

Critical Review of Neurodiversity: Themes & Controversies

By

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Abstract

The concept of neurodiversity has sparked significant debate and diverse interpretations, leading to varied approaches in understanding and application. Key controversies surround its definition, the criteria for inclusion, and the scope of study. This study critically examines the concept of neurodiversity, exploring its central themes and controversies to identify significant aspects of the topic, gaps in existing literature, and opportunities for future research. The synthesis aims to provide valuable insights for academics and practitioners in education. A flexible narrative review was conducted to explore major themes, trends, and debates within neurodiversity discourse. This method was adopted to incorporate views from around the world on neurodiversity challenging the notion that most literature reviews are based on UK and USA. The review highlights a growing advocacy for adopting socially oriented approaches to neurodiversity and an increased emphasis on recognising its positive dimensions. This review emphasises the importance of a strengths-based perspective in educational policy and practice, advocating for inclusive frameworks that celebrate neurocognitive diversity. By addressing critical themes and controversies, this work offers valuable insights for educators, policymakers, and researchers striving to create equitable educational environments that maximise the potential of all learners.

Keywords: Neurodiversity, neurodivergent, neurotypical, medical model, social model, interactionist approach, positive framing, stigmatising language, continuum, advocacy.

Background of the concept 'Neurodiversity'

The concept of neurodiversity has generated much debate and presents a complex array of perspectives. There has been controversy in the field about the origins of neurodiversity. It was first attributed to Judy Singer who reported extensively on issues of autism stemming from her family. While Singer (2016), claims that the word neurodiversity originated from her work, this is disputed. Botha, Chapman, and Onaiwu et al. (2024) argue that autistic activists have long been discussing and developing this framework challenging the societal notion of a "neurotypical" norm which emphasises that neurological differences like autism, ADHD, and dyslexia are natural variations rather than abnormalities. Widely varying definitions of neurodiversity have emerged (Dwyer, 2022), at its most basic, refers to the natural variation in human brains and cognition. Walker (2014) defines it as the diversity of human minds, the infinite variation in neurocognitive functioning within our species, and

rejected the idea of reference to perspective, approach, belief, political position, or a paradigm.

On the other hand, there is a lack of consensus on the scope of neurodiversity approaches (Bailin, 2019; Bölte et al., 2022; Chapman, 2020a; Dwyer, 2019; Robison, 2013; Sonuga-Barke et al. 2021). Some argue that neurodivergent traits fall on a continuum, making it arbitrary to classify some individuals as disordered while others are not (Nelson, 2020). Others highlight the heterogeneity of conditions associated with neurodiversity and the difficulty in distinguishing neurodiversity from neurodisorder (Nelson, 2020; Dwyer, 2022; Sonuga-Barke et al., 2021). The broadened scope highlights the earlier conceptualisation of disability within the medical model and the current understanding of disability as a social model, aligned with the activist movement advocating for the rights and welfare of neurodivergent individuals.

Medical model

The medical model views disability as an inherent deficit within the individual that needs to be treated or cured (Sonuga-Barke, 2021; Dwyer 2022). The neurodiversity approach offers an alternative to this model (Singer 2016 in Dwyer, 2022), challenging the pathologisation of neurodivergent traits and advocating for acceptance and accommodation (Nelson, 2020; Dwyer 2022). Dwyer, emphasises neurodiversity as a paradigm akin to biodiversity, recognising that no two minds are the same, even within neurotypical groups. While Singer (2022) sees it as a biological truth, inferring that human nervous systems are inherently variable, and influenced by environmental factors, hence situating in social advocacy.

