TEST REVIEW


The Reynolds Intellectual Assessment Scales (RIAS) was developed as a theoretically and psychometrically sound instrument designed to measure general intelligence. In contrast to most existing measures of intelligence, the RIAS eliminates dependence on motor coordination, visual-motor speed, and reading skills and can be administered in a short period of time.

The RIAS is an individually administered test of intelligence, which has been normed and standardized on an age population from 3 to 94 years. Utilizing the Cattell-Horn Model of Intelligence (Horn and Cattell, 1966), the authors have developed a reliable measure of general intelligence and its two primary components, fluid and crystallized intelligence. The RIAS includes a measure of verbal and nonverbal intelligence and a resultant Composite Intelligence Index (CIX). Verbal intelligence is assessed with tasks involving verbal problem solving and verbal reasoning tasks. Nonverbal intelligence is assessed by visual and spatial ability tasks. The authors have eliminated reliance on motor coordination and visual-motor speed for the measurement of intelligence. A Composite Memory Index (CMX) can be derived from two supplementary subtests which assess verbal and nonverbal memory. The basic RIAS can be administered by a trained examiner in 20 to 25 minutes. The CMX adds another 10 minutes of administration time.

Scoring of the RIAS is made simple with the comprehensive manual that accompanies the test kit. A variety of scores, including T scores, Z scores, normal curve equivalents (NCE), stanines and age equivalent (age 3 to 14 years only) scores can be extracted from the tables.

Norm Sample

The RIAS was standardized between 1999 and 2002 on a normative data sample of 2,438 individuals, from 41 states, aged 3 to 94 years. The normative sample was matched to the 2001 U.S. census on age, ethnicity, gender, educational attainment, and geographical region.

Reliability

Reliability data for the RIAS is high and is well detailed in the manual. Multiple measures were used to establish reliability (i.e., internal consistency, test-retest, and inter scorer). Mean reliability coefficients ranged from .90 to .95 for the six RIAS subtests and from .94 to .96 for the four RIAS indexes. Test-retest reliability of the four index scores ranged from .83 to .91. Interscorer reliability for the six subtests was very high and ranged from .95 to 1.00.

Validity

Utilizing theory-based, logical-based, and empirically-based, construct validity, factor analysis, and correlations with other measure of intelligence and academic achievement, it appears that the RIAS meets the Standards (1999), which supports the interpretation of the test scores. The verbal subtests assessed aspects of crystallized intelligence that depend upon vocabulary and language comprehension, while the nonverbal subtests assessed spatial ability and reasoning. The two memory subtests (verbal memory and nonverbal memory) assess short-term or working memory and rely upon recall of sentences or stories and recall or recognition of visual images. factor analysis of the RIAS yields a two-factor solution involving a verbal and nonverbal domain across age, gender, and ethnic groups. The relationship between RIAS performance was evaluated across the entire normative group (i.e., aged 3 to 94 years) and found to follow developmental trends.

Correlations with other measures, including the WISC-III, WAIS-III, and the Wechsler Individual Achievement Test (WIAT) were calculated. The RIAS indexes correlate between .60 to .78 with the WISC-III Full Scale IQ and .70 and above with the WAIS-III Full Scale IQ. The RIAS verbal intelligence index correlates .73 with the WIAT Composite scores.

Clinical Groups

During the standardization process of the RIAS, 507 individuals, in 15 different clinical groups, were identified and their scores recorded. the purpose of the data collection was to supplement validation of RIAS by investigating trends in intelligence and memory that would be expected with these groups and would support the use of the RIAS as a measure of intelligence. The fifteen different clinical groups were categorized under broader groupings (i.e., organic syndromes and related groups, learning disabilities, ADHD groups, and psychiatric groups). The primary theme that emerged from the data collection was that all of the various
clinical groups demonstrated some level of cognitive impairment. The findings were generally consistent with patterns that have been discussed in related literature (Kaufman, 1994; Sattler, 2001).

**Memory Assessment**

The authors are to be commended for including a measure of memory in the RIAS but they are cautious in warning the user that memory tested is not comprehensive. The memory test is co-normed with the RIAS measures of intelligence, which makes it possible for comparing and contrasting test scores. While this working memory measure is useful, the memory component could have been broadened with inclusion of a delayed recall component. Perhaps such a component could have been presented as an addendum or as an optional measure to the test. It is hoped that some future investigator may use the existing data and test parameters for expansion of the memory component.

**Reynolds Intellectual Screening Test (RIST)**

The authors designed the Reynolds Intellectual Screening Test (RIST) as a companion measure to the RIAS, for brief screening to help determine whether an individual needed a more comprehensive evaluation or for brief assessment to establish whether there were changes in intellectual functioning. The RIST was designed to be used as a measure for reevaluations or in situations where the full RIAS may not be warranted. The RIST can also be used with large groups, research investigations, and reassessment of individuals who have previously undergone more comprehensive evaluations.

The RIST consists of two RIAS subtests (i.e., a verbal subtest and a nonverbal subtest) that were selected on the basis of theoretical, empirical, and practical considerations. As with the RIAS, the RIST maintains high reliability (.84 test-retest). The RIST index is highly correlated with the full scale IQ's of both the WISC-III and WAIS-III. No memory component is available for the RIST.

**Impressions**

The authors have compiled a theoretically and psychometrically sound test of intelligence. The manual that accompanies the test is impressive in its organization and content and is written in a style that makes it appropriate for the clinical psychologist, neuropsychologist, researcher, and school psychologist. With elimination of a dependence on motor coordination and visual-motor speed components, dependence on reading, and avoidance of items that would show differential item functioning associated with gender or ethnicity, the RIAS is easily adaptable and usable in a clinical or school setting. With increased pressures on practitioners in the schools, clinical, or research settings, time, cost, and efficiency must be considered in the provision of services. The RIAS substantially lessens the time to assess intelligence without compromising statistical integrity. The RIAS offers a working memory component, which is co-normed with intelligence, although, in my opinion, having a delayed memory component would have been a valuable addition to the measure. The development of a measure that is appropriate for ages 3 to 94 years, allows for continuity of measurement across all of these developmental levels. Reliability and overall validity are comparable, if not stronger, than reliability and validity measures on similar measures of intelligence that are substantially longer and more complex.

Overall, the RIAS is in a unique position as an intelligence test. Its broad age grouping, short administration time, strong statistical properties, elimination of the motor component and a reading requirement, and exclusion of gender or ethnicity differential items, make it a unique instrument for intelligence testing. Shortcomings of the RIAS are addressed by the authors in the manual and may become ripe topics for doctoral dissertations. Strengths of the RIAS are in the normative sample, short administration time, the addition of a memory component which is co-normed with intelligence measures, the broad age range, and the well organized and comprehensive manual. It is likely that the RIAS will become a very popular measure of intelligence for school districts that are under serious pressure to provide measures of intelligence for determination of eligibility for special education and program needs, but to do so at a lower cost and in a more rapid fashion. The RIAS can satisfy that need and should become part of every school psychologist's battery of tests. The clinical neuropsychologist will find the RIAS valuable as a measure of intelligence where fatigue could be a compromising component, the subject is non-English speaking, and/or where there are sensorimotor factors which could interfere with response modalities seen in most other tests. The research psychologist will find the RIAS valuable because of its strong psychometric properties, broad age range, data available on a variety of clinical groups, and short administration time. The RIAS is at the forefront of the next generation of intelligence testing.
REFERENCES


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