

Psychometric Tests: A Survival Guide

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What is psychometric testing?

Cognitive tests are useful in selection as indicators not only of ability but also of the potential for future development. Standardized tests of cognitive abilities are grounded in the psychometric approach to intelligence, which has focused on understanding individuals' ability to reason, plan, solve problems, think abstractly, learn and adapt, and process and comprehend complex ideas and information (Ones, Visweswaran, & Dilchert, 2005). According to Hambleton & Oakland (2004), psychometric tests of ability and personality have long been used in clinical, educational, industrial and organisational settings to facilitate decision making. Deary and Crawford (2000), strongly argued that test scores reflect developed abilities and are a function of innate talent, learned knowledge and skills, and environmental factors that influence knowledge and skill acquisition such as prior educational opportunities.

The Predictive Validity of Psychometric Tests?

Researchers have conducted thousands of studies in educational and employment settings to answer the basic question *“Do cognitive tests predict performance?”* According to Kuncel & Hezlett (2007), the large-scale studies and meta-analyses offer the most accurate estimates of the typical relationship between tests and performance. An overwhelming body of collaborative evidence indicates that among all the selection techniques psychometric testing is one of the strongest predictors of on the job performance.

Ones et al., (2005), has asserted that consistent with research in academic domains, scores on cognitive ability tests are strongly related to success in occupational training in both civilian and military jobs, with meta-analytic estimates ranging from the high .30s to .70s. Ones et al., (2005), further shows that scores on cognitive ability tests predict performance because they forecast the extent to which individuals both currently possess and will continue to acquire the specific knowledge and skills needed to perform effectively in educational and work settings.

Cognitive ability test scores also predict outcomes in all jobs including overall job performance, objective leadership effectiveness, and assessments of creativity. According to Schmidt & Hunter (2005), the strength of the relationship between test scores and performance increases as training and jobs become more cognitively complex. Meta-analytic research on training outcomes suggests that cognitive abilities influence knowledge and skill acquisition during training.

Yet another good aspect of cognitive ability is that they are not biased. In support of this line of argument, Research on the fairness of ability tests has concluded that tests are not biased against women and minority groups (Sackett et al., 2008).

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How to prepare for psychometric tests

Hundreds of thousands of people take psychometric tests every year for carrier guidance and employment purposes. This article is full of tips to help you feel good, boost your confidence, get you prepared and organised and generally help you survive the day of the test itself. It is important to note that fear is one of the greatest enemies of human achievement.

What do psychometric tests measure?

There is a common misconception that psychometric tests only measure personality. Psychometric tests measure among other things one's ability to grasp geometric figures, written words, numerical ability, attention to detail, perceptual speed and accuracy. And then, of course, there are personality tests assessing everything from motivation to work preferences.

How many tests do I have to take?

In theory, all psychometric tests given to job applicants should be relevant to the job. The type and number of tests are determined by the nature of the job. However, irrespective of the nature of the job many organisations use verbal reasoning, numerical reasoning and abstract reasoning as routine tests since these are regarded as the main foundational cognitive ability.

Once I get the job do I have to take any more psychometric tests?

It is important to note that psychometric tests are not only used for recruitment and they can be used for promotional purposes, supervisory and management development purposes. So it is clear that psychometric tests can be used at any point in time for different organisational purposes.

Do other industries use psychometric tests?

Psychometric tests have been used for decades in two main fields other than recruitment. In career guidance, psychometric tests are used to help individuals gain an insight into their aptitudes, abilities, interests and motivations. They are also used in education.

What format do the psychometric tests take?

The psychometric tests can either be written manually or online. Most companies have online psychometric platforms. One thing is certain if you are looking for a job you are more than likely to be asked to take psychometric tests. On the verge of writing psychometric tests, the candidates should be

given instructions on what they are supposed to do. The instructions for the tests could be as follows:

- The psychometric invigilator introduces himself /herself to the candidates.
- The candidates are informed that the tests may take an average of 4 hours to complete, however, this is dependent on the speed of the candidate and whether or not there are any disruptions during the tests.
- The candidates will not be allowed to use any calculators or refer to the internet.
- The tests include both timed and non-timed tests and the candidates are to remain conscious of the time allocated to a test.
- The candidates may take breaks between the tests but this may only be done once a test has been submitted and before the start of a new one as they may lose their test progress.
- The candidates are to complete the registration process in full and should they require any assistance the invigilator will be available to assist.
- Once a test has been started the candidate may not go back so it is important to read and understand all the instructions before starting any test.
- The candidates will not be permitted to communicate with each other during the tests.
- Should the candidate require any assistance they may raise their hand and the invigilator will come and assist them.
- The candidates are entitled to a feedback session on their performance should they require one, however, this may only be done after the recruitment process has been completed.
- Once the candidates have completed the tests, they may inform the consultant and they will be assisted on the next steps.