Social Model:

The social model of disability emphasises that disability arises from a mismatch between individual characteristics and the environment (Bölte et al., 2021; Krcek, 2013; Labour Party Autism/Neurodiversity Manifesto Steering Group, 2018; Sonuga-Barke et al., 2021). The neurodiversity movement often aligns with this model, asserting that neurodivergent individuals are disabled not by their neurology but by societal barriers and a lack of accommodation that need to be "fixed" to understanding them as variations in human functioning that require accommodation and support (Houting, 2018). Also, there are issues of advocacy representation. A recurring issue is the question of who should represent the neurodivergent community. Robison (2017), questions whether family members, caregivers, or professionals should speak for neurodivergent individuals, or should advocacy come directly from those with lived experience. This disconnect can lead to advocacy efforts that may not fully reflect the needs or desires of the neurodivergent population. Other critics of the neurodiversity movement argue that it sometimes downplays the real challenges neurodivergent individuals face, especially in cases where cognitive or functional impairments fluctuate.

Furthermore, some proponents of neurodiversity suggest a middle ground between the social and medical models (Singer, 2016; Sonuga Barke et al 2021), while others, recognise both

individual differences and societal barriers to participation (Reindal, 2008; Thomas, 2004). This interactionist approach considers disability as arising from the interplay between individual characteristics and the environment (Bölte et al., 2021; Sonuga-Barke et al., 2021).

Positive Framing of Neurodiversity

The neurodiversity movement emphasises the strengths and talents associated with neurodivergent conditions (Sonuga-Barke et al 2021; Baron-Cohen 2017; Robertson, 2008). For instance, Cohen (2006) observes that individuals with autism might excel in areas like pattern recognition, attention to detail, and systemising. Other studies, indicate that the brain of neurodivergent individuals allow them to experience the world in a different way thereby sparking artistic and creative interests. Blair (2022) argues that individuals with ASD are inhibited in fluency and flexibility but display high levels of detail and originality. While individuals with ADHD demonstrate high levels of idea generation and elaboration.

Additionally, the neurodiversity approach critiques the use of stigmatising language that focuses on deficits and disorders. Instead, it promotes positive or neutral terminology that acknowledges the value and dignity of neurodivergent individuals (Sonuga-Barke et al 2021; Singer, 2019a; Tisoncik, 2020 in Dwyer 2022; Gernsbacher, 2017; and Bottema-Beutel et al.,2020). This approach acknowledges the positive attributes of neurodivergent conditions, also recognises the potential challenges they present. There is a push to move away from viewing neurodiversity solely through a deficit-based lens. According to Dwyer (2022), the strong social model indicates that Individuals may have impairments in their minds and biology, but these impairments are not disabling unless society imposes restrictions on people with impairments.

Scope of Neurodiversity

While neurodiversity generally encompasses conditions like autism, ADHD, and dyslexia (Clouder et al., 2020; Nelson, 2020), there is a contention about its specific boundaries (Nelson, 2020; Armstrong, 2010). Also, understanding neurodiversity is particularly important for the autistic community, as it addresses questions about who represents autism and how autistic individuals are treated in society. This encompasses a wide range of neurological conditions, such as ADHD, dyslexia, bipolar disorder, and more (McGee, 2012). Robison (2017) explains that true acceptance of autism requires moving beyond awareness to an understanding that no single person can represent the entire autistic spectrum. This can lead to better support systems for both autistic individuals and their families, ensuring that their varied needs are met. Therefore, addressing neurodiversity involves making changes not only in physical environments but also in attitudes and social practices (Bailin, 2019).

In contrast, Neurodivergent individuals are often misrepresented or underrepresented in media, leading to stereotypical portrayals that harm public understanding. The backlash described by Opar (2019) against the drama “All in a Row” highlights how harmful portrayals such as using a puppet to represent an autistic child can reinforce negative

stereotypes and deepen the divide between neurotypical and neurodivergent communities. For instance, Robison (2017) insists that acceptance of autism is far more complex than awareness; it requires an understanding of the full spectrum of experiences within the autism community, which many institutions fail to grasp or address.

Minimally Verbal Individuals

Another, contentious area is the applicability of neurodiversity to minimally verbal autistic individuals (Rose, Trembath and Keen et al., 2016). Some critics argue that the neurodiversity framework might not adequately address the needs and challenges of those with severe communication difficulties (Dwyer, 2022). On the other hand, the inclusion of acquired conditions, such as brain tumours, within the scope of neurodiversity is also debated. Some definitions emphasise the "natural" aspect of neurodiversity, but the meaning of "natural" in this context remains unclear (Armstrong, 2010; Holman, 2017; Welin, 2012; Robison, 2013).

