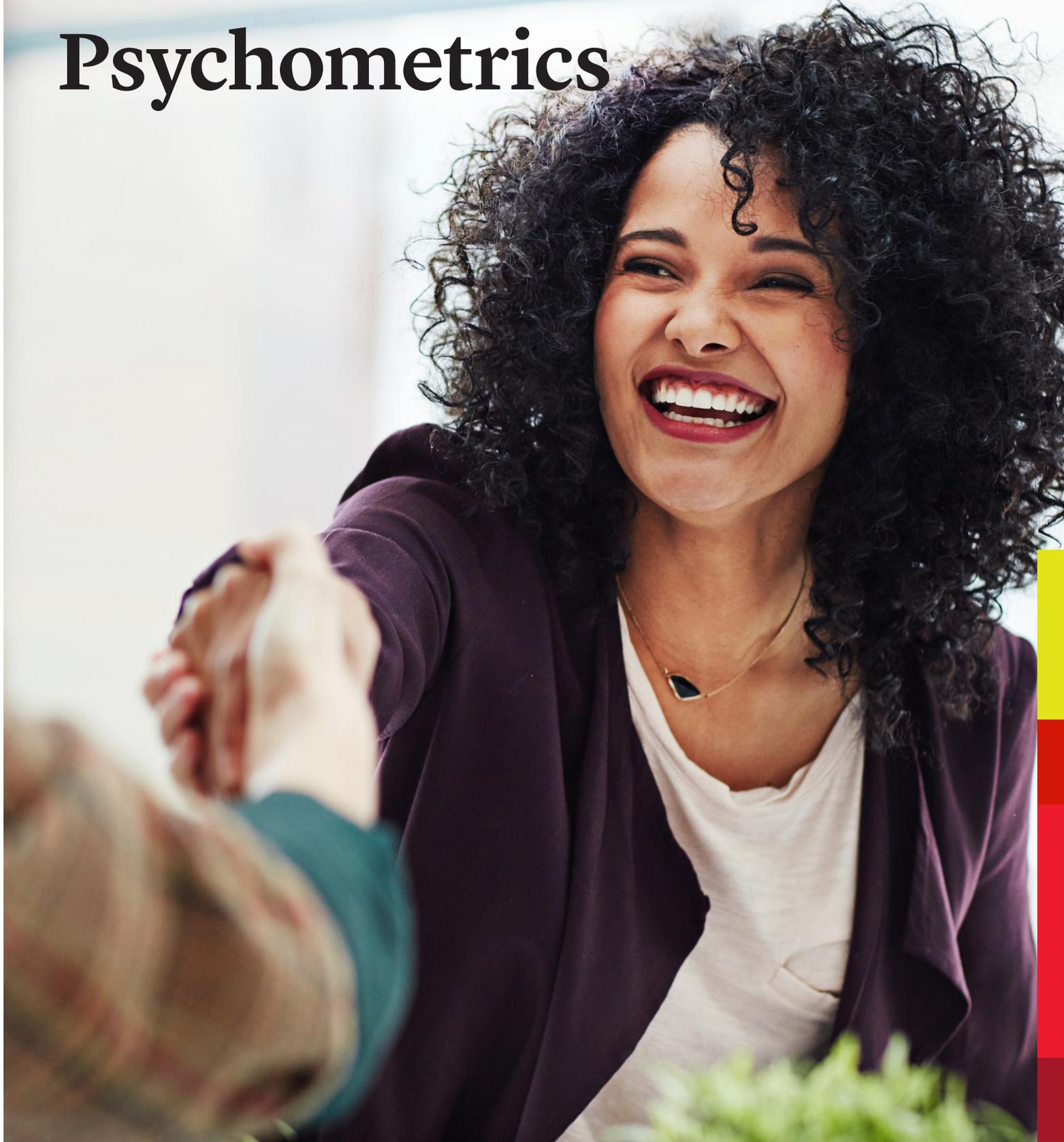


An Introduction to Psychometrics





© 2022 Hogrefe Ltd.

All rights reserved, including translation. No part of this material may be photocopied, reproduced or transmitted in any form or by any means, electronic or mechanical, recording or duplication, on any information storage or retrieval system, without permission in writing from the publishers, even within any terms granted by the Copyright Licensing Agency Ltd.

What are psychometrics?

The term 'psychometric' is used to describe the technique of measuring aspects of how people think and behave, e.g. their knowledge, abilities, attitudes, judgement and personality traits. Psychometric tests are often used in the recruitment process and in assisting employee development because they can be easily administered, offer immediate insight, and provide a valid and reliable way to assess suitability on a small or large scale.

Benefits of psychometric testing

Psychometric testing is a very popular tool in the recruitment process and in assisting employees with development. And why is it so popular? Psychometric testing offers a great deal of objectivity, which helps to mitigate the variability that comes when several decision makers are involved in the selection process.