Manual Administration of Psychometric Tests

Psychometric tests may also be administered manually on paper. In this instance, every step of the testing process is timed and the invigilator should ensure they remain vigilant at all times. At each test, the invigilator will be responsible for informing the candidates when they are supposed to start and when they should stop writing.

Interpretation of Psychometric Tests

The interpretation of psychometric tests varies depending on the nature of the test. For instance, the verbal reasoning test is interpreted as shown below:

Verbal Reasoning

Percentile Range	Description
Extremely Low (>25)	This score is extremely low and suggests that the candidate may find it very difficult to understand fairly complex verbal concepts and ideas or to be able to perceive the relationships between these and deduce their logical consequences. It is also highly likely that the candidate will face difficulties understanding new ideas and

Low	explaining them coherently to others This score is extremely low and suggests that the candidate may find it very difficult to understand fairly complex verbal concepts and ideas or to be able to perceive the relationships between these and deduce their logical consequences. It is also highly likely that the candidate will face difficulties understanding new ideas and explaining them coherently to others
Average Range(50-55)	This score is in the average range and suggests that the candidate may find it difficult to accurately deduce the logical consequences and effects that follow from a given written argument, consequently overlooking subtle shades of meaning. Although the candidate would be able to understand written explanations, he may find it challenging to explain complex concepts clearly to others.
Moderate-High (60-70)	This score is high and suggests that the candidate is likely to be able to understand complex verbal concepts and articulate business-related issues clearly.
Extremely High	This score is extremely high and suggests that the candidate is likely to be as able as most people at this level to understand complex verbal concepts and articulate business-related issues in a clear and simple manner

What is Risk Profile Analysis?

Risk Category	Description
Low Risk	High- Superior Cognitive Ability
Medium Risk	Average –Medium Cognitive ability
High Risk	Inferior-Low Cognitive Ability

Why using psychometric tests when recruiting?

- They provide a valid and reliable method of selecting the most suitable job applicants or candidates for any position
- They are rooted in scientific evidence and they add credibility and objectivity to the process of recruitment
- They predict about 44% of a candidate's potential on the job performance
- They reduce recruitment costs by making sure that candidates with the right capacity are employed.
- They unmask the hidden capacity of potential candidates
- Psychometric tests are used so extensively, especially by large organisations, because they can be a quick, easy and relatively cheap way of eliminating large numbers of unsuitable candidates early in the recruitment process
- By 'screening out' unsuitable candidates in one fell swoop, the organisation can then concentrate on the remaining candidates in the hope of finding the 'right' people as quickly as

possible.

- Why interview 100 people when, within an hour, you can whittle this number down to the 10 highest calibre candidates?

The types of psychometric tests used in recruitment and their usefulness

There are different psychometric tests written by potential employees. These tests include among others:

1. **Verbal reasoning:** It assesses the ability to comprehend, interpret and draw conclusions from oral or written language.
2. **Numerical reasoning:** It assesses the ability to comprehend, interpret and draw conclusions from numerical information.
3. **Abstract Reasoning:** It assesses the ability to reason logically with figures or designs
4. **Logical Reasoning:** It assesses the ability to solve work-related problems and to think clearly and logically in an efficient and effective manner
5. **Mechanical Reasoning:** It assesses the level of understanding of everyday physical laws such as force and leverage involved in the use of tools and equipment
6. **Space Relations:** It measures the ability to understand and interpret spatial relationships between objects.

What is a Comprehensive Personality Assessment?

The comprehensive personality assessment test determines the extent to which a person will have an appropriate work approach and strong/constructive relationships with work colleagues. The prediction of performance using standardized tests of cognitive ability can be incremented by adding measures of personality, values, interests, and habits to the admission or selection system, but only if they are carefully selected and developed. According to Poropat (2009), the Big Five personality traits (Emotional Stability, Extroversion, Conscientiousness, Agreeableness, and Openness) demonstrate useful correlations with academic performance and job performance.

In assessing personality, psychologists prefer to measure the following personality dimensions:

1. **Consciousness:** It reflects the extent to which one is organised and exercises due to diligence
2. **Extroversion:** It measures the extent to which one is outgoing and explorative
3. **Agreeableness:**
4. **Openness to experience:** It measures the extent to which one is receptive to new ideas, imaginative, curious, and open-minded.
5. **Ambition:** It measures the extent to which one is motivated by competition and strives to achieve distinctiveness.
6. **Intellect:** It measures the extent to which one is innovative and creative.
7. **Adjustment:** refers to the behavioural process of balancing conflicting needs, or needs to be challenged by obstacles in the environment.

Given the impact of high-stakes testing on individuals and organisations, it is important for organisational practitioners, human resources practitioners, and policymakers to critically examine standardized tests of cognitive ability and fully inform themselves about the scientific evidence on these selection tools. The vast body of accumulated knowledge about these tests is clear: They are among the strongest and most consistent predictors of performance across academic and work settings.

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