Americans, 95; and Hispanics, 96.

- The TONI-3’s limited nature provides a single overall score but can be criticized (like most nonverbal tests) for offering a very limited range of cognitive processes assessed that compose “intelligence,” or assess specific cognitive factors known to correlate and predict specific academic attributes.

- Using nonverbal estimates in isolation have been criticized to overestimate an individual’s functional ability in language-oriented environments, and examiners may wish to consider results from both language-loaded and language-reduced tests in estimating intellectual abilities, functional capabilities, and future performance.

- Mean scores by gender were quite comparable (males=99, females=101).

- Sattler (2001) indicated concerns with using the test with high- and low-functioning individuals. The TONI-3 may be limited in its use for identifying gifted students (mean=110). The mean score for cognitively disabled students bordered the established criteria cut-off (SS=70), suggesting a number of students achieved scores higher than that. Further, there may be inadequate floor-issues (i.e., the lowest possible score a 6-year-old can obtain is 70, which falls directly on the traditional diagnostic point). Other tests should probably be considered when assessing individuals of suspected giftedness or more significant cognitive impairment.