COMMENTARY

Promoting neurodiversity without perpetuating stereotypes or overlooking the complexity of neurodevelopmental disorders

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We are highly concerned with the way in which LeFevre-Levy et al. (2023) characterize neurodiversity and neurodevelopmental disorders like autism spectrum disorder (ASD), attention-deficit/hyperactivity disorder (ADHD), and dyslexia in their focal article. In our opinion, the focal article is overly concerned with neurodiversity as a source of gifted outliers among the neurotypical population. This framing perpetuates stereotypes of neuroatypical individuals that over-emphasize claims of narrowly defined strengths associated with specific conditions (e.g., greater visuospatial ability among individuals with ASD). Not only are these conditions more complex and interrelated than characterized in the focal article, but the article also fails to fully acknowledge the serious challenges that these conditions pose for most neuroatypical individuals. We value the goal of increasing neurodiversity in the workplace but contend that this cannot truly be achieved without an accurate understanding of neurodevelopmental disorders and the diversity of challenges faced by many neuroatypical individuals.

Complexity of neurodevelopmental disorders

We believe that the focal article presents an oversimplified view of neurodiversity and specifically the categorical clinical diagnoses of ASD, ADHD, and dyslexia. To be clear, there are additional neurodevelopmental conditions beyond those described by the focal article and the neurodiversity movement, but we focus on ASD, ADHD, and dyslexia given the scope of the focus article. These conditions are often treated as distinct entities by classification systems like the Diagnostic and Statistical Manual of Mental Disorders (DSM), but due to the complexity of brain development, there are high rates of comorbidity, within-disorder heterogeneity, and shared risk factors and etiologies between disorders (Clark et al., 2017; Hyman, 2010). For example, many adults with ASD experience a range of co-occurring conditions including schizophrenia spectrum disorders, mood and anxiety disorders, personality disorders, substance use disorders, and eating disorders among others. Approximately 1 in 4 adults with ASD are also diagnosed with ADHD (Lugo-Marin et al., 2019), and ADHD is also highly comorbid with disruptive behavior disorders as well as mood and anxiety disorders (Uchida et al., 2018). Likewise, individuals with dyslexia are also often diagnosed with ADHD or other speech and language disorders (Peterson & Pennington, 2015).

These neurodevelopmental disorders may be more appropriately conceptualized as manifestations of underlying developmental brain dysfunction (Moreno-De-Luca et al., 2013). This conceptualization is consistent with the shared symptoms and highly comorbid clinical...
presentations as well as the overlapping neuropsychology, genetics, and neurobiology of these conditions (Myers et al., 2020). From this perspective, it is important to recognize that all developmental brain disorders represent different patterns of symptoms rather than pathophysiologically distinct or independent conditions. The characteristics, symptoms, and abilities of one individual with ASD, ADHD, and/or dyslexia may be very different relative to others with the same diagnoses. Therefore, we believe that it is not useful for organizations to characterize individuals based on a single neurological condition like ASD, ADHD, or dyslexia or by the broader category of neurodiverse or neuroatypical. I-O researchers and practitioners should be careful to understand the complexity of these conditions before targeting individuals for recruitment or other neurodiversity initiatives. In the remainder of our commentary, however, we refer to research findings regarding ASD, ADHD, and dyslexia, even though we acknowledge that these conditions are not entirely distinct.

Overemphasis on high-functioning neuroatypical outliers
We believe that this misunderstanding of the causes and characteristics of neurodevelopmental disorders also contributes to stereotypic characterizations of the untapped abilities of individuals with ASD, ADHD, or dyslexia. The strength-based perspective is a common method for describing abilities in human resource management, but we believe that this framing perpetuates stereotypes of neuroatypical individuals. The research evidence for unique abilities or strengths associated with specific neurodevelopmental conditions is limited at best and should be viewed with skepticism. Several of the strengths listed in the focal article are based on anecdotes from successful individuals who attribute their success or unique skills to a specific condition. Many of the studies cited as evidence for greater abilities among neuroatypical individuals are based on nonrepresentative samples and self-reported symptoms, or do not include participants who have a clinical diagnosis (e.g., Baird et al., 2012; Hatak et al., 2020; White & Shah, 2011). For some claims, such as the elevation of visuospatial abilities among individuals with ASD, the empirical evidence only suggests small and heterogeneous effect sizes for specific tasks only (e.g., block design and figure disembedding; Muth et al., 2014). Given the weak empirical support for prevalence of these narrow strengths, we are skeptical about the degree to which they can be reliably found in the broader population. There is also no research evidence to identify whether these strengths can compensate for difficulties in other cognitive domains, like global processing or executive functioning (Booth & Happé, 2018; Craig et al., 2016), or generalize to greater job performance.

