



# Measurement and Evaluation in Counseling and Development

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## TEST REVIEW

# Assessment of Interpersonal Relations: A Test Review

STEPHANIE L. BROOKE

The Assessment of Interpersonal Relations (AIR) developed by Bracken (1993a) is designed to identify relationship difficulties with parents, peers, and teaching for children ages 9 to 19. Standardized scores can be used in the following areas: Mother, Father, Male Peers, Female Peers, and Teachers. This review provides an overall evaluation of AIR based on reliability and validity information provided by the test author.

Since relationship difficulties affect children's psychological adjustment, Bracken (1993a) created the Assessment of Interpersonal Relations (AIR) to evaluate the quality of relationships between a child and significant others. Interpersonal relations were "defined as the unique and relatively stable behavioral patterns that exist or develop between two or more people as a result of individual and extraindividual influences" (Bracken, 1993b, p. 6). This assessment considered a child's relationship with his or her parents, peers, and teachers. These vital relationships clearly have an impact on a child's sense of self. "Interpersonal relations might well be the single most important predictor of overall social-emotional adjustment in children, adolescents and adults" (Bracken, 1993a, p. 2). Furthermore, Bracken (1993a) cited research evidence demonstrating that the quality of childhood interpersonal relationships reliably predicted later psychological adjustment. In other words, aggressive behavior, peer rejection, psychological maladjustment, and insecurity correlated with poor interpersonal relationships (Achenback & Edelbrock, 1981; Dodge, Coie, & Brakke, 1982; Hartup, 1979; Parker & Asher, 1987). When using art therapy assessments, Rabinowitz and Eldan (1989) found that aggressive boys placed greater distance between figures than did nonaggressive boys. In a later study, Rabinowitz (1991) found that peer acceptance-rejection was a crucial factor when examining the quality of relationships, particularly for girls. Peer-accepted girls drew themselves closer to other figures compared with boys and peer-rejected girls (Rabinowitz, 1991). Clearly, early identification of relationship difficulties may be critical in preventing psychological maladjustment.

### PURPOSE AND RECOMMENDED USE

Based on the child's perspective, the AIR was created to determine the quality of relationships with peers, parents, and instructors. The AIR was stan-

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standardized on a population of students ranging in age from 9 to 19 years. "The scale takes into consideration both gender and age differences in the relationship development of youth" (Bracken, 1993a, p. 1). The instrument was codeveloped and conformed with the Multidimensional Self Concept Scale (MSCS; Bracken, 1993b). Bracken (1993a) recommended that the AIR be used in conjunction with other assessments, such as the MSCS, to provide an indication of social, competence, affect, academic, family, and physical functioning. Bracken (1993a) furnished a list of 60 psychoeducational instruments that may be used in conjunction with the AIR. Mental health professionals may use the AIR when conducting initial interviews or for planning treatment interventions. In addition, Bracken (1993a) expressed that the AIR might be used to facilitate a diagnosis of psychological maladjustment. Another recommended use of the AIR was to indicate neuropsychological problems as the result of head injuries, cardiovascular accidents, or learning disabilities. The AIR can be used for a variety of research applications when serving as a dependent measure.

### DIMENSIONS THAT THE TEST PURPORTS TO MEASURE

The AIR provides an indication of relationship functioning by using five subscales. The Mother subscale examines children's perceptions of the quality of the behaviors shared between them and their mother. This scale includes any female who serves as the primary caregiver of the child. Similarly, the Father subscale determines the nature of children's relationship between themselves and the male figure who serves as the primary caregiver. The Male Peers subscale evaluates children's relationships with all male peers collectively. In other words, the child must rate this scale according to his or her typical rapport with males of the same age. The Female Peers subscale indicates children's overall relationship with girls of the same age. The Teachers subscale assesses children's perception of the nature of their concordance with their instructors. Bracken (1993a) suggested that administrators should note whether a single teacher was targeted or if the child collectively rated the relationship with several instructors.

