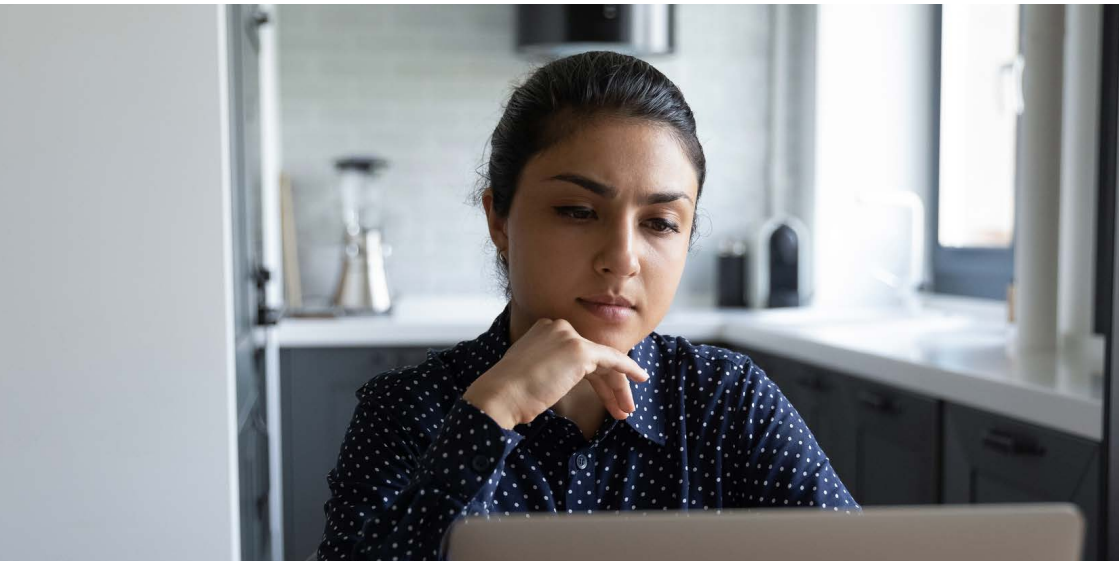


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Neurodiversity and Psychometric Testing

Practical advice for test users managing Psychological Testing of candidates with neurominority presentation (ADHD, autism, dyslexia, dyspraxia and more) in an Occupational, Educational or Forensic Context



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The purpose of these notes

These notes are to help Level 2 Test Users (formerly known as Level A and Level B testing qualifications) working in an occupational, educational or forensic context who need to test someone who presents as having a neurominority condition, such as ADHD, autism, dyscalculia, dyslexia, dyspraxia or similar. They do not relate to the use of tests to diagnose neurominorities; such testing must be carried out by a specialist. The advice given here concerns dealing with a report of neurominority diagnosis or presentation, particularly in selection situations where it is especially important that all candidates are treated fairly or in a context where general advice is being provided to others on working effectively with such individuals.

Neurominorities and the law

Neurominority (neurodiversity) conditions have been interpreted as disabling conditions, even prior to diagnosis, so it is important to recognise that Equality Act 2010 protections are likely to apply. This makes it unlawful for an employer to treat a disabled person less favourably than a non-disabled person without good reason. In an educational or forensic context this relates to not treating any service user less favourably than non-disabled service user in any testing context. Discrimination is outlawed in a wide range of employment and testing activities including selection and recruitment, assessment of needs, training +/- promotional opportunities. Employers for example have a duty to make reasonable adjustments to selection or assessment processes and likewise working conditions so that disabled persons are not placed at a substantial disadvantage. This similar lack of disadvantaging and consideration of reasonable adjustment is required to support the needs of service users in an educational or forensic context. In both of the latter, where there can be high-stakes in terms of testing outcomes, this is equally important to acknowledge and work to address.