Clinically diagnosed disorders like ASD, ADHD, and dyslexia present tremendous challenges in everyday life. Despite the limitations of categorical diagnoses that we outlined in the previous section, we believe it is important to note that neurodevelopmental disorders are diagnosed based on both the presence of characteristic symptoms and impairment in day-to-day functioning related to those symptoms. Although they are increasingly being diagnosed in adults, ASD, ADHD, and dyslexia are clinically defined as neurodevelopmental disorders which first manifest in childhood. Their immediate impacts on education and childhood development lead to poorer outcomes later in life. For example, adults who were diagnosed with ADHD in childhood are less likely to graduate high school or pursue college or vocational training (Uchida et al., 2018), more likely to be fired or to be treated for alcohol or drug use (Harstad et al., 2022), and are also overrepresented in prison populations (Young et al., 2015). Contrary to the focal article, which states that the three types of neuroatypicality are “unrelated to overall cognitive ability” (p. 23), ASD and ADHD are related to lower cognitive abilities and intellectual functioning. Between 30% and 50% of individuals diagnosed with ASD also have some level of intellectual disability and more display below average cognitive functioning (Loomes et al., 2017; Maenner et al., 2020). ADHD is also related to impaired cognitive functioning and academic achievement (Arnold et al., 2020;
Advantages of greater cognitive ability

It is also important to acknowledge the inherent advantages of possessing greater intellectual abilities. One of the most widely reproduced research findings in psychology is that individuals with greater intellectual abilities, as identified by performance on cognitive ability tests, are more likely to be successful in education, occupational training, and employment (e.g., Brown et al., 2021). This advantage can compound over time, where greater ability may provide access to more selective academic institutions or advanced degree programs, which can lead to greater access to more complex, prestigious, or highly paying jobs (Judge et al., 2010). Moreover, general mental ability is considered by many to be a better predictor of job performance compared to specific abilities (Ree & Carretta, 2022). Even if the narrow skill advantages listed in the focal article were valid, it is uncertain whether these specific abilities could compensate for the limitations in broader cognitive abilities experienced by many neuroatypical individuals.

Given these circumstances and the research literature on neurodevelopmental disorders, we are highly skeptical of recruiting efforts focused on finding “high-functioning” neuroatypicals as outlined in the focal article. Not only is there little evidence to support the claims of unique talents associated with specific neurodevelopmental disorders, but these programs also seem to mischaracterize the complex nature of these disorders. Focusing only on high-functioning individuals will continue to favor those who are already similar to the present working population and not necessarily increase neurodiversity. Instead, we believe that a more sensible approach would involve partnering with school districts, colleges and universities, and vocational training programs to provide opportunities for neurodiverse individuals to gain job skills and other workplace experiences. These partnerships could help create new career paths for neuroatypical individuals who may experience greater obstacles in secondary and postsecondary education. Organizations could also reconsider the necessity of hiring practices that may disproportionately screen out neurotypical applicants such as minimum educational qualifications (e.g., GED versus high school diploma or college degree) or the lack of a prior criminal record. It may not be feasible to remove these criteria for all occupations, but they are simple changes that could increase neurodiversity within applicant pools.

We believe that I-O psychologists have an important role to play in the study of workplace neurodiversity, but it is crucial to understand the limits of I-O expertise. I-O graduate training provides a solid foundation of relevant skills including how to evaluate the necessary KSAOs for a given job and how to design and validate psychological assessments for selection purposes. Yet, this training is not likely to include clinical or abnormal psychology even for programs within psychology departments. This potentially contributes to the use of oversimplified characterizations or caricatures of individuals with developmental brain disorders. Neurodiversity is currently a contentious topic even among clinical experts and self-advocates (e.g., Houting, 2019) so we strongly recommend that I-O researchers and practitioners seek out experts with clinical expertise (e.g., clinical or school psychologists, occupational therapists, rehabilitation providers) as well as neurodiverse individuals to understand the nature of these complex disorders. This collaboration is essential for I-O psychologists to play a meaningful role in making workplaces more accessible and building evidence-based programs to support neurodiversity.

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