Psychometrics help provide a reliable and valid source of data from which informed decisions can be made. Not only is it better for the organisation, which is then more likely to make the right decisions, but it is also more fair for the test taker, as all individuals navigate through the same structured and objective process.

The benefits to organisations of using psychometrics are:

- ⊕ Improved selection process efficiency
- ⊕ Improved candidate experience
- ⊕ Improved staff retention and performance
- ⊕ Reduced bias in hiring process
- ⊕ Reduced costs in recruitment
- ⊕ Reduced costs in staff turnover
- ⊕ Ability to assess candidate suitability remotely
- ⊕ **Significant financial savings as a result of all of the above**

Types of psychometric tests

Ability & aptitude assessments are measures of intellectual potential and ability. Organisations are likely to use these types of assessments as they are effective predictors of job performance and provide a quick comparison between candidates. Hogrefe's modular assessments can demonstrate clear links to work context/specific target groups.

As an example, Hogrefe's PPM-R test includes a Numerical Reasoning assessment takes 10 minutes to complete, and requires the test taker to demonstrate their understanding of the relationships between sets of numbers. This type of test is a good predictor of academic performance, as well as an indicator of an individual's ability to solve problems involving numbers.

Other ability tests assess numerical skills, verbal reasoning, critical thinking, spatial ability and problem solving.

Personality assessments provide valuable insight into an individual's temperament and behavioural style. They can also provide feedback on someone's ability to relate to others, tackle problems, deal with stressful situations and work within a team. There are many different types of personality tests available with differing degrees of detail. Some provide a quick snapshot of an individual's personality, while others allow an in-depth analysis.

The **NEO Personality Inventory, Third Edition UK (NEO-PI-3)** is a comprehensive measure of the Five Factor Model of Personality, which remains unparalleled in its level of depth to help understand personality preferences and work behaviours. Underpinned by a vast amount of research data over the past two decades, it remains the gold standard in personality assessment. The NEO-PI-3 has various norm groups for comparison available, including UK and international managerial and professional and new for 2022, international senior leadership norms. On the other 'dark' side of personality is the **Dark Triad of Personality at Work (TOP)**, which looks at specific areas of preference that could derail performance of key individuals, and result in counterproductive work behaviours.

For a quick and efficient way to look at personality from a business perspective, the **Business-focused Inventory of Personality – 6 Factors (BIP-6F) Second Edition** is a 42-item version of its longer predecessor that taps into six broad dimensions. Purpose-built as an economic alternative to longer personality tests, the BIP-6F Second Edition boasts an easy-to-use report and new UK norms.

Leadership assessments such as Situational Judgement Tests (SJTs) present candidates with a range of scenarios that could be encountered in the workplace, along with several response options. Test takers then rate the option deemed to be most effective, or indicate their preference for the various options. Some SJTs may also ask the candidate to indicate which option they would most likely choose, as they can measure either aptitude or personality.

The **Leadership Judgement Indicator (LJI-2)** requires the individual to rate the appropriateness of various courses of action in responding to each challenge, in order to determine their preferred leadership style. The 16 scenarios have been crafted from the principles underlying leadership theory, and scoring is based on a single 'best fit' way to react to each scenario. Another type of SJT is the **Creative Response Evaluation – Work (CRE-W)**, which presents individuals with 12 different dilemmas they could encounter at work, and asks them to rate how likely they are to respond with each option. The final scores reflect the level of creativity used in their decision-making process, which is useful information for managers when building project teams.

Other assessments include aspects of communication, resilience, concentration, positivity, emotional intelligence and motivation. The **Achievement Motivation Inventory (AMI)** looks at the way that broad components of personality factors are directed towards performance. And the **Emotional Processing Scale – Wellbeing (EPS-W)** helps to identify vulnerabilities to stress, improve wellbeing, and build resilience in the workplace. This can be used in coaching and development or as part of a wellbeing intervention.

Training to use psychometric tests

The British Psychological Society (BPS) has produced best practice and guidance documents relating to testing.

When it comes to occupational testing, the BPS recommend assessors be trained in both ability and personality tests (TUOA/TUOP training, formerly Level A/B) which provides the knowledge and practical skills necessary to conduct psychometric tests fairly and effectively. Key to this process is learning how to properly communicate test results back to individuals and their managers.

Hogrefe's TUOA/TUOP is verified by the BPS, and includes e-learning pre-work so the course can be taken over only three days. This course also combines NEO-PI-3 training so participants will be accredited to use it in practice as soon as they have completed the course. Anyone interested in learning about psychometrics can complete a BPS-verified course, as previous knowledge of psychology is beneficial but not essential.

If you decide against training, an alternative is to use assessment feedback packages, available from plenty of qualified psychologists and consulting companies. Should you require assessment feedback, Hogrefe staff would be happy to recommend associates.

