



HRD - HSS F328

BITS Pilani
Dubai Campus



Chapter 05

Testing & Selection



EMPLOYEE TESTING & SELECTION

Selecting the right employees is important for three main reasons :

1. Performance : First, your own performance always depends in part on your subordinates. Employees with the right skills will do a better job for the company.
2. Cost : Second, it is important because it is costly to recruit and hire employees. Hiring and training even a clerk can cost \$ 5,000 or more in fees and supervisory time.
3. Legal obligations : Third, for US employers it's important because of two legal implications of incompetent hiring. First, equal employment laws require nondiscriminatory selection procedures for protected groups.



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Basic Testing concepts

Selection is thus important. A test is basically a sample of a person's behavior. Using a test assumes the device is both reliable and valid.

Reliability : is a test's first requirement and refers to its consistency. A reliability test is one that yields consistent scores when a person takes two alternate forms of the test or when he or she takes the same test on two or more different occasions.

Ex : A psychologist includes 10 items on a test of vocational interests, believing that they all measure, in various ways, the test taker's interest in working outdoors. You administer the test and then statistically analyze the degree to which responses to these 10 items vary together. This would provide a measure of the internal reliability of the test.



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Basic Testing concepts

Validity : Reliability, while indispensable, only tells you that the test is measuring something consistently. Validity tells you whether the test (or yardstick) is measuring what you think it's supposed to be measuring.

Test validity : Validity refers to the correctness of the inferences that we can make based on the test. With employee selection tests, validity often refers to evidence that the test is job related – in other words, that performance on the test is a valid predictor of subsequent performance on the job.



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Basic Testing concepts

In employment testing, there are two main ways to demonstrate a test's validity : **criterion validity and content validity** :

Criterion validity ; a type of validity based on showing that scores on the test (predictors) are related to job performance (criterion). It means demonstrating that those who do well on the test also do well on the job.

Content validity : A test that is content valid is one that contains a fair sample of the tasks and skills actually needed for the job in question.

Ex : Selecting students for dental school, many schools give applicants chunks of chalk, and ask them to carve something that looks like a tooth. If the content you choose for the test is a representative sample, then the test is content valid.



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Basic Testing concepts

How to validate a Test

The validation process consists of five steps ; analyze the job, choose your tests, administer the tests, relate the test and the criteria, and cross-validate and revalidate.

Step 1 : Analyze the Job

The first step is to analyze the job and write job descriptions and job specifications. Here, you need to specify the human traits and skills you believe are required for adequate job performance.

Ex : Must an applicant be verbal, a good talker? Is programming required?



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How to validate a Test

Step 2 : Choose the Tests

Next, choose the tests that you think measure the attributes (predictors, such as mechanical comprehension) important for job success. Usually, they use several tests and combine them into a test battery. The test battery aims to measure an array of possible predictors, such as aggressiveness, extroversion, and numerical ability.

Ex : telemarketing ability test, service ability test, team skills test.

Step 3 : Administer the Test

Next, administer the selected test(s) to employees. You have two choices here. One option is to administer the tests to employees presently on the job. You then compare their test scores with their current performance; this is concurrent validation.

Predictive validation is the second and more dependable way to validate a test. Here you administer the test to applicants before you hire them. Then hire these applicants using only existing selection techniques. After they have been on the job, use same test and compare results with previous scores. You can then determine whether you could have used their performance on the new test to predict their subsequent job performance.



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How to validate a Test

Step 4 : Relate your test scores and criteria

The next step is to ascertain if there is a significant relationship between scores (the predictor) and performance (the criterion). The usual way to do this is to determine the statistical relationship between (1) scores on the test and (2) job performance using correlation analysis, which shows the degree of statistical relationship.

Step 5 : Cross-validate and Revalidate

Before putting the test into use, you may want to check it by cross-validating, by again performing steps 3 and 4 on a new sample of employees. At a minimum, an expert should revalidate the test periodically.



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Computerized and Online Testing

Computerized testing is increasingly replacing conventional paper-and-pencil and manual tests. Many firms such as FedEx-Kinko's have applicants take online or offline computerized tests – sometimes by phone, using the touch-tone keypad, sometimes online – to quickly prescreen applicants prior to more in-depth interviews and background checks. Ex : BITSAT

Types of Tests

We can classify tests according to whether they measure cognitive (mental) abilities, motor and physical abilities, personality and interests, or achievement.

Tests of Cognitive Abilities

Cognitive tests include tests of general reasoning ability and tests of specific mental abilities like memory and inductive reasoning.



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Tests of Cognitive Abilities

Intelligence tests : Intelligence (IQ) tests are tests of general intellectual abilities. They measure not a single trait but rather a range of abilities, including memory, vocabulary, verbal fluency, and numerical ability.

Specific Cognitive abilities : There are also measures of specific mental abilities, such as inductive and deductive reasoning, verbal comprehension, memory, and numerical ability.

Ex : Aptitude tests – they purport to measure aptitude for the job in question.

Test of Mechanical comprehension – tests the applicant's understanding of basic mechanical principles. It may reflect a person's aptitude for jobs – like that of machinist or engineer – that require mechanical comprehension



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Tests of Motor and Physical Abilities

You might also want to measure motor abilities, such as finger dexterity, manual dexterity etc.

