

The neurodiversity concept: is it helpful for clinicians and scientists?



ADHD and autism spectrum disorder are conceptualised as discrete, categorical, neurodevelopmental disorders, which originate in early development¹ and are assumed to be the result of underlying brain dysfunction.² From one perspective, these definitions provide important clarity for clinical practice and ensure we are guided by research progress over the past 40 years.³ By contrast, others have argued that alternative ways of thinking are needed. Some challenges to current concepts are empirical. For instance, research shows that neither ADHD or autism spectrum disorder are categorical in nature, but rather behave as population dimensions with no clear-cut boundary differentiating individuals with, from those without the conditions.¹ Different neurodevelopmental disorders also show marked phenotypic and genetic overlap.^{1,4} Furthermore, neurodevelopmental conditions are highly heterogeneous—individuals with similar clinical presentations can have very different neurocognitive profiles.^{5,6} Finally, for ADHD and possibly autism spectrum disorder, emerging evidence of adult-onset forms could be viewed as a challenge to their standing as neurodevelopmental conditions.^{7,8} Alongside, but largely independent of evidence-based challenges,^{9,10} has come an ideologically inspired proposal to completely rethink the way we understand these conditions—replacing the notion of disorder underpinned by dysfunction with that of neurodiversity.

In its promotion of equality-for-all, the neurodiversity perspective shares much in common with other human rights movements. The term has been adopted by many of those who are affected, although there is much variability in how radically it is interpreted. Some have questioned or rejected the notion that ADHD and autism spectrum disorder are caused by brain dysfunction and therefore intrinsically cause impairment. From the neurodiversity perspective, these conditions are seen as variations in brain structure and function, which lead to ways of thinking and behaving that are different from most people in society. These differences can be advantageous (both to the individual and the group) under some circumstances and disadvantageous under others. Any impairment experienced by neurodiverse people occurs, not as an intrinsic part of a disorder, but because

there is a mismatch between their ways of thinking and behaving and their environments. Their environments are structured in accordance with neurotypical perspectives. Furthermore, such perspectives can undervalue and undermine the unique gifts, strengths, and qualities that neurodiverse individuals bring to a situation. The failure to recognise such qualities can lead to shame or stigma and low self-worth, which can result in mental health problems. The neurodiversity movement lifts up the perspectives and experiences of neurodiverse individuals over clinicians and scientists and encourages them to take control of narratives about their lives.

Adopting a neurodiversity perspective for ADHD and autism spectrum disorder will change the focus and purpose of research and how it is practised. Although disorder-based and neurodiversity-inspired researchers have the same ultimate goal—to provide an evidence-base to reduce any impairment experienced by neurodiverse people—they go about achieving this aim in radically different ways. Research done within the disorder-based framework, with which we are most familiar, focuses on understanding the biopsychosocial basis of dysfunction within the individual so that it can be targeted, symptoms can be alleviated, and associated impairment can therefore be reduced. By adopting a neurodiversity framework, the researcher will turn the spotlight on the neurodiverse person's physical and social environment. They will attempt to understand how the environment's structure constrains and limits a neurodiverse person and leads to impairment and an undermining of their sense of self and wellbeing. They will assess the experience of living with ADHD and autism spectrum disorder within those environments. There will also be a focus on uncovering the strengths and talents of neurodiverse people, either those that might be linked closely to their condition (eg, creativity and energy in ADHD or an eye for detail and orderly thinking in autism spectrum disorder), or obscured by it under normal circumstances. Finally, there will be a strong interest in understanding the attitudes of neurotypical individuals and organisations towards neurodiverse people and how these attitudes create risks for stigma, low self-esteem, and mental health problems. The neurodiversity perspective will also

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lead to a new more participatory way of doing research, with neurodiverse individuals collaborating in the co-design of studies and co-creation and interpretation of knowledge—forging a shared narrative of what it means to have ADHD or autism spectrum disorder and ways that impairment can be alleviated by transforming social structures. From a radical neurodiversity perspective, the goal of understanding the pathophysiology of ADHD and autism spectrum disorder could be relegated to being of secondary importance, perhaps as a way of studying individual-environment match and mismatch.

The research priorities encouraged from a neurodiversity perspective are mirrored at the level of clinical practice. The focus again is shifted to the environment, with a strong focus on adapting environments in schools, the workplace, and other settings (eg, organised social and leisure groups and clubs) to make them more neurodiverse-friendly and change the attitudes of neurotypical people. This intervention focus would include setting a societal agenda that focuses on adjusting environments to better suit those who are different. This approach contrasts with the expectation of the specialist clinician fixing or removing a deficit. The paradigm could emphasise more societal and public health responsibilities for supporting neurodiversity, including dealing with stigma, stereotypes, and discrimination via public education, training, policy, and legislation. An advantage of these approaches is that they reduce complete dependence on specialist health-care provision, in which a diagnosis is often required for allocating resources, including changes to schools or the workplace. Interventions can also look to transform the way that neurodiverse people see themselves, through a strengths-based perspective that facilitates aptitudes and talents.

We eschew a radical interpretation of neurodiversity because a diagnosis and treatment has been shown to be helpful for many. However, rather than a complete reliance on disorder-based concepts and related treatment approaches, we can see many advantages of

incorporating the concept of neurodiversity alongside mainstream research and clinical practice. Indeed, there is no contradiction between traditional approaches that look to give neurodiverse individuals additional resources through clinical treatment and neurodiverse approaches that look to adapt environments and transform neurotypical attitudes: both approaches are beneficial and together will improve the lives of neurodiverse people.

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