TEST REVIEW:
The Mini Battery of Achievement
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Title: The Mini-Battery of Achievement (MBA).

Authors: Richard W. Woodcock, Kevin S. McGrew, and Judy K. Werder.

Publisher: Riverside Publishing.

Forms: groups to which applicable: One version for use with ages four through 90+.

Practical features: The MBA is a shorter version of the Woodcock-Johnson Psychoeducational Battery - Revised (WJ-R), Tests of Achievement, for use as an achievement screener. The easel format and item types are identical to those found in the WJ-R.

General Type: Academic achievement screener for use in educational, medical, vocational, and research programs.

Date of publication: 1994.

Cost: $156.00 per test kit. $24.00 per pack of 24 Test Record Forms.

Scoring services available and cost: Must be scored using the Scoring and Reporting Program for microcomputers, which is included in the standard test kit.

Time required: Approximately 30 minutes for the full battery.

Purpose for which evaluated: Screening of academic achievement.

Description of test, items, and scoring: The MBA consists of four tests, which may be given separately or in combination. The Reading, Mathematics, and Writing tests combine to form a Basic Skills Cluster.

Test 1 --Reading is comprised of three brief sections... Part A: Identification measures reading identification skills with isolated letters and words that appear on the subject's side of the Test Book. Part B: Vocabulary assesses skill in reading words and supplying appropriate meanings. In this part the subject must state a word that is opposite in meaning to the word presented. Part C: Comprehension measures skill in reading a short passage and identifying a missing word. In all parts, the items are presented in order of difficulty.

Test 2 --Writing consists of two sections that assess the basic skills needed to write. Part A: Dictation measures skill in providing written responses to a variety of questions that require knowledge of letter forms, spelling, punctuation, capitalization, and word usage.
Part B: Proofreading assesses skills in identifying mistakes in typewritten passages and indicating how to correct the mistakes.

Test 3 -- Mathematics is comprised of two parts that assess calculation skills, mathematical concepts, and problem solving. Part A: Calculation measures skill in performing basic mathematical operations such as addition, subtraction, multiplication, and division, as well as some geometry, trigonometry, logarithm, and calculus problems. The calculations involve decimals, fractions and whole numbers. Part B: Reasoning & Concepts measures skills in analyzing and solving practical problems in mathematics and knowledge of mathematical concepts and vocabulary.

Test 4 -- Factual Knowledge is a test of general information with items alternating among three content areas: social studies, science and humanities (art, music, and literature; Woodcock, McGrew & Werder, 1994, p. 220-221

All items are scored "1" for a correct response and "0" for an incorrect response. Raw scores are determined by adding the number of correct answers on a subtest. Basal and ceiling levels are determined for all subtests, shortening the required testing time.

Authors' purpose and basis for selecting items: The MBA was developed to be used for achievement screening in various situations where the depth of information provided by a diagnostic battery, such as the WJ-R, is not required. The content of the achievement tests was guided by the basic skills content areas included in typical school curricula. The items were subjected to a rigorous content review by experts, and a review to eliminate any ethnic, regional, or sex bias. Items were further analyzed according to content and difficulty criteria and were subjected to testing in pilot studies and in full-scale item analysis studies (Woodcock et al., 1994, p. 236).

Adequacy of directions: training required to administer: The procedures are very clear and easy to access as they are included within the test materials rather than in a separate instruction booklet. Scoring procedures require only entering raw scores into the computer. "The simplicity of the MBA allows both professionals and paraprofessionals from a variety of fields to easily administer the battery. A formal training course in testing is not required to learn to administer the MBA" (Woodcock et al., 1994, p. 222).

Mental functions or traits represented in each score: Each score represents skills in a broad academic area. Five separate scores are reported by the Scoring and Reporting Program: Reading, Writing, Mathematics, Factual Knowledge, and Basic Skills Cluster. The Reading score represents identification, vocabulary, and comprehension skills. The Writing score represents dictation and proofreading skills. The Mathematics score represents calculation and reasoning skills. The Factual Knowledge score represents knowledge of general information in the areas of social studies, science, and the humanities. The Basic Skills Cluster score is a broad representation of academic achievement encompassing all of the areas above except for Factual Knowledge.
Comments regarding design of test: The broad academic skill areas comprising the MBA are commonly accepted by experts in the field of education. A substantial number of skill areas are cursorily assessed in a 30-minute time frame.

Validation against criteria: The MBA was administered concurrently with the WJ-R, the Kaufman Test of Educational Achievement (KTEA-Brief version; Kaufman & Kaufman, 1985), the Peabody Individual Achievement Test-Revised (PIAT-R; Markwardt, 1989), and the Wide-Range Achievement Test- Revised (WRAT-R; Jastak & Wilkinson, 1984) to a sample of 52 normal sixth graders (Age: M = 11.9 yrs.; SD 0.5 yrs.), a sample of 53 college students (Age: M = 26.9 yrs.; SD = 9.8 yrs.) and a sample of 56 normal adults (Age: M = 43.6 yrs.; SD = 15.4 yrs.). Correlations between the MBA subtests and appropriate subtests of the criterion measures were generally in the .60 to .80 range (Woodcock et al., 1994). Flanagan et al. (1997) reported the MBA Reading Test to correlate .37 (n=62, p < .01) with the Kaufman Functional Academics Skills Test (K-FAST; Kaufman & Kaufman, 1994) and .48 (n=62, p <.001) with the Wide Range Achievement Test 3rd Edition (WRAT-3; Wilkinson, 1993). The MBA Writing Test correlated .24 with the WRAT-3 Spelling subtest (n=62, p >.05). The MBA Math Test also correlated .52 (n=62, p <.001) with the WRAT-3 Arithmetic subtest and .54 (n=62, p <.001) with the K-FAST Arithmetic subtest.

