Wide Range Achievement Test: WRAT3, Blue Version

Description

The WRAT 3 is a widely used instrument designed to assess an individual’s basic academic coding skills necessary to learn reading, spelling, and arithmetic. It intentionally does not assess comprehension, and is thus often used in concert with assessments of comprehension in order to determine learning disabilities. It is age-normed and may be used with individuals aged 5-75.

Conceptual Organization

The three subtests include reading, spelling and arithmetic. The reading subtest assesses an individual’s ability to recognize and name 15 letters and pronounce 42 words out of context. Scoring of the reading test is not affected by unusual pronunciations due to regional accents or speech difficulties. The 55-item spelling subtest includes writing one’s own name, and writing dictated letters and 40 dictated words. The 55-item arithmetic subtest includes both oral and written sections that are comprised of counting, recognition of letter and number symbols, and computation. A second version of the test, known as the Tan version and considered interchangeable with the Blue, may be used for pre and post-testing.

Item Origin/Selection Process

The author states that the content of the three subtests is very similar to other measures of achievement. Items were chosen to encompass a broad range of abilities and ages. A Rasch analysis confirmed the desired item spread within each subtest and minimized redundancy within any given skill level.

Materials

Examiner’s manual, Test form, Profile /Analysis form, plastic reading card, and optional plastic spelling card, pencils with erasers.

Time Required

Typically, administration of all three subtests takes about 30 minutes, although this may vary based on the behavior and skill level of the respondent. Younger children may be assessed more quickly given that they will respond to fewer items.

Administration Method

Refer to the examiner’s manual for specific administration instructions. Adequate administration conditions are needed, particularly lack of distractions and an appropriate workspace. The interviewer leads the respondent through each of the appropriate subtests, scoring as the test is administered. Basal and ceiling rules are applied to each test to aid both administration and scoring.

Training

Training requirements for the WRAT3 are moderate. Examiners must be very familiar with basal and ceiling rules (known as the “5/10 rules”), pronunciation guides, timing criteria, correct use of materials, structured prompts, and scoring criteria. Basic training for administration of the WRAT3 may typically be completed in less than two hours.
Scoring

Score Types
Raw scores, absolute scores (not age dependent), standard scores (age dependent), grade scores, percentiles and normal curve equivalents may be used in reporting WRAT3 results for each of the three subtests. The author generally recommends the use of absolute, standard or percentiles and normal curve equivalents.

Score Interpretation
Standard scores for each of the three subtests range from <45 to >155, with higher scores indicating higher achievement. The author’s manual provides the following classification for standard scores:

- 130 & up = Very Superior
- 120-129 = Superior
- 110-119 = High Average
- 90-109 = Average
- 80-89 = Low Average
- 70-79 = Borderline
- 69 & below = Deficient

Norms and/or Comparative Data
The Norm Sample and the Norm Testing Administration procedures are thoroughly described on Pages 27 – 32 of the Administration Manual.

Psychometric Support
For information such as item statistics, item bias, reliability, validity, and standard errors of measurement, see Pages 165 – 185 of the Administration Manual.

LONGSCAN Use

Data Points
Age 12: Reading and Arithmetic subtests
Age 16: Reading subtest.

Respondent
LONGSCAN participant child/adolescent.

Mnemonic and Version
WRAA (Age 12)
WRAB (Age 16)
WRAS (scored data)
Rationale
At Age 12, the WRAT3 Reading Subtest was administered to help assess a child’s ability to utilize the A-CASI system, and to provide a measure of adolescent’s reading achievement. Both the arithmetic and reading subtests were chosen to assess academic achievement in these areas as the WRAT3 is a well-known and respected instrument with proven assessment capabilities that can be administered by trained interviewers.

Administration and Scoring Notes
Raw scores, absolute scores (not age dependent), and standard scores (age dependent) are used by LONGSCAN.

Results

Descriptive Statistics
For descriptive statistics of the Age 12-14 WRAT3 scores, please refer to the 3rd volume of the measures manuals (Knight et al. 2008). Table 1 provides descriptive statistics for the Age 16 WRAT3 raw and standard reading scores by sample demographics. Girls scored higher on reading than boys. Western sites (SW and NW) scored higher on reading scores than all other sites.

