

Test Use

Lecture 7 Psychological Testing and Measurement

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The Role of Test User

- Test Selection
- Test Administration
- Test Scoring
- Test Interpretation
- Test Confidentiality

Qualification for Users of Psychological Tests

- Their knowledge and skills in
 - Psychometric principle and statistics
 - Selection of tests in light of their technical qualities, the purpose for which they will be used, and the characteristics of examinees
 - Procedures for administering and scoring tests, as well as for interpreting, reporting, and safeguarding their results
 - All matters relevant to the context and purpose of test use

Qualification for Users of Psychological Tests

- The extent to which test users have received appropriate supervised experience in all aspects of the knowledge and skills pertinent to the intended use of a specific test.

Test Selection

- Before choosing tests, consider following questions
 - What kind of information do I seek to gain from testing?
 - How will this information be used?
 - How much of the information I seek is already available from other sources?
 - What other tools might be used to gather the information I seek?
 - What are the advantages of using tests instead of, or in addition to, other sources of information
 - What are the disadvantages or the costs in time, effort, and money of using tests?

Test Selection

- The most significant advantages that psychological tests offer pertain to their characteristic efficiency and objectivity.
 - Efficiency: The tools for gathering the information they require in a timely and cost-effective manner.
 - Objectivity: The data we can gather through informal observations and interactions may be of questionable or limited value. The tests depend on normative or criterion-based frame of reference.



Test Utility

Other Sources of Information

- Biographical Data
- Interview
- Observation
- Letter of Recommendation
- Polygraph

Test Administration

- Environment
- The test takers aspect
- The examiner aspect
- Interaction between the Examiner and the Subject
- The technology aspect

The Test Environment

- The most important principle to follow in preparing the environment in which testing will occur is to anticipate and remove any potential sources of distraction.
 - Light, Ventilation, Seating, Space, Noise, Other Stimuli, Sign for Direction
 - Trying to prevent cheating behavior
 - For individual test, presence of others in testing room

The Test Takers

- Test Takers' Variables
 - Motivation and anxiety can greatly affect test scores.
 - Test anxiety: students who suffer from it have difficulty focusing attention on the test items and are distracted by thoughts such as “I am not doing well” or “I am running out of time”
 - Test anxiety appears to have three components: worry, emotionality, and lack of self-confidence

The Test Takers

- Test Takers' Variables
 - Many variations in health status affect performance in behavior and in thinking, such as illness, medical drugs.
 - Some researchers have debated whether normal hormonal variations affect test performance.

The Test Takers

- Test Takers' Variables
 - Social desirability: trying to fake good or bad
 - May or may not be conscious
 - Validity scales designed to detect various types of attempts at impression management or response sets such as defensiveness are embedded in a number of personality inventories

Effects of Training on Test Performance

- Is improvement is limited to specific items included in the test or it extends to the broader behavior domain that the test is designed to assess?
- A test score is invalidated only when a particular experience raises the score without appreciably affecting the behavior domain that the test is designed to measure.

Effects of Training on Test Performance

- The extent of improvement from coaching depends on the ability and earlier educational experience of test takers, the nature of the tests, and the amount and type of coaching provided.
- Individual with deficient educational backgrounds are more likely to benefit from special coaching.
- The closer the resemblance between test content and coaching material, the greater will be the improvement in test scores.

Effects of Training on Test Performance

- Coaching is designed to develop highly restricted skills that may be of little use in life activities.
- Coaching may be available to some test takers and not to others, in tends to introduce individual differences in narrowly defined test-taking skills.

Effects of Training on Test Performance

- Test Sophistication: Significant mean gains have been reported when alternate forms were administered in immediate succession or after intervals ranging from one day to three years, both in same form and alternate form.
- The individual who has had extensive prior experience in taking standardized tests enjoy a certain advantage in test performance over one who is taking her or his first test. (such as initial feeling of strangeness, more self-confidence, better test-taking attitudes)

Effects of Training on Test Performance

- For computer administered testing, attention should be given to the test taker's familiarity with this form of test administration.
- Short orientation and practice sessions can be quite effective in equalizing test sophistication.

The Examiner

- Training of Test Administrators
 - Different assessment procedures require different levels of training.
 - In a study of 22 graduate students, there were numerous errors in scoring the test (WISC), with no improvement over five practice administrations.

The Examiner

- Informed Consent: Psychologists must obtain and document the informed consent of test takers either orally or in writing.
- The consent contains a suitable explanation of nature and purpose of the evaluation, as well as information concerning confidentiality limits and how the security of test results will be maintained.

The Examiner and the Test Taker

- The relationship between examiner and test taker
 - Feldman & Sullivan (1960): first- through seventh-grade children were given the WISC under one of two conditions (rapport, neutral)
 - Witmer, Burnstein, & Dunham (1971): three conditions (approving, disapproving, neutral comments)
 - Fuchs & Fuchs (1986) take meta-analysis on 21 studies found that test performance was approximately .28 SD higher when the examiner was familiar with the test taker than when not.

