Psychometric Assessment Guide

What are psychometric assessments?

They are tools used to assess various individual factors (personality, values, motivations, abilities) that predict behaviours and outcomes (job performance) in various circumstances (different jobs). Other tools include interviews, work-sampling tasks, case-studies, group-activities, and reference checks.

Why do employers use psychometric assessments?

Choosing the right person for the job has long been a problem that many employers have struggled to address. Poor selection may have disastrous consequences for both the employee and the organisation.

From the organisation's perspective, the cost of hiring and training an inappropriate candidate can be very high in terms of lost productivity and revenue, reduced efficiency, increased absenteeism, reduced morale, the cost of the selection process itself and the cost of retraining new personnel.

From the employee's perspective, being selected for the "wrong" job may have consequences ranging from loss of motivation, reduced job satisfaction, increased work stress, failure to progressin their career, to more clinical manifestations such as depression and anxiety.

Employers have attempted to resolve the selection problem by using a variety of methods to aid selection accuracy. However, over the years many of these have been "faddish" and lacking in predictive validity. Today, methods such as hand writing analysis, astrology and reliance upon written references (that inevitably praise the candidate) have given way to more valid methods.
Numerous studies have shown that modern psychometric assessment is one of the most valid predictors of future job performance. With increasing frequency, employers are now turning to psychometric testing to aid in selection decisions as well as evaluation of personnel.

Are they accurate?

They offer incremental predictive value of an individual's work behaviour and performance. That is, psychometric tools are seldomly used in isolation but as a suite of measures, which when combined are better indicators of work performance than using a single measure or no measure. Finding the wrong person can be a very costly mistake, so employers try to improve their prediction. While there is never perfect predictive value of any measure, there is overall more benefit in using valid and reliable psychometric tools than using none.

- Objectivity – good psychometric assessments are standardised on a large sample and provide normative data across a wide range of demographics and age cohorts. Well selected tests will allow you to demonstrate talents that may otherwise not be evident.
- Validity – psychometric assessments are a more valid method than interviews, academic achievement & reference checks, and when utilised in combination (for example in an assessment centre) are highly predictive of future job performance.

Can psychometric tests be faked?

For some roles the profile of the "perfect applicant" may appear to be transparent. Test makers are aware that self-report inventories are particularly prone to applicants making false or misleading responses.

You should note that many psychometric tests contain "faking scales" or "inconsistency scales" to detect such misrepresentations. Applicants obtaining elevated/depressed scores on these scales may not be considered further for the role, therefore it is advisable that you try to answer honestly to maximise your chances of a good fit between you and the position on offer.

When will I be assessed?

It depends on the role and assessment being used. Candidates are first screened and shortlisted through resumes and cover letters. Subsequently, psychometric assessments can be used at different stages of the recruitment depending on cost-effectiveness. For example, personality assessments are more likely to be used towards the final selection stages to ensure the remaining candidates 'fit' into the organisation, whereas cognitive assessments are often used a bit earlier to screen whether the individual has the capacity to do the job. Less common is when group testing is conducted early to identify candidates for interview (unlikely for graduate jobs). Whether assessment will occur depend on the organisation and position. You will be notified of assessments in advanceby the organisation.

Preparing for psychometric assessments

Popular belief is that you cannot prepare for psychometric tests. This is true for many types of tests (e.g. personality, motivation, interest inventories and general ability) however, there are a few thingsthat you can do to maximise your chances on other types of tests.

- Remember that psychometric tests are not generally like examinations. There are no right and wrong answers to many "tests" (e.g. personality scales) although speed of completion is a factor in most ability tests so work as fast and accurately as you can.
- Your individual profile is made up from relative strengths and weaknesses and it is from the combination of these results that selection decisions are usually made. Therefore being strong in one area and weaker in another, will not necessarily count against you. You may be exactly what the company is looking for!
- Ask the organisation what type of tests you will be taking (in advance).
- Practice maths mentals, do simple mathematical problems with and without a calculator, brush up on reading and analysing tables and figures, and complete case study examples. Educational publications addressing most of these aspects are available at large newsagents and bookstores.
- Visit websites containing practice sets and ask at the Careers and Employment office for practice tests.
- Get a good night's sleep beforehand. You are unlikely to perform your best if you are too tired.
- Remain calm – psychometric testing can be a positive experience (particularly if feedback isprovided).