Other empirical evidence indicating what the test measures: Little information regarding the MBAs construct validity was provided in the manual. Intercorrelations among the four MBA subtests are reported at eight age levels in the manual. The correlations support:

... the interpretation of the four MBA subtests as being measures of different but related aspects of achievement. The median correlations among the four tests ranged from .66 to .80, correlations that indicate both a significant degree of relationship among the four tests (44% to 64% shared variance) and a uniqueness among the measures (Woodcock et al., 1994, p. 246-247).

Fairness: As explained above, items were screened to prevent sex, ethnic, and regional bias.

Comments regarding validity for particular purposes: The MBA benefits from receiving the same careful treatment in preparation given to its diagnostic relative, the WJ-R. The concurrent criterion- related validity scores reported above are acceptable for screening purposes, and it appears the MBA can be used in many situations as an effective screener of academic achievement.

Generalizability: The MBA appears to be an efficient screener of academic skills for individuals aged four through 95 years.

Long-term stability: Test-retest data were gathered using two administrations of the MBA, separated by one week, using the same sample of participants as in the concurrent criterion-related validity study reported above. Test-retest reliabilities for each test ranged from .85-.97 across the age range, indicating strong short-term stability. Split-
half reliability coefficients are available for nine age ranges for each test, computed using odd and even raw scores and corrected for length using the Spearman-Brown prophecy formula. Median scores for each subtest ranged from .92-.94, with the exception of the Factual Knowledge subtest (r=.87).

Norms: The MBA was normed along with the WJ-R from September 1986 through August 1988 on a stratified sample of 6,026 subjects ranging in age from four to 95. The sample was reported to be stratified according to geographic region, community size, sex, race and origin, type and funding of college/university, and adult educational and occupational status. The Scoring and Reporting Program reports both age and grade norms as desired by the user. Based on these age or grade norms, the program will report age or grade-equivalents, percentile ranks, standard scores, normal curve equivalents, and T-scores.

Comments regarding the adequacy of above for Particular purpose: Woodcock et al. (1994) claim that the standardization sample was stratified according to ten different criteria. However, no information discussing the actual composition was provided. The examiner is referred to the WJ-R Technical Manual (McGrew, Warder, & Woodcock, 1991) to find information about the MBA sample because the MBA was normed concurrently with the WJ-R. However, the WJ-R sample is described as including 6,359 participants aged 2-90 years. While the MBA certainly has strong face validity, and the anchoring of the scores to the WJ-R reduces the need for evidence of a stratified sample, the authors should provide that information rather than referring the user to the manual for a different test.

Aids to user: The manual gives suggestions for using the MBA for various purposes. Sample correct and incorrect answers are given to aid users in scoring verbal responses. The test is very straightforward, particularly if the examiner is familiar with the WJ-R.

Comments of reviewers: Two MBA reviews were located. Flanagan (1997) reports that the MBA "...is well researched, is considered user friendly by children and adults tested and can adequately measure constructs using relatively few items" (p. 83). Willis, Dumont, and Cruse (1997) state that, "Overall, the MBA is a good test that is easy to understand and administer, can yield relevant results in a fairly short period of time, and can be a useful screening tool for a variety of purposes for school-age children. Caution must be taken to use the test only for the purposes expressly stated by the authors" (p. 279).

General evaluation: The ease of use and standardized administration is one of the greatest strengths of the MBA. Administration and scoring can be quickly learned by virtually any examiner and interpretive scoring via the computer program is very efficient. It is interesting to note that the authors have included a statement that items were screened for cultural bias, as the omission of such information is sometimes considered a weakness of the WJ-R (Cummings, 1995).

The popular easel format of the test is very clear and easy to use, and the early questions in each test, designed for the youngest participants, are colorful and eye-catching. The
simplicity of the test design makes it convenient and portable. However, in a study of
the WJ-R, Cummings (1995) found this easel format to be "...an inherent liability. The
repetitive page flipping does not sustain some young children's interest as well as when
manipulable tasks are interspersed with verbal subtests' (p. 1114). One advantage of the
MBA easel format is that examinees never know how close they are to the end of a
subtest, thus avoiding the motivation loss often associated with knowingly failing early
items.

The worksheets used for the dictation and calculation items are much too small and
cluttered for effective use by the examinee. The worksheets contain no color to stimulate
the interest of the youngest examinees, while the more sophisticated examinees are
given less than an inch of space to work out a complicated calculus problem. The
dictation items are afforded ample space for work, but need a more effective
organization to aid users in finding appropriate answer blanks.

While computer scoring is sufficient for use of the MBA as an initial screener, it provides
insufficient information for the experienced examiner who may be able to use the scores
in a more complex evaluation of a subject or in a research capacity. Although the
Reading test is divided into three subscales, and the Writing and Mathematics tests are
each divided into two subtests, only one score for each broad test is reported by the
computer-scoring program. No explanation is given for the omission of score
information for the subscales. Because of a reduced number of items, it is possible that
these subscales were found to have insufficient reliability and validity for reporting as
individual scores. While the standard computer scoring report form omits the W score
for each test, it does allow researchers a means of accessing the W scores by loading the
DOS program using the command "A:mba/d". The authors refer to this W score several
times within the manual as a strength of the test, claiming that, as an equal interval
Rasch ability scale, it is appropriate for further statistical calculations. While the
computer-scoring program is very useful for an examiner who wishes to quickly screen
many subjects and wants only a superficial description of their performance, the output
from the computer program lacks the comprehensiveness necessary for some research
applications.

The MBA can be used effectively in a variety of situations when only a brief screen of
academic achievement is necessary. The test is easy to administer, and its concurrent
validity scores with other measures of achievement are sufficiently high.

References

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