### ADMINISTRATION

Bracken (1993a) asserted that the AIR can be administered by people who have had previous training in group or individual test administration. Also, he suggested that the AIR may be completed in the examiner's absence. "Although the AIR can be administered by most professionals and para-professionals, interpretation of the scale requires more psychometric and clinical background, skill, and experience" (Bracken, 1993a, p. 17). Furthermore, these individuals should have training in psychometrics, developmental psychology, personality theory, and psychological adjustment. The following instructions were outlined for administration:

Please rate the following statements according to how well they apply to each of your parents, your male and female peers, and your teachers. Please rate each statement according to how you honestly feel. There are no right or wrong answers, so be sure you are honest with yourself as you rate each statement. You should rate only the parent(s) with whom you are currently living. If you rate only one of your parents (e.g., your mother, but not your father), please check the boxes to indicate the parent with whom you are not living and the reason. (Bracken, 1993a, p. 17)

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Death, separation, divorce, or other were the reasons considered for rating only one parent. The examinee was instructed to ask questions if he or she did not understand words on the scale. At times, children may ask how they are to respond to a particular question. In this case, the administrator should remain neutral and state, "Do what you think is best; Mark the one that best describes how you feel; You decide which response is best for you" (Bracken, 1993a, pp. 17-18). If children are reading below the third-grade level, the AIR may not be an appropriate assessment. Although a time limit was not set, the AIR generally takes 20 minutes to administer. Unusually long or short administration times may invalidate the results. Group and individual administration guidelines were discussed.

### **NORM GROUPS**

Using a sample of 2,501 children, Grades 5 through 12, Bracken (1993a) standardized the AIR. The children ranged in age from 9 to 19 years. The demographic characteristics were clearly outlined including sex, racial, community status, and geographic differences. Bracken (1993a) noted that "the sample is quite representative of the U.S. population and matches the U.S. population parameters very well on most variables, however, the Northeast was somewhat undersampled and the South was oversampled" (p. 12). Participating students were enrolled in both special education and regular classrooms. The exact number of special education students was not known.

### **INTERPRETATION OF SCORES**

Bracken (1993a) supplied clear and detailed instructions for scoring the AIR. Negative and positive items were scored differently. Seven out of 35 items had negative connotations and therefore, were scored differently than the other items. Using a Likert scale, raw scores were calculated for each subscale. Special instructions were outlined for cases in which only one parent was rated. Depending on the child's age and sex, raw scores were converted into standard scores. Guidelines were outlined for individuals who omit more than five items. Bracken (1993a) developed a prorating procedure and used a case example to illustrate how standard scores may be obtained.

Interpretation was based on a classification system that indicated the extent to which interpersonal relations were positive or negative. Bracken (1993a) used errors of measurement and confidence intervals as part of the interpretation procedure. A score of 126 and above was indicative of a very positive relationship. A score of 75 and below revealed a very negative relationship. Classification also included moderately positive relationship (111-125), average relationship (90-110), and moderately negative relationship (76-89). Bracken (1993a) provided clear instructions for both norm-referenced (comparison to other children) and ipsative (intrachild indication of strengths and weaknesses) interpretation of scores.

### **SOURCE OF ITEMS**

On the basis of the work of several researchers, Bracken (1993a) identified important characteristics of relationships. Some test items were omitted because they were inappropriate for younger children, such as social dating or romance.

It should be noted that I have taken some liberty in grouping attributes that seem to be closely related (e.g., warmth, esteem support, nurturance, prosocial, support, compassion are grouped together as emotional support), with the full knowledge that some theories may see subtle or not so subtle differences in these terms. My desire is not to "split semantic hairs," but to generalize those characteristics that I believe comprise, and that the literature identifies as comprising, relationships. (Bracken, 1993a, p. 10)

The resulting list included 15 characteristics of relationships: companionship, emotional support, guidance, emotional comfort, reliance, trust, understanding, conflict, identification, respect, empathy, intimacy, affect, acceptance, and shared values. Abstract concepts or terminology, slang, colloquialisms, or other nonstandard words were eliminated. Using a population of psychology graduate students, middle school teachers, and middle and high school students, these items were tested. The exact number of raters was not presented. Each respondent was asked to identify items that were confusing, unclear, ambiguous, or might have more than one answer. Problem items were eliminated before the second item tryout.

Next, Bracken (1993a) asked a few individuals to identify items that were too invasive or might cause personal discomfort. The number of people involved in the rating along with their qualifications were not discussed. A few of the items were modified.

The 40-item version of the AIR was administered in a group format to 178 Tennessee school children (89 boys and 89 girls) ranging in age from 13 to 15 years. Initial pilot testing yielded internal consistency estimates of .95 for the Mother subscale; .94 for the Father subscale; .92 for both the Male Peers and Female Peers subscales; .90 for the Teachers subscale; and .95 for the Total Relationship Index. Some items were reworked or substituted to yield the present version of the AIR.

#### RELIABILITY AS DETERMINED BY THE AUTHOR

Using a sample of 2,501 children, Bracken (1993a) examined the internal consistency of the AIR subscales. The coefficients ranged from .93 to .96, demonstrating the internal reliability of the AIR. Using the TRI score, 96% of the variance was reliable, whereas only 4% was due to error. This would indicate that item responses were consistent within the scales.

