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BUSINESS PSYCHOLOGISTS



Psychometric Assessment in your organisation

What you need to know

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Why organisations use psychometric assessments

Psychometric tests measure aspects of an individual that are difficult to predict from interviews, CV's, exam results or biographical data. Psychologists recognise psychometric tests under two main categories – tests of **typical ability** and tests of **maximum ability**. Tests of **typical ability** measure aspects such as personality, motivation, values – elements that describe the ways in which people are unique and differ from one another. Tests of **maximum ability** measure aspects such as verbal ability, numerical ability and critical thinking – they describe a person's intellectual abilities and relative strengths.

Why use personality tests?

Personality tests measure and describe an individual's personal characteristics. Research suggests that there are five overarching ways in which people's personality differ from one another. Known as the 'big five', irrespective of the number of scales that are measured, all well researched personality profiles are linked to these factors and their aspects can be correlated to a 'big five' measure. The five main ways in which personalities differ are:

- **Extraversion and introversion** – the extent to which people are at home in the inner world of ideas or the outer world of people
- **Criticality** – how people make decisions. Whether they tend to be logical, objective and highly impersonal or base decisions on values and feelings.
- **Organisation** – whether people are more adaptable and like a flexible, spontaneous approach or whether they are more structured, preferring plans, order and less flexibility.
- **Intellectual focus** – grounded people tend to work with known facts and look for possibilities and relationships among them, theoretical tend to take a 'top down' approach, looking for possibilities and relationships. Theoretical people tend to be more interested in change.
- **Emotional involvement** – this shows whether people tend to be calm and generally keep their emotions under control or are more volatile – prone to expressing their emotions and prone to the effects of pressure.



Personality assessment is used for selection and development. As an aid to selection, a personality profile paints a picture of an individual's characteristics which can be used to make behavioural predictions. **They are typically used prior to interview** and can inform the interview questions. It's important that the profile is explored with each candidate to ensure that it represents them fairly. As personality is a measure of 'typical' performance, it should be considered tentative evidence that is explored with the individual, rather than a definitive view of them. **As part of a development programme**, personality profiles can be used to help identify strengths and areas for development in relation to a set of criteria such as a competency framework. Personality tests are untimed and are often delivered online through a test publisher's website. Well known personality measures include Quintax, OPQ32, 16PF5, Hogan Personality Inventory and MBTI. Other aspects that are often measured alongside personality are motivation (MQ), overused strengths (Hogan Development Survey), mental toughness (MTQ48) and emotional intelligence (Bar-On EQi).

Why use ability tests?

Cognitive ability is consistently found to be predictive of success in organisations and can be better predictors of intellectual ability than exam results. Ability tests describe an individual's intellectual abilities. Typical tests are:

- **Verbal ability** – how effectively individuals comprehend and draw inferences from verbal information. A typical verbal ability test establishes how well candidates make sense of reports which cannot be relied upon to be objective or consistent. The test typically consists of a series of prose passages which include a number of statements intended to convey information or persuade the reader of a point of view. Each passage is accompanied by statements. Candidates have to decide whether these are true, false or whether they cannot tell based on the data they are presented. Verbal ability is relevant to all tasks that require individuals to create documents, understand other people's arguments and documents and make persuasive arguments during presentations.
- **Numerical ability** – these test skill at reasoning with numbers. In a typical numerical ability test candidates are presented with information in a variety of formats – text, tables or graphs – and are asked to answer questions in relation to the data. Other numerical tests assess an individual's accuracy at number checking. Some tests allow calculators. Numerical ability is relevant to all tasks that require numeracy including budgeting, forecasting and fee calculation.



- **Abstract, inductive or diagrammatic ability** – these are tests of skill at finding similarities and differences in groups of patterns. Candidates need to work from ‘first principles’ and establish the ways in which patterns are similar or different to each other and to group patterns together based on these criteria. Abstract ability is important in seeing the bigger picture and in making links between disparate sets of information. It is often associated with strategic thinking.
- Other aspects of ability that can be tested include Mechanical Comprehension, IT ability, Number Checking and Calculation.

Ability tests are typically used for selection and are available for different levels (e.g., graduate, senior manager, supervisory, operational) with a range of benchmark comparison groups (e.g., banking and financial services, public sector, engineering and science). They **are sometimes used in succession planning and talent mapping exercises where an organisation needs to identify key strengths.**

Ability tests are timed and can be delivered online or at a supervised session. Unlike tests of typical ability, in tests of maximum ability the score reflects how many questions are answered correctly. The results are presented as a percentile or how well the candidate has done in comparison to a range of other people who have taken the test previously.