Links to practice tests

This booklet introduces the different types of tests you can expect during a recruitment process. More information, including practice tests can be found at:

Specific Company Practice Tests
- EY Strengths Assessment
- PwC Psychometric Assessments

General Practice Tests
- Assessment Day
- CAPP Practice Assessments
- Institute of Psychometric Coaching
- Practice Aptitude Tests
- Practise Reasoning Tests
- Psychometric Success
- 12MINPREP
- SHL Practice Tests

Overview of different assessment types

Personality assessments

Personality inventories are designed to assess the relatively stable and enduring characteristics of a person that may affect job performance and workplace behaviour. Several global personality scales exist and these rest upon the idea that personality is made up of a few different factors, each of which may affect the way a person responds to situations.

Typical characteristics of personality inventories:
- Usually un-timed but take between 30-90 minutes to complete
- Many formats (mostly computer, but some paper and pencil)
- Often 'forced' choice format than free response
- No 'right' or 'wrong' answers
- Usually contain an inconsistency and/or a good impression scale

Questions are often quite vague, (i.e., could be answered differently depending on the situation) and subsequently a person's first or gut response is the best indication of how they would generally respond in the situation.

Answering honestly about yourself, rather than how you would like to be or how you think the employer wants you to respond, will help you get the truest picture of your personality characteristicsand help the employer make an appropriate choice.

Sample questions
Please chose the option that is most representative of you:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I enjoy experimenting with new ways of doing things	1	2	3	4	5
I enjoy outperforming others	1	2	3	4	5

I feel most comfortable being around people who are:	(a) Hard-working	(b) Focused	(c) Driven
I prefer to take my time when making important decisions?	(a) Always	(b) Often	(c) Never
I prefer things:	(a) Confirmed	(b) Penciled	(c) Flexible
Procrastination is never a problem for me	(a) True	(b) False	

Ability assessments

The underlying goal of general ability assessment is to assess potential candidates in terms of their overall intellectual potential and build a profile of their individual strengths and weaknesses. There is a body of research to suggest that cognitive ability assessments are a strong predictor of job performance and that the validity of this predictor rises as the complexity of the job rises.

The main types of ability assessments used in selection are:
- Tests of General or Global Ability (also called "g", intelligence, IQ)
- Tests of Specific Cognitive abilities (Abstract Reasoning, Verbal Reasoning, Numerical Reasoning)
- Tests of Psychomotor abilities and specific aptitudes (vision, hearing, motor dexterity, artisticability, mechanical ability, management potential, leadership potential etc.)

Assessments of general / global ability attempt to measure a person's ability to problem solve, analyse, understand and adapt to new situations or challenges. They usually produce an IQ score or measure of 'g'. In the workplace setting, assessments of this type are often "short versions" with the emphasis on gaining a better understanding of a person's general strengths and weaknesses in relation to other graduates, rather than deriving an IQ type score.

Assessments of specific cognitive & psychomotor abilities attempt to measure the depth and nature of particular strengths and weaknesses in subject or job-related areas. Typically, these involve high level cognitive processing, complex problem solving, analytical reasoning, verbal reasoning, abstract reasoning and information checking. In some instances, assessments may extend to visual acuity, motor dexterity, mechanical reasoning and other psychomotor domains. The choice of assessment is largely dependent upon the context and nature of the role.

For graduate positions, many companies tend to use a broad range of assessments to get a feel for a person's abilities in different areas, to help them assess where an applicant might best be suited. These are likely to include assessments of vocabulary, numerical reasoning, verbal reasoning, abstract problem solving or critical reasoning, in conjunction with personality and values questionnaires. It may also include assessments of management and leadership potential, or mechanical or clerical aptitudes. Visual, motor, and tests of artistic ability are not usually included instandard multiple aptitude batteries due to their specificity and cost.