About neurominorities

Neurominorities used to be known as Specific Learning Disabilities (SpLD) and are sometimes referred to clinically as neurodevelopmental disorders, though many people find this term pejorative. Individuals may self-identify as neurodiverse or neurodivergent, or as their diagnostic label of autistic, an 'ADHDer' or dyslexic. Most individuals prefer identity first language – i.e. 'dyspraxic person' rather than 'person with dyspraxia', in line with disability advocacy trends (Bottema-Beutel et al., 2020). In recent years, the Neurodiversity Movement has promoted the skills, talents and abilities of neurominorities, and many employers may see their employment as a talent advantage (Doyle, 2020). From a psychological perspective, there is consistent evidence in support of a pattern of extreme strengths and weaknesses, as opposed to a purely deficit based model (Doyle, 2017). Modern neuroscientific research supports this model and has found that there are more similarities between conditions than differences (D.E. Astle & Fletcher-Watson, 2020). There are also known problems in diagnostic accuracy

and therefore you should be prepared for a range of presenting difficulties, and not assume the candidate is being deceitful if they describe a problem that isn't typically associated with their diagnosis or suspected diagnosis. Underlying cognitive difficulties tend to coalesce around executive functions and sensory processing (Duncan E. Astle et al., 2019). The most common effects relevant to psychometric assessment are as follows:

- Working Memory deficit, leading to difficulty with complex questions which contain multiple clauses, any need to retain information between screen or page views, holding a sequence of rules or steps separately to answering the question. This can be impacted where information overload or requirement to retain large amounts of verbally information is present.
- Processing speed deficit, leading to additional time needed to complete the task, this is pronounced when (a) under stress and pressure and (b) completing a novel task. Since neither of these exacerbators necessarily translate into the workplace, processing speed deficit is the most common justification for awarding extra time. This may impact for example in a selection interview context, where additional stressors can be present in such a high-stakes situation. Additional time to process questions and to formulate a response can be helpful +/- allowing additional time to read through written information provided within any given task.
- Literacy difficulties, leading to comparatively lower scores where there are written questions, requiring written answers. The same would be true where requirement to retain and respond to verbal information presented orally within a test situation, with comparatively lower scores again being observed.
- Numeracy difficulties, leading to comparatively lower scores in numerical reasoning tests.
- Literal interpretation and difficulty assessing subtle nuance in social dynamics, which will affect scores on situational judgement tests (SJTs) and some verbal comprehension tests. A similar issue can be observed where tests incorporate metaphorical information, where a literal translation +/- corresponding misunderstanding can occur.
- Stereotype threat and priming, leading the candidate to find it harder to perform at their best in any assessment, following a history of difficulties or a new diagnosis that has affected their self-efficacy.

The most important rule of thumb to remember in considering need for adjustments in terms of recruitment and selection, is whether the task is (a) needed for the job in terms of its format and delivery and (b) whether adjustments can be made on the job as well as in the testing environment. For example, if you are conducting SJTs using written materials of any form, you must note that you are also measuring literacy, not just their judgment of the situation. If the role will not require appraisal of dynamics via written form, but will be live in person instead, then the SJT has placed an unnecessary barrier to performance. However, if the SJT is presented via a virtual augmented reality (VAR) headset, this barrier is

removed, although the issue of reasonable, particularly for small employers, needs interpretation and decision. Similarly, if the role will require written appraisal, for example reviewing social worker case reports, then the literacy component is relevant. However, in situ, the role is likely to permit use of assistive technology (AT) and so this would also be advisable in the assessment. Use of tools such as text-to-speech and speech-to-text software have become embedded in many standard programs now. Assessing performance with these tools in place should be as common an adjustment for neurominorities as for sight or hearing loss. Dyslexics might find this essential, but AT is also vital for dyspraxics for whom it reduces fine motor control burden and ADHD where it increases concentration through multi-sensory transfer of information. Remember not to assume, but to offer choice where you can, and accommodate through time where you cannot.

Feel encouraged to advocate for our clients and customers by reporting to test publishers where equipment is not AT compatible or AT enabled!

Similar considerations are relevant in the workplace, in interactional or interview situations or classroom contexts, not just in a testing context. It is important to consider reasonable adjustment implications, need for and value of identification and application of strategies +/- or approaches to best support individuals, in terms of addressing individual responsiveness needs, to maximize performance or support (cognitive) functioning and best support learning or interactional needs. Other adjustments might also be pertinent with presentation of written information, for example considering font type, size of font and for some individuals, colour of print, nature of backgrounds or contrasts of colour and use of (coloured) filters to reduce or enhance contrast, which might be particularly useful for people with visual processing difficulties or sight loss implications. We note that there is some disagreement scientifically about the evidence base for this adjustment, however it is unlikely to provide unfair advantage and so if a participant requests it we should comply. The anxiety created by a refusal is more likely to create unfair disadvantage.

Practical advice in advance of the testing session

As well as these specific examples, adjustment is recommended in the process of assessment, as well as the conduction. It is always important prior to any testing session for careful consideration about whether there is in fact need for assessment and also, for the use of specific tests being considered. The rationale for tests and therefore the defensibility of their use, is important at the outset.

