


COMMENTARY

Examining personality testing in selection for neurodiverse individuals

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In their focal article, LeFevre-Levy, Melson-Silimon, Harmata, Hulett, and Carter (2023) bring attention to neurodiversity as a topic that has been seldomly addressed within the organizational sciences. The authors describe how neurodiversity can have positive impacts on organizations (e.g., those with autism spectrum disorder can excel in highly technical fields; Baron-Cohen et al., 1998), as well as the obvious benefits of employment for neurodiverse applicants themselves (e.g., unemployment rates for neurodivergent individuals are high). However, neurodivergent people must first be hired for either party to reap these benefits, and this may be challenging given current selection systems used by organizations (Austin & Pisano, 2017; Bruyère & Colella, 2022; Taylor & Seltzer, 2011). LeFevre-Levy and colleagues state that “common selection practices for new hires may not work adequately for neurodiverse applicants” (pp. 23), and that there is a “need to examine the evaluation and psychometric properties of selection systems in specific groups to ensure that selection measures are equally valid across neurotypical and neuroatypical populations” (pp. 24). We agree and when evaluating these statements are reminded of recent public discourse surrounding the practice of personality testing and possible negative impacts on neurodiverse populations.

Despite robust evidence that personality tests are capable of identifying employees that are well suited for a job (Wilmot & Ones, 2021),¹ there are those who hold negative perceptions of personality testing and particularly as they apply to hiring neurodivergent individuals (Brown, 2021; Claypool, 2021). A quick online search of “neurodivergence in hiring” reveals a surfeit of books, webinars, blog posts, Reddit discussions, and even documentaries that all share anecdotal stories of how personality tests unfairly screen out neurodivergent individuals. The general takeaway is that personality tests are prejudiced, algorithmic tools that coldly determine who to hire and that result in the exclusion of certain groups from the workforce (e.g., those with mental illness or disability). Although we do not support this view, we do believe that research needs to be conducted to better understand how personality testing impacts groups such as neurodivergent adults. Thus, we view the focal article as a timely and important call-to-action. In this commentary, we support and extend LeFevre-Levy and colleagues’ argument for the need to investigate the psychometric properties and implications of using selection systems when hiring neurotypical populations, particularly in respect to personality testing.

¹When properly constructed such that important traits are identified via job analysis (e.g., *Principles for the Validation and Use of Personnel Selection Procedures* [Tippins et al. 2018]) and the item content is work contextualized (Shaffer & Postlethwaite, 2012).

How do neurodiverse applicants react to personality tests?

Although preemployment personality assessments are generally designed to assess normal range personality and not clinical traits, neurodiverse individuals may still respond differently than neurotypical individuals. Meta-analytic evidence (Lodi-Smith et al., 2019) suggests that individuals with autism spectrum disorder (ASD) receive lower personality scores. For example, scores to extraversion items (e.g., “I am quick to warm up to others”) are often lower than what is seen with neurotypical populations (Schriber et al., 2014; Wakabayashi et al., 2006). Despite this, there is little empirical research that addresses neurodiverse applicant reactions to personality tests. More generally, there is also little research as to whether unseen characteristics (i.e., deep-level diversity) impact applicant reactions to personality tests.

Area for Future Research 1: Are there differences as to how neurotypical and neurodivergent individuals react to personality testing in preemployment settings?

More interesting is to consider what factors might affect applicant reactions to personality tests specifically for neurodiverse individuals. One factor is the contextualization of the assessment. Research suggests work-contextualized assessments result in more positive perceptions of fairness and face validity across different groups (Fisher et al., 2017; Heggstad & Gordon, 2008). Contextualizing personality items (e.g., “At work, I am quick to warm up to others”) helps individuals establish a similar frame of reference. This may be particularly important for influencing fairness perceptions for neurodivergent individuals if self-reported personality is expressed differently across situations (i.e., work, home, school; Bellini & Peter, 2008; Grob et al., 2019; Holtz et al., 2005; Webb et al., 2004; Weiss & Harris, 2001).

Applicant reactions are also likely to vary across personality traits. For example, applicant reactions to traits such as conscientiousness may not be as negatively perceived because they are not as emotionally loaded and are more ostensibly job related. Specifically for individuals with ASD, emotionally or socially oriented personality items (e.g., extraversion) may prime social stigmas pertaining to ASD, such as stereotype threat (Ployhart et al., 2003) and impact perceptions of the assessment.

