

Early Childhood Measurement and Evaluation Tool Review

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Beck Youth Inventories – For Children and Adolescents 2nd Edition (BYI-II)

Measurement Areas and Purpose:

The Beck Youth Inventories 2nd Edition (BYI-II) is a set of **norm-referenced** diagnostic scales designed to assess **children and youth between the ages of 7 and 18**, in five areas:

- 1) Depression
- 2) Anxiety
- 3) Anger
- 4) Disruptive behavior
- 5) Self-concept

Length and Structure:

Each inventory in the BYI-II takes approximately 5-10 minutes to administer. The full “combination” inventory that includes all five scales takes approximately 30-60 minutes to administer. Each inventory consists of 20 items that are self-rated on a 4-point scale of 0 to 3. Total raw scores can range from 0 to 60 for each scale, and converted to *T*-scores, cumulative percentages, descriptive classifications, and scale profiles.

Materials:

The publisher classifies the BYI-II as a “C-level” qualification. The publisher requires the purchaser to fit into one of the following categories: (a) trained and certified by a recognized institution in a relevant area of assessment (with or without a Master’s degree), (b) a member of the American Speech-Language-Hearing Association or the American Occupational Therapy Association, or (c) possess a Master’s (or Doctorate) degree in psychology, education, or relevant field with training in assessment.

C –Level tests require verification of a doctorate in psychology, education, or a related field or licensure. If you have certification by a provincial College of Psychology (College of Alberta Psychologists) or are a member of a provincial or national organization, such as the Canadian Psychological Association (CPA), the Canadian Register of Health Service providers in Psychology, or a member of the Canadian Association of Occupational Therapists or Canadian Association of

Speech and Language Therapists and Audiologists you may be able to purchase C-Level products based on your training or expertise.

The BYI-II Starter Kit is available from the publisher for CDN \$260. The kit includes the manual and 25 record forms. Additional record form packs are available from the publisher.

Accessibility:

The BYI-II is available in the English language only.

Administration, Scoring, and Interpretation:

According to the BYI-II manual, administration and scoring can be completed by paraprofessionals under the supervision of a professional trained in clinical assessment procedures and interpretation. The test is easy to administer, easy to score, and moderately difficult to interpret based on the clinician's experience and interpretation considerations in the manual.

- Each inventory contains 20 statements about thoughts, feelings, or behaviours associated with emotional and social impairment in youth (children respond to each item by indicating how frequently the statement is true for them).
- Items may be administered orally.

Measurement Scales:

The BYI-II has 5 inventory scales: Depression, Anxiety, Anger, Disruptive Behaviour, and Self-Concept. No "global" score is calculated from the individual's performance on each of the scales; each scale yields a single raw score that can be converted into a *T*-score that allows the clinician to interpret the degree of distress the individual is experiencing. High *T*-scores indicate high levels of distress, and low *T*-scores indicate lower levels or no distress. The *T*-scores can be compared to the normative sample scores to determine the individual's relative deviation from the mean of the normative group. Cumulative percentages, similar to percentiles, are based on *T*-scores and can be used to determine how much of the normative sample was *below* the individual's score (i.e. 95% of the normative sample fell below John's *T*-score of 71 on the Anxiety scale, suggesting that John is highly distressed with anxiety).

Documentation:

The manual included in the BYI-II kit contains specific procedures for administration, scoring, and a section on interpretation that includes case study examples. The manual also has extensive sections discussing the instrument's development, standardization, normative sample, reliability and validity.

Normative Sample:

The norms for the BYI-II were developed using two general population samples and one clinical sample. The first sample consisted of 800 American children ages 7-14, closely matched to U.S. population demographics such as race/ethnicity, gender, and parent education level. The second sample consisted of 200 adolescents ages 15-18, matched to the same U.S. population demographic information. The clinical sample consisted of 178 adolescents ages 15-18 that had been previously diagnosed with clinical disorders related to anxiety, depression, conduct disorder, bipolar disorder, or other nonspecific diagnoses.

