

an instrument appropriate for adolescents and young adults continues. Thus, the current SKAT-A addresses this need.

Description

The original (1990) version provided information about demographics, attitudes, knowledge, and behavior relating to sexuality. The Demographics section was designed to collect information on socioeconomic status (SES), residence, school experience, and so forth. The Attitude section consisted of 43 statements using a 5-point, Likert-type format (1 = *strongly agree*, 5 = *strongly disagree*). The Knowledge section contained 61 items with the format varying between true/false (40 items) and multiple-choice items (21 items). An extensive Behavior Inventory was included to attempt to gather data on a variety of sexual behaviors, for previously reported normative information on behavior that had not been related specifically to knowledge and attitude factors.

The current version of the Demographics section requests basic information on age, school experience, and SES. It can be modified to meet the needs of individual investigators.

The Attitude section contains 40 items designed to address the content areas of the original SKAT-A, again using a 5-point, Likert-type response format. These items have been reworded based on information acquired from previous administrations of the test. In an attempt to reduce response bias, 11 items are reverse scored. The current Attitude scale contains five specific content subscales: masturbation (8 items), homosexuality (4 items), pornography (4 items), premarital sex (6 items), and abortion (4 items). High scores on the Attitude scale indicate a more liberal attitude.

The Knowledge section reflects considerable revision based on psychometric analyses using data from the earlier version. It consists of 40 items employing a true/false/not sure format. Twenty-four items are reverse scored. The multiple-choice format was eliminated to improve the psychometric integrity of the scale. In addition, item analyses supported the reduction of the scale to 40 items. Information covers topics including pregnancy, contraception, rape, masturbation, and sex education.

The Behavior Inventory was constructed to serve a variety of investigative purposes. Questions include items examining onset of sexual activity, number of partners, and specific behaviors (dating, contraceptive use, sexual practices, etc.). As an inventory, this instrument can be modified to meet the needs of individual researchers.

Over 1,000 individuals have taken the SKAT-A in its current version. However, the psychometrics presented here are derived from a subsample consisting of 385 undergraduate students from two universities in the Northeast. Two hundred eighty four (74%) were female. The mean age was 19.6 years (range 17 to 22 years). Working-through upper-middle-class individuals were represented, typical of the students at the respective universities. The sample was 73% Caucasian, 18% Black, and the remainder Asian or Hispanic individuals. This sample has one obvious bias,

namely, the lack of an adolescent group. Recognizing this, we have administered the SKAT-A to 700 high school adolescents.

Response Mode and Timing

The SKAT-A is primarily a forced-choice, paper-and-pencil instrument. As such, participants are required to respond directly to options provided on the instrument. There are, however, instances within the Behavior Inventory requiring participants to supply responses (e.g., age at first intercourse). The administration of the SKAT-A requires about 30 minutes. Administration time includes all four sections (Demographics, Attitude, Knowledge, and Behavior).

Scoring

The Attitude section for the SKAT-A uses a 5-point Likert-type scale. Scores are obtained by adding the responses to each of the 40 items. Of the 40 items, 11 items are reversed in an attempt to offset response bias. The Knowledge section is scored by adding the total number correct on the scale. A trichotomized (true/false/not sure) response format is used. Twenty-four items are reverse scored. Correct responses earn 1 point. Incorrect or *not sure* responses earn no points. Although a separate scoring key is not available currently, a machine-scorable version is under development.

Reliability and Validity

Internal consistency estimates were computed for each of the five subscales within the Attitude scale. They were masturbation, .87; homosexuality, .83; pornography, .73; premarital sex, .77; and abortion, .73. The full 40-item alpha coefficient was .89. Temporal stability was calculated over a 2-week period on 50 participants. A test-retest coefficient of .89 was obtained for the full-scale Attitude scores. Thus, the Attitude scale demonstrates adequate reliability.

Internal consistency for the Knowledge scale was .74. Although acceptable, this coefficient may be depressed as a result of the content heterogeneity within the scale. Test-retest reliability for the Knowledge scale is .80 over a 2-week period.

Evidence for the construct validity of the Attitude and Knowledge scales was obtained using correlational analyses with items from these scales and selected behavior items. Each of the five subscales within the Attitude scale was shown to be correlated with other SKAT-A responses in such a way that supports the meaning and interpretation of the scales. For example, liberal attitudes about masturbation are associated with greater frequency of masturbatory behavior ($r = .38$). Liberal attitudes toward homosexuality were significantly related to sexual knowledge ($r = .32$), such that the more knowledge about sexuality, the more liberal the attitude. Individuals who hold more liberal attitudes toward premarital sex are more likely to have engaged in sexual intercourse ($r = .22$). In contrast, conservative attitudes toward abortion are associated with

greater church attendance ($r = -.24$) and religious importance ($r = -.28$). A more liberal attitude toward pornography predicts both viewing of pornographic material ($r = .31$) and the reading of pornographic material ($r = .32$). A one-item self-rating of sexual attitudes (1 = *very conservative* to 10 = *very liberal*) was correlated with full-scale Attitude scores ($r = .49$) supporting the construct validity of the scale. All correlations were significant at the .01 level.

Evidence for the validity of the Knowledge scale was demonstrated through the correlation of Knowledge scale scores and logically related items from the Attitude scale and Behavior Inventory. Sexual knowledge and sexual attitude scores were related ($r = .44$). More knowledgeable individuals were more likely to hold liberal attitudes. Sexual behaviors are also related to sexual knowledge such that more knowledgeable individuals are more likely to have engaged in sexual intercourse ($r = .13$). An additional finding was that more knowledgeable individuals used contraception more frequently ($r = .19$). All correlations are significant at the .01 level. The strength of these correlations is affected by the fact that the decision to engage in sexual

activity is a multifaceted construct difficult to capture in univariate analyses.

The SKAT-A represents our attempt to provide a well-standardized instrument to assess some important aspects of sexuality. It should prove useful in both teaching and research settings. The instrument is not meant to be used for individual diagnostics but should provide general information about group performance. The addition of the adolescent group described earlier will increase the age range of the instrument as well as provide an important database for this group. Information about obtaining the SKAT-A and scoring procedures may be secured from the authors.

References

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- Lief, H. I., & Reed, D. M. (1972). *Sex Knowledge and Attitude Test*. Philadelphia: University of Pennsylvania, Center for the Study of Sex Education in Medicine.

Mathtech Questionnaires: Sexuality Questionnaires for Adolescents

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The questionnaires have two purposes: first, to measure the most important knowledge areas, attitudes, values, skills, and behaviors that either facilitate a positive and fulfilling sexuality or reduce unintended pregnancy among adolescents; and second, to measure important possible outcomes of sexuality education programs.

The Centers for Disease Control funded Mathtech, a private research firm, to develop methods of evaluating sexuality education programs. Mathtech reviewed existing questionnaires for adolescents and determined that it was necessary to develop new questionnaires. With the help of about 20 professionals in the field of adolescent sexuality and pregnancy, Mathtech identified more than 100 possible outcomes of sexuality education programs and then had

100 professionals rate (anonymously) each of those outcomes according to its importance in reducing unintended pregnancy and facilitating a positive and fulfilling sexuality. Mathtech then calculated the mean ratings of those outcomes and developed questionnaires to measure many of the most important outcomes. The questionnaires that measure these important outcomes include the Knowledge Test, the Attitude and Value Inventory, and the Behavior Inventory.

KNOWLEDGE TEST

Description

The Knowledge Test is a 34-item multiple-choice test. It includes questions in the following areas: adolescent physical development, adolescent relationships, adolescent sexual activity, adolescent pregnancy, adolescent marriage, the

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