- When inviting candidates to a testing session, acknowledge that they have a disability or any condition that might affect their performance on the tests. Encourage opportunity to provide information on functional impacts of such disability or condition. Provide a list of adjustments that you have offered previously and invite them to contact you if they would like to adopt these, or if they would like to talk them through/request others. This allows the test user/administrator to seek advice and prepare for any flexibility required. Not

all neurominorities will need adjustments for all types of tests. Offering and listening to such information on a personalised basis will be conducive for the individual, signal your commitment as an employer or Test User and help you as the Test User to prepare effectively and in line with legal requirements

- Provide any practice materials that are supplied with the tests, well in advance, (1 week minimum) of the testing session in order that candidates can check if they would have difficulty with any of the tasks.
- Explain in advance the process of what is happening, in what order, and what the layout of the location will be like. Many autistic and ADHD people find that their senses are enhanced and therefore what seems quiet or well-lit to you might be distracting or too bright for your candidate. Consider any intruding smells, temperature disturbances, lighting issues and noises to a greater degree and report this, it will be reassuring to candidates. Providing transparency and clarity will reduce anxiety about the process in general and therefore may enhance performance on the day.
- Note that many neurominorities have difficulties finding directions, particularly for the first time when nervous. Give instructions on how to get there, where to park/station to arrive at and include both a map and a series of steps. Include a telephone number or a named point of contact for difficulties on the day.
- Remember that a final decision on whether an adjustment is reasonable, and whether an individual is legally disabled, can only be made by a Court of Law. It is not the job of a Test Administrator to be the arbiter of disability or adjustment requirement, only the arbiter of whether the adjustment can practically be made in the session and then further in any corresponding job role. Avoid getting into unnecessary conflict about whether you should trust the individual's reports of need, and instead focus on ensuring that adjustments are implemented, flexible and transferable into context. The risk of disadvantaging them unfairly is greater than that of not having full evidence. That said, employers and awarding bodies do need some latitude to be able to query a request for extreme adjustments, if there is little or no evidence to support this, (e.g. application based solely on self-diagnosis.) Exceptional circumstances would therefore require careful and sensitive handling, in consultation with the candidate.
- Where someone meets the definition of a disabled person in the Equality Act 2010, (the Act) employers are required to make reasonable adjustments to any elements of the job which places a disabled person at substantial disadvantage compared to non-disabled people. Employers are only required to make adjustments which are reasonable. Factors such as cost/affordability and practicability of making an adjustment and the resources available to the employer may be relevant in deciding what is reasonable, (e.g. for smaller employers.)

Making adjustments to tests

The law, (Equality Act 2010) requires that accommodations are made for disabled people including neurominorities to ensure that selection and psychological testing procedures do not disadvantage them, rather ‘level the playing field’ and this would include not under-reflecting an individual’s capabilities. The employer is concerned with eliciting accurate information on abilities to use in making decisions. The standardised nature of psychometric tests is one of the main contributors to their effectiveness and objectivity. Arbitrary modifications to the test or administration procedure are likely to invalidate the results and render standard norm groups and score interpretations meaningless. For instance, adjusting the timing without professional advice will render the test into a work sample or structured exercise. It may show whether the candidate can manage the task, but it would be meaningless to compare scores to a standard norm group or try to interpret them in the usual manner.

Therefore, where a modification is required, advice should be taken from a Chartered psychologist with expertise in this area or from the test distributor or publisher. They will have knowledge of the type and degree of modification that might be needed. The amount of extra time required will depend on the way the difficulty manifests itself, its nature and severity, the test(s) being used and their relationship to the job requirements where used for selection procedures or in a formal testing situation, (for example exams in an educational context).

Other modifications that can help neurominority candidates include administering the test and/or recording the answers via computer, reading out instructions, help with filling in the answer sheet, and in severe cases a reader, scribe or AT for the whole test may be appropriate. (A scribe might be useful to consider where AT is not available, but would be available on the job, or if the task is not replicable on the job.) As indicated other factors such as size of print, type of font +/- colour contrast issues might also be useful to consider for some individuals.