What to consider if you’re introducing psychometric assessment

If you are thinking of introducing psychometric assessment into your organisation, you need to consider the following:

- **Validity and reliability** – test publishers must be able to prove that their tests are valid (i.e., they measure what they purport to measure) and reliable (i.e., that they measure their concepts reliably over time). Test publishers have to publish statistical evidence of validity and reliability in their test manuals.
- **Fairness** – test publishers must also be able to show that the tests can be used fairly – that the results from different groups (such as gender or ethnic groups) aren’t going to differ more than would be expected by chance.
- **Norming** – a basic principle of psychometric assessment is that test results are interpreted by comparison to a relevant norm group. So for example it would be considered unfair to interpret ability test results for young apprentice



- candidates against a graduate comparison group. All psychometric tests must be able to provide a number of relevant norm groups with which test results can be compared.
- **Research** – psychometric assessments must also have a thorough grounding in relevant and well defined psychological theory. They must be able to prove links to the theory and also show how they were developed in relation to it.

You will need to train the staff responsible for purchasing, administering, interpreting and giving feedback on psychometric tests.

- Access to all well researched psychometric assessments is controlled.
- Tests can only be purchased and used by trained and registered users.
- Training is managed through the British Psychological Society's programme of test qualifications.

Organisations have to decide whether to train their own in-house staff or outsource test purchasing and administration to a trained test provider. These qualifications have recently been re-named but are still generally known by their previous names. There are four levels of qualification:

- **Assistant test user** (previously called the test administration certificate) – this enables individuals to administer tests under the supervision of an Occupational Psychologist who is registered in their use.
- **Test user (ability)** (previously called Level A) – this enables individuals to purchase, administer and interpret ability tests from any publisher.
- **Test user (personality)** (previously called Level B and B+) – this enables individuals to purchase, administer and interpret one or more personality assessments in which they have trained
- **Specialist in test use** (previously called Full Level B) – this is a qualification for individuals who want to be able to use a wide range of personality assessments.

Individuals hold these qualifications, not the organisation. Trained test users need to keep log books of test use to prove on-going competence. Trained test users appear on the Register of Qualifications in Test Use (known as the RQTU). Anyone can check that a specialist test supplier is registered and suitably qualified by looking at www.psychtesting.org.uk and clicking on 'The Register'.



Trained psychometric test users learn about the ethics of using psychometric tests and their duty of care to candidates to undertake these tests. These include:

- The importance of informed consent from candidates
- Data protection and the appropriate storage of test results
- Appropriate use and dissemination of test results
- The importance of feedback to candidates and how to deliver it
- How to interpret test results and caution about not over-interpreting the results

Guidelines for selecting tests

There are many psychometric tests available, some better than others, which makes choice difficult. In general we recommend that tests which are selected fulfil these criteria:

- The test manual which accompanies the test **must contain statistical evidence of validity, reliability and fairness** as well as a narrative about how the tests were constructed and standardised.
- **The test must show proof of use in similar applications** – for example, only use a personality assessment for selection if the test publisher has designed it with that purpose, they can show similar use and can statistically show a reasonable level of predictive validity
- **The test must offer a range of comparison or norm groups** so it can be used for a range of applications.
- The test must **have standardised administration instructions** so that they are administered the same way each time.
- Beware of any tests that make claims of being perfectly valid or fully reliable or just look too good to be true. **In psychometrics there is no such thing as a perfect (or near perfect) prediction.** Any such claims are likely to be unfounded.
- Reliable test suppliers submit their tests to the British Psychological Society for peer review and scrutiny. Reviews are available at www.psychtesting.org.uk, under 'Test registration and test reviews'.
- The best researched tests are controlled and available to trained users under the BPS four levels of qualification. **Be wary of any tests that are easily available without training and controlled access.**



Can we help you?

Chromis Business Psychologists are experts in using psychometric tests for selection and development. We are qualified to use the best researched and validated tests available. We can support you to introduce psychometric assessment through:

- Advice about the best tests to use, enabling you to make wise investments in training and test materials
- Training in personality assessment which will help you be self-sufficient in delivering assessment for selection, development, coaching or team building
- Provision of tests for your selection or development projects. We've already invested in training, materials and IT platforms so you don't need to. When we provide your testing, you also receive expert opinion on the results and feedback for your candidates