Reliability:

The BYI-II manual discusses three kinds of reliability that were studied using the general population normative samples:

Internal Consistency: An analysis of internal consistency yielded a Cronbach's alpha coefficient that ranged from .86 to .91 for ages 7-10, .86 to .92 for ages 11-14, and .91 to .96 for ages 15-18, across all five scales.

Test-retest Reliability: A sub-sample (105 individuals) of the general population samples were retested with the BYI-II approximately one week after the first administration. The test-retest reliabilities were calculated, and yielded correlation coefficients in the ranges of .74 to .90 for ages 7-10, .84 to .93 for ages 11-14, and .83 to .93 for ages 15-18. In general, test-retest reliabilities were the same for both males and females.

Standard Error of Measurement and Confidence Intervals: The manual also discusses the degree to which measurement error contribute to an individual's observed score. According to the manual, average standard error of measurement coefficients ranged from 2.12 to 3.37 depending upon scale and age group.

Validity:

Convergent Validity: The BYI-II manual discusses several validation studies that were conducted. The first study compared the BYI-II to the Children's Depression Inventory (CDI) using a sub-sample of 128 children ages 7-14. According to the manual, the BYI-II depression scale was correlated at .72 with the total score of the CDI scale, suggesting that the tools measure degrees of depression similarly. The authors also used a sub-sample of 26 youth (ages 15-18) whose scores yielded an averaged correlation coefficient of .67 between the BYI-II depression scale and the CDI total score.

The second study compared the BYI-II Anxiety Inventory (BAI-Y) to the Revised Children's Manifest Anxiety Scale (RCMAS). A sample of 192 children (ages 7-14) yielded averaged correlation coefficients of .70; a sample of 35 adolescents yielded an averaged correlation coefficient of .64.

The third study compares the BYI-II Disruptive Behavior Inventory (BDBI-Y) to the Conners' Rating Scales-Revised Adolescent Self-Report [Short] (CASS-S) using a sub-sample of 108 children (ages 12-14) and 89 adolescents (ages 15-18). Disruptive Behavior scale scores for the child sample correlated .69 with the Conduct Problems scale, while the same scales correlated .76 for the adolescent sample.

A fourth study compared the BYI-II Self-Concept inventory to the Piers-Harris Children's Self-Concept Scale (PHSCS). A sub-sample of 105 children ages 8-14 yielded scores that correlated .61 between both scales. The study was replicated using a sub-sample of 49 adolescents, yielding an average correlation coefficient of .77 between both scales.

Group Differences: The authors also demonstrate that the tool is able to discriminate between groups who have been identified as having higher levels of distress from groups who have been identified as having lower levels of distress. The results from a multivariate analysis comparing a sample of 88 children that were receiving special education services with a matched sub-sample

of the general population group indicated that the BYI-II “significantly differentiated distress expressed by special education students from that expressed by a matched control group in regular education” (manual, p. 50).

Similarly, the scores of a clinical sample of 107 children were compared with a matched subsample from the general population group. According to the manual (p. 51), “scores of three of the Beck Youth Inventories [Self-Concept, Disruptive Behavior, and Anger] were significantly different for the outpatient group and the matched control group.”

The manual also includes other differential analyses that demonstrate the tool’s ability to differentiate between clinical groups that are not discussed here. Specificity and sensitivity are not discussed in the manual.

It should be noted that since the BYI-II is a newly revised test, no outside academic reviews or analyses of this scale were available at the time of this review and therefore, it is based on information provided by the authors in the manual.

Publication Information:

The Beck Youth Inventories for Children and Adolescents – Second Edition was developed by Judith S. Beck, Aaron T. Beck, John B. Jolly, and Robert A. Steer. This review is based on the 2nd edition published in 2005 by The Psychological Corporation.

Materials Used for Tool Review:

- Manual
- Publisher’s website

References:

Publisher’s website: www.harcourtassessment.com

Beck, J.S., Beck, A.T., Jolly, J.B., & Steer, R.A. (2005). *Beck Youth Inventories-Second Edition for Children and Adolescents manual*. San Antonio, TX: PsychCorp

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