Gaining access

Most psychometric assessments are now delivered online, with the chosen assessments administered via email to a shortlist of applicants.

The Hogrefe Testsystem (HTS) allows candidates to log in remotely to complete the assessment, meaning testing access is 24/7 and results are immediate. The latest version of HTS makes it possible to set up testing, manage multiple test takers, download results and offer remote testing – all at an easy click of a button. Most importantly, its scientifically-sound testing platform delivers the insightful and reliable results needed to inform your selection and development needs.

HTS can help you to enhance the quality and integrity of your selection decisions and let your focus remain where it needs to be – on the results. With HTS you'll get:

- substantial results feedback
- choice of norms and scales (where available)
- multi-profile comparison
- group evaluation (ranking/profiling)
- tablet compatibility
- a complete user guide to help you navigate the system
- a series of HTS tutorials on our YouTube channel

HTS accounts are free with the purchase of any test, and many test manuals are also available on the testing platform - meaning you can keep all your testing equipment securely at your fingertips.

Test taking, disability and neurodiversity

Almost 20% of the UK population have a disability or present with neurodivergency (which can include dyslexia, dyspraxia, ADHD or autism spectrum condition).

It is therefore likely that you will, at some stage, assess someone who has particular needs, and it is important to accommodate their needs appropriately. You may need to allow the use of a reader or scribe, adjust the test conditions or allow additional time. Initially though, in these scenarios, it is critical to assess the suitability of a test against the job requirements.

If, for example, the job requires the ability to read quickly and assimilate data, then you should use a test which measures this, irrespective of an individual's particular needs. If this is not the case, it is difficult to justify the use of such a test.

Occupational tests are a potential source of indirect discrimination if they are not used with proper care. It is the responsibility of every test user to ensure that the tests selected for use are relevant to the assessment issue and psychometrically robust enough to ensure that they discriminate between people only on the basis of the attributes that are pertinent to the assessment.

Case study

Nottingham City Transport

Hogrefe psychometric assessments simplified selection and retainment for Nottingham City Transport (NCT) — and saved them more than £1.2 million in the process.

NCT runs a modern fleet of buses throughout the City of Nottingham and outlying areas, and has been using psychometric tests successfully for many years. When they initially began the process, they faced high costs in driver training, with high drop-out rates and even higher customer complaints. It was clear they needed to improve their recruitment process, as they carry 50 million plus passengers per year.

After trialling several psychometrics, the team decided the d2 Test of Attention and NEO Personality Inventory were most predictive of job performance. The d2 ensured drivers could stay focused while driving a bus safely through the town centre, and the NEO gave insight into whether their temperament was suited to the role.

After implementing the new assessment process, their drop-out rate had fallen from one-in-three to one-in-ten, making a huge difference to the company's finances. Now, Nottingham City Transport estimates they've saved nearly £1.2 million in recruitment and training. Not only this, but relations with customers have improved and the operations team were very happy as there was no longer a shortage of drivers. You can watch their success story on our YouTube channel at www.youtube.com/hogrefeltd

‘We were selecting drivers and trying to turn them into customer service folk. The d2 helped us make sure the candidates had the basic focus of attention needed to drive a bus safely through our busy city streets, whilst NEO gave us a real insight into their personality in areas such as how they’d respond to dealing with the public in possibly stressful situations. We just couldn’t get this type of information from a traditional, and often subjective, interview.’

Training and Development Manager, Nottingham City Transport Ltd.



Measure by measure

The NEO and d2 worked for NCT’s unique requirements – but there are a number of measures that can work together in any situation.

Issues of recruitment, selection and development, teambuilding, leadership, diversity, language, bias, ability, performance and achievement can all be addressed with Hogrefe psychometric assessments.

About us

Hogrefe Ltd is the UK arm of the Hogrefe Group, Europe's leading publisher of psychometric assessments and psychology books and journals. We combine scientific pedigree with unmatched expertise in developing leading assessments.

Based in Oxford, Hogrefe Ltd has been developing and publishing psychometric tests since 2003. Our success is built on ensuring that our assessments and training courses deliver comprehensive, cost-effective results.

Established more than 70 years ago, the Hogrefe Publishing Group provides high-quality assessment solutions to business, clinical and educational professionals and organisations.

With almost 400 employees in publishing companies across Europe, the USA and Brazil, Hogrefe has published 2,500 books, 41 scientific and professional journals and more than 2,000 psychometric assessments in a variety of languages.

 @hogrefeltd
 /company/hogrefe-ltd
 /hogrefeltd

Hogrefe Ltd
Hogrefe House
Albion Place
Oxford
OX1 1QZ, UK

Tel: +44 (0)1865 797920
marketing@hogrefe.co.uk
www.hogrefe.com/uk