Typical characteristics of ability assessments:
- Usually timed (approximately 15 - 40 minutes)
- Consist of short questions where there is only one right answer (but a lot of wrong ones)
- Multiple choice or short answer format where you are asked to provide a number or a single word response
- Designed to discriminate between highly talented candidates therefore few candidates finishthem
- Equal weighting per question (some questionnaires have items with increasing difficulty)
- Most ability tests do not penalise you for incorrect answers (check with the test supervisor)
- They are usually paper and pencil tests although some are available in electronic format

Abstract reasoning samples

This is a test of skill at finding similarities and differences in groups of patterns. All the patterns in Group A are related to each other in some way. All the patterns in Group B are related to each other in some way.

Indicate whether each pattern in boxes 1-5 belong to Group A, Group B or neither group.

Source: Psychometric Testing at New Monday

Below you will see a series of diagrams, each following a logical sequence. Nominate from the options at right, which one logically completes the sequence on the left.

Verbal reasoning samples

- The test consists of a series of short passages of text, each of which includes a number of statements intended to convey information or persuade the reader of a point of view.
- Each passage is accompanied by four statements relating to the information or arguments it contains. Assume that what is stated in the passage is true - even if it contradicts what you know or believe to be the case in reality - and decide for each statement whether, on this assumption,it is true or false, or whether you cannot tell and need more information.

The definitions are:

True   This statement is already made in the passage, that it is implied by or follows logically from a statement or statements made in the passage.

False   This statement contradicts a statement made in, implied by, or following logically from the passage.

Can't tell   This means that there is insufficient information in the passage to draw firm conclusions about the truth or falsity of the statement.

Source: ASE-Solutions

In recent years it has become clear that man's use of fossil fuels is likely to have a major impact on the world's climate. As a result of this, increased concentrations of 'greenhouse' gasses such as carbon dioxide and methane will lead to global warming – an overall small increase in average temperatures whose impact is difficult to predict. Whilst some scientists predict melting of the polar ice caps, and so a rise in sea levels,others think this will be balanced by increased precipitation at the poles.	
If we go on using fossil fuels at the present rate, we must expect climatic change.	True | False | Can't Tell
Depletion of the Ozone layer will result in global warming.	True | False | Can't Tell
Scientists are all agreed that the use of fossil fuels will eventually lead to a rise in sea levels	True | False | Can't Tell
The burning of fossil fuels increases the concentration of methane in the atmosphere.	True | False | Can't Tell

Numerical reasoning samples

These tests may take a form like the verbal reasoning test above, where information is presented in text, graphs, charts, etc., followed by statements. You must indicate whether the statements are true, false, or choose between options. For some questions you will need to complete a calculation and rely on your mathematical knowledge to correctly work out the answer.

Sample questions include:

Q1) What number comes next in the following sequence?
- 16, 8, 4, 2, 1, 0.5, 0.25, _____

Q2) A car travels 40 metres in 0.2 seconds. If it continues at the same speed, how many metres will it travel in 1.5 seconds?

Enter your answer and your calculations.

Q3) The following graph presents information followed by a question. You will need to use the information below, plus any additional information the question gives you, to identify which one of the six answer options is correct.