Options for assessing functional literacy or numeracy

- Tests can be administered in the standard fashion to see how the results for a dyslexic individual compare with the norm group. Despite the disability, many candidates with dyslexia may perform well enough to be considered for the role, if competent in other respects. Only if the score is lower than would normally be required is there a need for an alternative assessment approach. Consideration of use of a calculator might be relevant, for example where this would be an option in the workplace rather than being reliant upon mental arithmetic +/- being able to use rough paper as a memory aid, rather than calculating mentally, might also be pertinent to consider. Bear in mind that being tested mentally in this way may be anxiety triggering for candidates and might affect their performance on subsequent tests.

- Consider what types of verbal skills are being measured. If verbal reasoning is being tested think about how this is relevant to the role or task requirement. On the job, would the candidate be reasoning from written material or would it often be from other sources of information? If reading or spelling are being measured, are these critical to the role or task requirement, or could the tasks entailing these skills be performed by other members of staff, for example, only one member of a work team might need to read the day's work assignment.
- Remember that if AT is possible to use when actually delivering the role, then tests for functional literacy and numeracy may be obsolete, in which case their inclusion may not be valid. Note that most smartphones now come with technology that means you can speak and instantly create text, and Microsoft's seeing AI means you can point your camera at any text and it will read it for you. Such technological advances have meant that tasks can now be undertaken in differing ways and this needs consideration.
- Standard dyslexia friendliness in written materials includes ensuring a minimum 12pt font, doubled spaced, with a sans serif font. The ability to manipulate the size, style and background colour of text is great practice to reduce visual processing issues.

If literacy/numeracy is critical and cannot be compensated in the workplace with familiarity or AT, it may be preferable to give neurominorities different but real work-based exercises, such as work samples with a timing that is realistic for a novice at the task. In the fire service for example, fire fighters are required to spell out the names of streets and other locations over a radio connection under time critical conditions. This would make the basis of a good exercise.

In such exercises, it is necessary to predetermine what would be an acceptable result (number of acceptable errors, amount completed in the time) and assess to these criteria. A further assessment of these practical exercises will be required post-training to ensure that critical safety requirements can be met.

Practical advice during the testing session

Whether adjustments have been made to standard test procedures or not, careful administration can help ensure that neurominority candidates have a fair opportunity to demonstrate their skills.

- As with many disabilities, stress may exacerbate the impact of executive functions and sensory processing. Therefore, a calm and understanding approach on the part of the administrator is important. A one-to-one administration can be helpful as it allows a less formal approach and candidates may feel more able to take their time with practice questions and ask for help when no other candidates are present.
- Neurominorities may have difficulty with test instructions. This can be due to reading difficulties, or to a difficulty with short term memory and/or working memory. With non-verbal tests such as spatial or numerical reasoning,

candidates may do poorly on a test simply because they could not read and understand the instructions, rather than because of a lack of the ability being tested. To ensure fair testing, make sure the candidate has sufficient time to understand the task before starting the test. Offer to read out instructions, or provide a recording of the instructions which can be listened to at the candidate's own pace. Work through the example exercises with care to ensure the process is understood.

- Indicate non-verbally any materials and places on the answer paper that the instructions refer to. This is good practice in all test administration, but it is even more important if the candidate is unable to read the instructions with ease, or has difficulty differentiating right from left.
- Ensure that all candidates are comfortable with the test instructions and have completed any examples before the timed test begins. Where inserting the date is a requirement, offering today's date to candidates is also good general practice as this will limit anxiety for all candidates from the outset.
- During the tests, check candidates are marking their responses correctly.
- Note down in the test log any adjustments made, comments by the candidate as well as any other non-standard occurrences. It is also good practice to note and record any observable strategies that individuals appear to be using to answer questions, (for example using fingers to count, seeming to write on the desk to support their thinking etc.) and behavioral changes of the candidates, including non-verbals. Such context behavioral information may be helpful when considering interpretation, as may noting any external distractions.
- If further advice is required in interpreting the results test users may wish to contact the test publisher, consult with a Chartered occupational, educational or forensic psychologist depending on the context of the assessment or a Chartered psychologist with neuro-minority expertise.

Much of this advice is just good testing practice and contained within the Level 2 Test User competencies on which test users will have been previously assessed. This requires the test user to proceed in a way that is fair and makes adjustment for a disability.

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Useful contacts

[BPS Neurodiversity and Employment Working Group](#)

[Business Disability Forum](#)

[Advisory, Conciliation and Arbitration Service \(ACAS\)](#)

[Trades Union Congress \(TUC\)](#)

[Chartered Institute of Personnel and Development \(CIPD\)](#)

[Psychological Testing Centre](#)

Who may be able to direct you to relevant Subject Matter Expertise.

Contact test publishers directly.

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