Area for Future Research 2: What factors affect neurodivergent reactions to personality testing in preemployment settings?

Do personality tests exhibit adverse impact and bias in neurodivergent populations?

The aforementioned concerns likely have a connection to a more immediate research need as it pertains to personality testing of neurodivergent individuals: investigating adverse impact (AI) and test bias within preemployment settings. LeFevre-Levy and colleagues suggest that “research should investigate how construct validity varies between neurodiverse groups to ensure the selection tool is measuring job-related KSAOs without construct contamination” (pp. 24). In other words, LeFevre-Levy are calling for research on statistical test bias.

A good review of test bias can be found in Meade and Tonidandel (2010). Statistical test bias can be broken into two approaches of evaluation. The first is measurement bias, which investigates internal properties of the test and occurs if the relationship between the latent trait and item responses differs for members of different demographic groups. We know of little research that has investigated measurement bias for neurodivergent individuals. However, Lodi-Smith et al. (2019) suggest that differences in personality scores across neurotypical and neurodivergent individuals may be evidence of differential scale functioning instead of true mean-level differences and suggest that test bias is a crucial area of future research.

The second test bias strategy is to examine predictive bias, which occurs if test scores are differentially related to an important criterion. This is most frequently tested using the Cleary

method (1968), which in essence tests whether the group-specific regression lines are the same. For example, if personality scores operate similarly for neurotypical and neurodivergent respondents, we'd expect the relationship between trait scores and important outcomes (e.g., job performance) to be similar. However, we simply do not have knowledge whether personality tests produce predictive bias against neurodivergent respondents. Given the vitriol against personality tests (Brown, 2021; Claypool 2021), such research is necessary before boldly claiming personality tests are biased against this population.

Last, as a result of test bias, or even if test bias does not exist, personality tests may still produce AI against neurodivergent respondents. AI occurs when the pass rates differ between different demographic groups and is driven (in part) by whether there are mean differences in test scores between those groups (Murphy & Jacobs, 2012). AI will be a concern to neurodivergent individuals, given it reduces their chances of being hired. That said, if there is not test bias, the observed differences in scores may still be valid for neurotypical and neurodivergent respondents, meaning that AI may not be problematic from a psychometric perspective. Once again, we do not know of research that has investigated AI across these groups within testing contexts, though existing meta-analytical evidence suggests that it is likely to exist (Lodi-Smith et al., 2019). This is important to understand, given that both AI or test bias poses threats to the legality of using personality assessment in this context and prevents organizations from reaching a truly inclusive workplace.

The question thus becomes, what might we expect regarding AI and test bias against neurodivergent individuals? Neurological differences, including those that result from ASD, create diversity in cognitive abilities and behavioral patterns among working adults (American Psychiatric Association, 2013; Chen et al., 2015a,b). Given these differences in behavioral functioning, many hiring methods might be challenging for neurodivergent individuals (e.g., interview, cognitive ability test, personality test). Specific to personality tests, neurodivergent individuals may not tailor their responses to personality items to portray themselves as ideal candidates the same way that neurotypical respondents might. Atypical individuals may respond too true to self, specifically for social components of personality tests (e.g., extraversion, agreeableness, emotional stability; Baez, 2013; Bruyère, & Colella, 2022; Patton, 2019). If neurodiverse individuals receive lower scores on personality tests, they may be disproportionately screened out even though neurodiverse respondents may possess other skills that might allow them to excel at the job. Despite these concerns, there has been little research investigating psychometric properties across neurotypical and neurodivergent groups. In agreement with the perspective espoused by Lefevre-Levy and colleagues, we believe research on this topic is vital. Based on this, we propose the following research agendas:

Area for Future Research 3: Is there evidence of test bias or measurement bias on personality tests used for selection across neurotypical and neurodivergent individuals?

Area for Future Research 4: Is there evidence of AI on personality tests for neurodivergent individuals?

Conclusion

In this commentary, we focused on the usage of personality assessments and the implication for neurodiverse groups when used to screen or select job applicants. Public discourse presents personality tests as prejudiced tools that unfairly screen out certain groups (e.g., those considered neurodivergent). Though we do not support this view, the field is past due for research that addresses how personality testing impacts groups such as neurodivergent adults. Specifically, research needs to examine how neurodivergent individuals react to personality tests, and whether there is test bias or AI. In light of this, we view LeFevre-Levy and colleagues call-to-action as extremely timely and encourage more research in these areas.

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