Over three years, what was the mean (average) difference in profits between company X andY?
   (a) $100,000   (b) $150,000   (c) $200,000   (d) $250,000   (e) $300,000   (f) $350,000
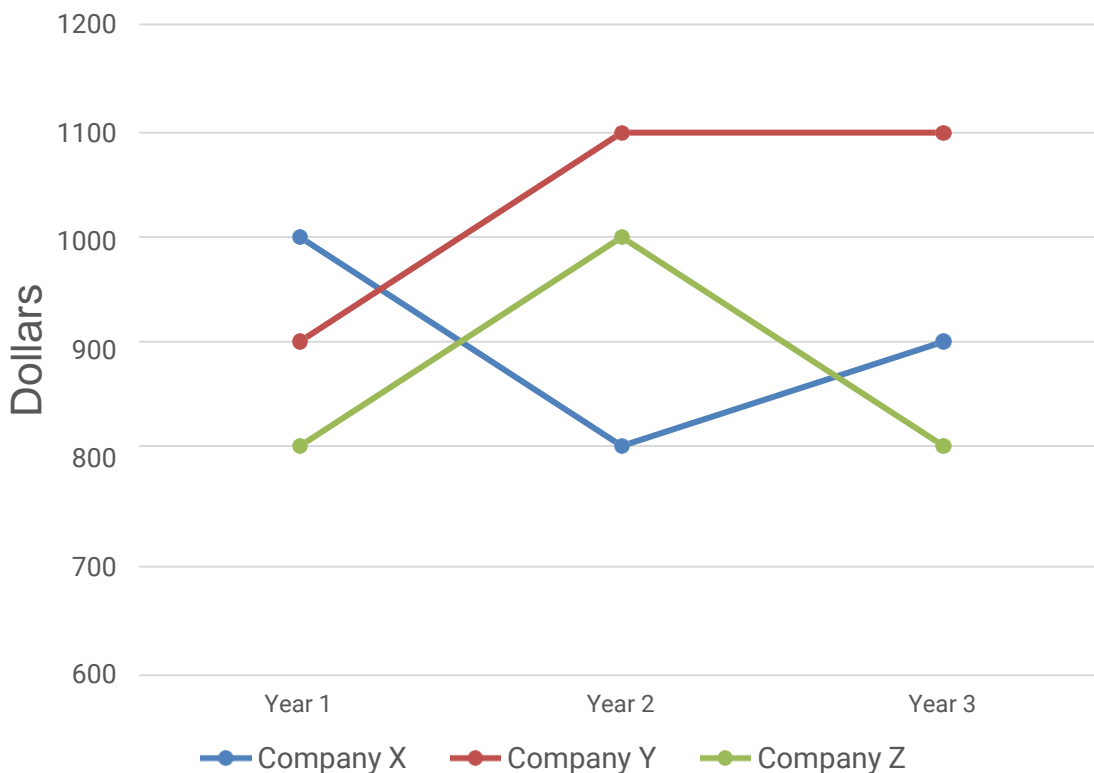
Source: ASE-Solutions

Motivation/values questionnaires

These questionnaires investigate those aspects of work that hold most importance for you. They are designed to uncover your preferences, such as work style, environment, desire for development, or preferred level of responsibility. The underlying notion is that employees will gain greater satisfactionif they are placed in a work situation that keeps them enthusiastic and motivated.

Typical characteristics of Motivation/Values questionnaires:
- They are generally un-timed although quite short to complete (10-30 minutes)
- There are no right or wrong answers
- They are usually forced choice format (multiple choice) or 5 to 7-point scale responses.
- Your first or "gut" response is usually the right one for you.
- They are usually paper and pencil tests although some are available in electronic format.

Example: You are asked to give a presentation on a recent project that your University teamhas been working on. Using the following scale, circle the answer that is most true for you.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
You feel embarrassed that you have been chosen over your colleagues?	1	2	3	4	5
You deserve this opportunity because you have worked veryhard to achieve team goals?	1	2	3	4	5
You want to collaborate with your colleagues to ensure the presentation is the best that it can be?	1	2	3	4	5
You want to maintain control of the format of the presentationbecause you want it to be the best that it can be?	1	2	3	4	5

Alternatively, you may encounter something like this:
Rate each of the following in terms of their importance to you in performing your work usingthe following scale:

	Not at all important				Extremely important
Financial reward	1	2	3	4	5
Friendly colleagues	1	2	3	4	5
Autonomy	1	2	3	4	5
Creativity	1	2	3	4	5
Career advancement	1	2	3	4	5

Interest/belief inventories

Interest inventories are used to explore your level of interest in particular aspects of work or occupations, beliefs surrounding your work preferences and work-life. They are frequently utilised in Career Counselling and one or all these tools may be used in selection and recruitment settings.

Typical characteristics of interest inventories:

- There are no right or wrong answers
- Untimed and quite short (approximately 30 minutes)
- Often presented as card sorts, checklists, or questionnaires
- Asked to rate or choose between some or all the following: occupations, activities, amusements, likes/dislikes, personal characteristics and work aspects.

Interest inventories - Sample Questions
Please rate the extent to which you agree or disagree with the following statements.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I would feel like a failure if I could not work in the field I was trained in	1	2	3	4	5
I would move to another state if I got a good job offer	1	2	3	4	5
The approval of others is important in my career choice	1	2	3	4	5
I am determined to learn new skills in order to get the job I want	1	2	3	4	5
There is a perfect job for every person	1	2	3	4	5