Ex : The Crawford small parts dexterity test ; it measures the speed and accuracy of simple judgment as well as the speed of finger, hand, and arm movements.

Tests of *physical abilities* may also be required. These include static strength (such as lifting weights), dynamic strength (like pull-ups), body coordination (as in jumping rope) etc.



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Measuring Personality and Interests

A person's cognitive and physical abilities alone seldom explain his or her job performance. Other factors, like motivation and interpersonal skills are important

Ex : MBTI (Myers-Brigg Type Indicator), FIRO-B (Fundamental Interpersonal Relations Orientational Behavior)



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Measuring Personality and Interests

Ex : MBTI (Myers-Brigg Type Indicator)

Extraversion People who prefer Extraversion tend to relate easily to outside world.

Introversion People who prefer Introversion tend to relate to inner world of ideas and impressions

Thinking People who prefer Thinking tend to base decisions on objective analysis and logic.

Feeling People who prefer Feeling tend to base decisions on values and people-centered concerns

Sensing People who prefer Sensing tend to be interested in what the senses show them—what exists in the present.

Intuition People who prefer Intuition tend to use their imagination to see new possibilities and insights— focusing on the future.

Judging People who prefer Judging tend to like to have things decided; life is likely to be planned and orderly.

Perceiving People who prefer Perceiving tend to not want to miss anything; life is likely to be spontaneous and flexible

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Measuring Personality and Interests

Ex : The FIRO-B tool measures your interpersonal needs in three areas.

Inclusion (I)

The need for Inclusion relates to forming new relations and associating with others; it determines the extent of contact and prominence that a person seeks. Some descriptors associated with Inclusion are

- belonging
- involvement
- participation
- recognition
- distinction

Control (C)

The need for Control relates to decision making, influence, and persuasion between people; it determines the extent of power or dominance that a person seeks. Some descriptors associated with Control are

- power
- authority
- influence
- responsibility
- consistency

Affection (A)

The need for Affection relates to emotional ties and warm connections between people; it determines the extent of closeness that a person seeks. Some descriptors associated with Affection are

- personal ties
- consensus
- sensitivity
- support
- openness

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Work Samples and Simulations

Work samples : Actual job tasks used in testing applicants' performance.

Ex : Work sample for a cashier may include operating a cash register, and counting money; for a clerical position, work samples would include a typing test, and proofreading.

Basic procedure : The basic procedure is to select a sample of several tasks crucial to performing the job, and to then test applicants on them.

Ex : In developing a work sampling test for maintenance mechanics, experts first listed all possible job tasks (like “install pulleys and belts” and “install and align a motor”).

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Management Assessment Centers

A management assessment center is a two-to three-day simulation in which 10 to 12 candidates perform realistic management tasks (like making presentations) under the observation of experts who appraise each candidate's leadership potential. Typical simulated exercises include :

- ***The in-basket*** These exercises confront the candidate with an accumulation of reports, memos, notes of incoming phone calls, letters, and other materials collected in the actual or computerized in-basket of the simulated job he or she is about to start.
- ***Leaderless group discussion*** Trainers give a leaderless group a discussion question and tell members to arrive at a group decision. They then evaluate each group members'

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Management Assessment Centers

- ***Management games*** Participants solve realistic problems as members of simulated companies competing in a marketplace. They may have to decide for instance, how to advertise and manufacture, and how much inventory to stock.
- ***Individual presentation*** Trainers evaluate each participant's communication skills and persuasiveness by having each make an assigned oral presentation.
- ***Objective tests*** A center typically includes test of personality, mental ability, interests and achievements.
- ***The interview*** Most require an interview between at least one trainer and each participant, to assess the latter's interests, past performance, and motivation.

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Video-Based Situational Testing

- ***Situational tests*** require examinees to respond to situations representative of the job.
- The typical ***video-based simulation*** presents the candidate with several online or PC based videos scenarios, each followed by a multiple choice question. At a critical moment, the scenario ends and the video asks the candidate to choose from several courses of action.
- Ex : A manager is upset about the condition of the department and takes it out on one of the department's employees.

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Background Investigations and other Selection Methods

- Background investigations and Reference checks Most employers try to check and verify the job applicant's background information and references.
- Aims : There are two main reasons to conduct pre-employment background investigations and/or reference checks – to verify factual information provided by the applicant, and to uncover damaging information such as criminal records and suspended drivers' licenses.

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Background Investigations and other Selection

Methods: *Using pre-employment information services*

- Various federal and state laws govern how employers acquire and use applicants' and employees' background information. Compliance with these laws essentially involves four steps :
- Step 1 : Disclosure and authorization Before requesting consumer or investigative reports from a consumer reporting agency, the employer must disclose to the applicant or employee that a report will be requested and that the employee/applicant may receive a copy.
- Step 2 : Certification The employer must certify to the reporting agency that the employer will comply with the federal and state legal requirements.

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Background Investigations and other Selection Methods

Using pre-employment information services

- Step 3 : Providing copies of reports Under federal law, the employer must provide copies of the report to the applicant or employee if adverse action (such as withdrawing an offer of employment) is contemplated.
- Step 4 : Notice after adverse action After the employer provides the employee or applicant with copies of the consumer and investigative reports and a “reasonable period” has elapsed, the employer may take an adverse action (such as withdrawing an offer, or dismissing, or not promoting the applicant or employee).