The AIR was administered to a sample of 22 adolescents ranging in age from 13 to 16 years in a pretest-posttest fashion. The youth, 14 boys and 8 girls, attended a Protestant fellowship program. They were tested 2 weeks later. Bracken (1993a) found that the TRI stability coefficient was .98; Mother, .97; Father, .95; Male Peers, .96; Female Peers, .94; and Teachers, .97. This was the extent of the reliability evidence presented in the manual. Scorer reliability was not examined.

#### VALIDITY AS DETERMINED BY THE TEST AUTHOR

Some evidence for content validity was previously discussed in this article. Item analysis was based on clear test specifications. Bracken (1993a) asserted that the AIR demonstrated validity with respect to age and sex differentiation. "Because the literature and the AIR results coincide closely, there is strong developmental and empirical support for the AIR validity as a measure of children's and adolescent's interpersonal relations" (Bracken, 1993a, p. 38). No other evidence of validity of this statement was provided.

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On the basis of the work of another researcher, Bracken (1993a) reported validity through contrasted groups. Using a sample of 92 "normal" adolescents and 88 inpatient psychiatric adolescents, adolescents inpatients diagnosed with psychiatric disorders. It was found that the population with psychiatric disorders had significantly poorer relationships as compared with the "normal" sample. This population also reported more dysfunctional family conditions and lower self-concept than the "normal" adolescents.

Discriminant validity evidence was provided by comparing the AIR with the MSCS, both of which were normed together. Generally, the correlations between the two scales were low, indicating that the tests were measuring different constructs. There were a few exceptions. The Social scale of the MSCS correlated .78 with Female Peers and .36 with Male Peers, indicating some overlap. In addition, the MSCS Family scale correlated .67 with the Mother subscale and .57 with the Father subscale. The overall correlation between the two assessments was .55, which suggested that the instruments share 30% of their reliable variance. The AIR was not compared with other psychoeducational assessments.

Factor analysis by Bracken (1993a) revealed seven meaningful items, five of which corresponded with the five AIR subscales. He (Bracken, 1993a) cited the work of another researcher who reported, based on a factor analysis, that each of the subscales measured a unique relationship. Factor validity coefficients were not reported.

### DESIRABLE FEATURES

The AIR was designed in such a fashion that children from one-parent homes may still participate in the assessment. As long as the child has at least a third-grade reading level, the AIR can be used to determine the quality of relationships at home and in school. Difficulties in relationships may be recognized early to avoid later psychological maladjustment. Bracken (1993a) presented scoring and interpretation guidelines in a clear and detailed manner. He used case examples to illustrate scoring and interpretation methods. In addition, the AIR allowed for comparison with other children (a fairly representative sample of the U.S.) as well as internal comparisons. The ipsative interpretation was one of the unique components of this assessment.

### UNDESIRABLE FEATURES

Guidelines for special populations were not provided. The standardization sample included children with learning disabilities. It is not known if or how this population would differ from students who do not experience learning disabilities. Also, it is not known how many of these children were reading below the third-grade level.

### OVERALL EVALUATION

Bracken (1993a) expressed that the AIR may be used to facilitate a diagnosis of psychological maladjustment; yet, he did not provide guidelines or research evidence to support the use of the AIR as a possible diagnostic tool. Another recommended use of the AIR was to indicate neuropsychological problems. In the absence of guidelines and research evidence, the AIR may not be a reliable or valid tool to indicate neurological problems as the result of head injuries, cardiovascular accidents, or learning disabilities.

Although Bracken (1993a) did provide evidence of the discriminant validity of the AIR, additional research evidence is needed. The AIR should be used with other populations such as those with hearing impairments, learning disabilities, neurological impairments, or who are sexual abuse survivors, to name a few. Also, other psychoeducational tests should be compared with the AIR. The factorial validity coefficients should have been reported.

There was strong support of the internal inconsistency and test-retest reliability of the AIR. Interscorer reliability was not provided. Bracken (1993a) suggested that the AIR may be completed in the examiner's absence, yet the validity and reliability of this was not examined. How cutoff points were determined was not clear.

Overall, the AIR may be a useful tool when assessing the quality of relationships of students between the ages of 9 and 19 years, providing that they have at least a third-grade reading ability. Additional research evidence will ascertain if the AIR is a reliable and valid instrument for clinical diagnosis or as an indicator of neuropsychological problems.

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