The Examiner and the Test Taker

- Interviewer Effect
 - Respondent may give the response that they perceive to be expected by the interviewer.
 - Live interviewer VS self-completion questionnaires
 - Moun (1998): assess symptoms of anxiety and depression in one of three conditions: face-to-face, telephone and self-administered questionnaire
 - Self-administered questionnaires identified two to three times as many probable cases of psychological distress as did the personally interviewed cases.

The Examiner and the Test Taker

- The Race of the Tester
 - Some groups feel that their children should not be tested by anyone except a member of their own race.
 - Sattler (2002, 2004) concluded that there is little evidence that the race of the examiner significantly affects intelligence test scores.
 - The race of the examiner affects test scores in some situations, such as discretion about the use of the tests, paraprofessional.
 - Stereotype Threat (Steele, 1997)

The Examiner and the Test Taker

- Language of Test Taker
 - Some test are inappropriate for people whose knowledge of the language is questionable.
 - Translating tests is difficult, and it cannot be assumed that the validity and reliability of the translation are comparable to the English version.
 - Evidence for test comparability across language should be available.

The Examiner and the Test Taker

- Expectancy Effect
 - A review of many studies suggests that an expectancy effect exists in some but not all situations.
 - Expectancies shape our judgments in many ways, e.g. research grants.
 - Two aspects of expectancy effect relate to the use of standardized tests.
 - Expectancy effect results from subtle nonverbal communication between experimenter and the subject.
 - The expectancy effect has a small and subtle effect on scores and occurs in some situations but not in others.

The Examiner and the Test Taker

- Expectancy Effect
 - Sattler (1988) noted that those that showed an expectancy effect tended to have an administrator test only two children. The studies that did not find an expectancy effect tended to have more subjects tested by each test administrator.

The Examiner and the Test Taker

- Effect of Reinforcing Responses
 - An inconsistent use of feedback can damage the reliability and validity of test scores.
 - Reward (such as tokens, praise) can significantly affect test performance, especially cultural relevant reward. However, it is not clear that reward improve or harm scores.
 - The way an interviewer responds affects the content of responses in interview studies.

The Examiner and the Test Taker

- Effect of Reinforcing Responses
 - Because different examiners make different responses, one cannot ensure that the advantages resulting from reinforcement will be the same for all people.
 - As a result, most test manuals and interviewer guides insist that no feedback be given.

The Examiner and the Test Taker

- Effect of Reinforcing Responses
 - A good test manual gives the test examiner instructions that include the exact words to be read to the test takers.
 - A few occasions do require deviation from standardized testing procedures, such as for disabilities, elderly.

The Technology

- Computer-Assisted Test Administration
 - Advantages that computer offer
 - Excellence of standardization
 - Individually tailored sequential administration
 - Precision of timing responses
 - Release of human testers for other duties
 - Patience
 - Control of bias
 - Automatic recording of test responses
 - Easy of application of complicated psychometric issues and the integration of testing and cognitive psychology

The Technology

- Computer-Assisted Test Administration
 - Advantages that computer offer
 - Items can be given in any order
 - Prevents test takers from looking ahead at other sections of the test or going back to sections already completed
 - Computer test reported

The Technology

- Computer-Assisted Test Administration
 - Some people, though, uneasy interacting with computers, or suffer from “keyboard phobia.”
 - Comparisons of test scores have not tended to show large differences between computer-assisted and paper-and-pencil tests.
 - Test takers find interactions with computers more enjoyable than paper-and-pencil tests.
 - Type of tests are prepared for computer administration, independent reliability and validity studies will be needed.

The Technology

- Computer-Assisted Test Administration
 - In clinical judgment, like an inexperienced psychologist, computerized reports may cause harm.

Test Scoring

- In scoring both by hand and by scanner, there is possibility of errors.
- Good testing practice requires double-checking the accuracy of all computations and equivalent scores obtained from tables.

Test Scoring

- When required rating or subjective judgment, the test examiner must be trained to rate in valid and reliable manner.
- Scorer reliability coefficient must not be below .90.

Test Score Interpretation and Reporting

- Test score interpretation is one of the components of psychological testing through which test takers can either derive the greatest benefit, or incur the greatest harm.
- Data from multiple sources are often necessary and informed judgment must always be exercised.
- In interpretation, it requires knowledge about the context and specific areas of human behavior relevant to issue in question.
- Consider the consequences of the decisions that are made.

Test Score Interpretation and Reporting

- In actual practice, contextual issues are frequently ignored, value judgments are not acknowledged explicitly, and test scores often become the major or even the sole determining factor in decision-making.
- One way to counteract this problem is to understand and appreciate the implications of the difference between psychological testing and assessment.

Test Score Interpretation and Reporting

- The most basic guideline to follow in communicating test results is to provide the information derived from test scores, including its limitations, in language that the recipient can understand.

Test Score Interpretation and Reporting

- Don't
 - Report numerical scores
 - Assigning labels
 - Stating findings in terms of trivial generalities
- Do
 - At a minimum: what the test covers, the meaning of scores, the limitations on the precision of scores that derive from measurement error, common misinterpretation to which particular scores, the way in which test results may or will be used
 - At its best: use multiple sources

Test Confidentiality

- The security of test data, whether they consist of individually identifiable records, scores, and reports or of test materials themselves, is a primary responsibility of the test users and institutions who control access to such data.