Table 1. Age 16 WRAT3 Reading Scores by Gender and Study Site

<table>
<thead>
<tr>
<th></th>
<th>Raw Score</th>
<th></th>
<th>Standard Score</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M (SD)</td>
<td>N</td>
<td>M (SD)</td>
</tr>
<tr>
<td>Overall</td>
<td>707</td>
<td>40.3 (8.0)</td>
<td>691</td>
<td>92.4 (15.8)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>333</td>
<td>39.9 (8.4)</td>
<td>327</td>
<td>91.5 (17.0)</td>
</tr>
<tr>
<td>Female</td>
<td>374</td>
<td>40.7 (7.6)</td>
<td>364</td>
<td>93.1 (14.6)</td>
</tr>
<tr>
<td>Study Site</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EA</td>
<td>152</td>
<td>37.1 (8.8)</td>
<td>145</td>
<td>85.4 (17.8)</td>
</tr>
<tr>
<td>MW</td>
<td>80</td>
<td>36.7 (7.0)</td>
<td>77</td>
<td>85.7 (14.4)</td>
</tr>
<tr>
<td>SO</td>
<td>111</td>
<td>39.5 (8.8)</td>
<td>109</td>
<td>90.7 (16.7)</td>
</tr>
<tr>
<td>SW</td>
<td>182</td>
<td>42.8 (7.1)</td>
<td>178</td>
<td>97.3 (12.4)</td>
</tr>
<tr>
<td>NW</td>
<td>182</td>
<td>42.6 (6.4)</td>
<td>182</td>
<td>96.8 (13.8)</td>
</tr>
</tbody>
</table>

Source. Based on data received at the Coordinating Center through July ’09.
Correlations with Outcome Measures

Table 2 provides correlations between the Age 16 WRAT3 scores and select Age 16 outcomes. No significant correlations were found between the WRAT3 reading scores and TSC scores, however there were some minor associations found between the WRAT3 scores and the CBCL externalizing and total problem T scores, as well as more significant associations with the CBCL Social Competency T Scores (ranging from .16 to .25).

Table 2. Correlations between Age 16 WRAT3 Scores & Select Age 16 Outcomes

<table>
<thead>
<tr>
<th></th>
<th>Reading N</th>
<th>Raw Score</th>
<th>N</th>
<th>Standard Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trauma Symptom Checklist</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anger</td>
<td>620</td>
<td>-.02</td>
<td>612</td>
<td>-.01</td>
</tr>
<tr>
<td>Anxiety</td>
<td>620</td>
<td>.03</td>
<td>612</td>
<td>.05</td>
</tr>
<tr>
<td>Depression</td>
<td>620</td>
<td>-.03</td>
<td>612</td>
<td>-.03</td>
</tr>
<tr>
<td>PTSD</td>
<td>620</td>
<td>.04</td>
<td>612</td>
<td>.05</td>
</tr>
<tr>
<td>Dissociation</td>
<td>620</td>
<td>.04</td>
<td>612</td>
<td>.07</td>
</tr>
<tr>
<td><strong>Child Behavior Checklist</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internalizing Problems</td>
<td>673</td>
<td>-.06</td>
<td>660</td>
<td>-.04</td>
</tr>
<tr>
<td>Externalizing Problems</td>
<td>673</td>
<td>-.06</td>
<td>660</td>
<td>-.08*</td>
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<tr>
<td>Total Problems</td>
<td>673</td>
<td>-.09*</td>
<td>660</td>
<td>-.09*</td>
</tr>
<tr>
<td>SCI: Activity Scale</td>
<td>646</td>
<td>.21***</td>
<td>633</td>
<td>.21***</td>
</tr>
<tr>
<td>SCI: Social Scale</td>
<td>644</td>
<td>.17***</td>
<td>631</td>
<td>.16***</td>
</tr>
<tr>
<td>SCI: School Scale</td>
<td>590</td>
<td>.23***</td>
<td>580</td>
<td>.23***</td>
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<tr>
<td>SCI: Total Competency</td>
<td>588</td>
<td>.25***</td>
<td>578</td>
<td>.25***</td>
</tr>
</tbody>
</table>

Source. Based on data received at the Coordinating Center through July ’09.
SCI = Social Competency Items; Total Competency combines the other 3 scales.
* <.05

Publisher Information

Wide Range, Inc.
15 Ashley Place, Suite 1A
Wilmington, Delaware 19804-1314
(302) 652-4990

Ordering Information

Psychological Assessment Resources, Inc.
16204 N. Florida Avenue
Lutz, FL 33549
(800) 331-8378
www.parinc.com

References and Bibliography