However, the neurodiversity approach acknowledges the dimensional nature of neurodiversity, with traits existing on a continuum. The continuum of neurological function includes people with many different cognitive traits. For instance, memory, emotional sensitivity, ability to focus on a task, mathematical ability, all those things vary, as does general intelligence (Robison, 2020). Recognising uniqueness of all individuals becomes the focal point rather than placing people on a normal to abnormal scale. It is also recognised that this can create tension with the identification of discrete diagnostic categories like autism (Russell, 2020; Chapman, 2019 and Evans, 2021). The neurodiversity approach also recognises that some neurotypes, such as Down syndrome, have a more clearly defined biological basis (Hamner et al., 2019). Whether diversity is dimensional or discrete, it remains compatible with a neurodiversity perspective (Castelbaum et al., 2019). Despite the heterogeneity within diagnostic categories, they can serve important purposes, including community building, political mobilisation, and access to support services (Sinclair, 2010). They can also aid in research, allowing for the study of specific neurodivergent populations.

Implications for Research and Practice

The neurodiversity approach encourages a focus on strengths and talents in research and clinical practice (Gillespie-Lynch et al., 2017; Armstrong, 2010). This shift in perspective emphasises fostering well-being and success for neurodivergent individuals rather than solely addressing perceived deficits (Gillespie-Lynch et al., 2017; Armstrong, 2010). Also, the framework recognises adapting environments and societal structures to better accommodate neurodivergent individuals. This includes physical environments, social interactions, and educational practices (Sonuga-Barke, 2021). A key principle of neurodiversity-aligned research is the involvement of neurodivergent individuals in research design, implementation, and interpretation. This participatory approach aims to ensure that research reflects the authentic experiences and perspectives of the community it studies (Sonuga-Barke, 2021).

Gaps in Neurodiversity Literature

The sources offer several insights into the gaps and limitations within existing research on neurodiversity. For instance, the research on neurodiverse students in higher education primarily originates from the USA and the UK, with a notable lack of studies from other regions of the world, particularly non-English speaking countries. This geographic bias limits the generalisability of findings and fails to capture the diverse cultural perspectives on neurodiversity. Also, existing research tends to focus on neurodiversity in isolation, neglecting other intersecting factors like ethnicity, socioeconomic status, and gender (Higher Education, 2020). This lack of intersectional analysis obscures the potential compounding effects of these factors on the experiences of neurodivergent individuals.

Furthermore, many studies rely heavily on the experiences of neurodivergent students, with limited inclusion of the perspectives of academic and support staff (Thompson 2016; Clouder et al 2020). Incorporating these perspectives is crucial for understanding the challenges and opportunities associated with supporting neurodiverse students in higher education. Most of the research on neurodiversity in higher education utilises qualitative designs, with a scarcity of interventional and longitudinal studies (Thompson 2016; Clouder et al., 2020.). More robust research designs are needed to evaluate the effectiveness of various support strategies and to understand the long-term trajectories of neurodiverse students.

While the neurodiversity approach emphasises the role of the environment in disabling individuals, the bulk of research still focuses on individual deficits (Gönültaş and Mulvey, 2019; Packer and Cole, 2019; Persram et al., 2019; Pinkard, 2019). There is still a significant knowledge gap in understanding the long-term outcomes for neurodivergent individuals, especially when supported by inclusive environments versus those operating within a medical model framework.

Conclusion

Neurodiversity is a multifaceted concept with diverse interpretations and implications. It challenges traditional views of disability and calls for greater understanding, acceptance, and inclusion of neurodivergent individuals. The ongoing debates and controversies surrounding neurodiversity highlight the need for continued dialogue, critical reflection, and collaboration to ensure that all individuals can thrive in a society that values and celebrates human diversity.

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