

Unveiling Neurodiversity Representation in Collaborative Learning Literature

Greta Heathcote greta.heathcote@ucalgary.ca

Alison Nelson alison.penn@ucalgary.ca

Armando Paulino Preciado Babb

University of Calgary

Werklund School of Education

Abstract: As the conversation in the learning sciences shifts towards inclusive and equitable education, a growing social consciousness of neurodivergent thinking and its impacts on the classroom prompting inquiry into how neurodivergence in the classroom has been represented in literature. We sought to better understand the terminology that characterizes the representation of neurodiversity in research published in the *International Journal of Computer-Supported Collaborative Learning* since its inception in 2006 and the *International Handbook of Computer-Supported Collaborative Learning*.

Insights on neurodiversity have permeated through education research and practice, in particular with respect to neurodivergent people. Broadly speaking, the term *neurodiversity* refers to natural variation of differences in human brain functions and behaviours, while the *neurodivergent* refers to those whose natural variances impede their daily lives or their ability to participate in classroom learning, such as people diagnosed with Attention Deficit and Hyperactivity Disorder (ADHD) and Autism Spectrum Disorder (ASD). In the last two decades, there has been international attention to this group of people highlighting the need for appropriate support in educational contexts from K to 12 and for postsecondary education (Al-Wardat et al., 2024; Abdelnour et al., 2022; Cortese et al., 2024; Hamilton & Petty, 2023; Lanthier, et al., 2023; Martínez-Jaime et al., 2024). We advocate for the consideration of this population in the scholarship of Computer Supported Collaborative Learning (CSCL).

The Neurodiversity Movement or Critical Studies in Neurodiversity is a pivotal and emergent field of interdisciplinary research that is focused on bringing neurodivergent voices to the forefront in research (Bertilsdotter Rosqvist & Jackson-Perry, 2024). In our initial review of the *International Journal of Computer-Supported Collaborative Learning* (ijCSCL) and the *International Handbook of Computer-Supported Collaborative Learning* (iHCSCL), we immediately noticed a lack of terms related to the neurodiversity movement. However, Learning Scientists have been producing research that supports the neurodiversity movement and other research fields even though the specific language may make neurodiversity terminology inaccessible or not clearly explicitly. Similarly, as the ijCSCL and iHCSCL began at a time when the conversation around neurodiversity was beginning to reach a wider audience, we discovered in this article that ijCSCL and iHCSCL both used terms in alignment with the Neurodiversity Movement without explicit connection. We start providing evidence of a relevant prevalence of neurodivergent people in educational contexts. Then, we report the results of a literature review related to how CSCL has addressed, or not, this group of people. Finally, we provide recommendations for considering neurodiversity in educational research and practice pertaining to CSCL. Our research goal is to understand the representation of neurodiversity in the ijCSCL and iHCSCL through terminology that is not explicitly defined within the neurodiversity movement but may represent neurodivergent learning.

References

- Abdelnour, E., Jansen, M. O., & Gold, J. A. (2022). ADHD diagnostic trends: Increased recognition or overdiagnosis?. *Missouri medicine*, 119(5), 467.
- Al-Wardat, M., Etoom, M., Almhdawi, K. A., Hawamdeh, Z., & Khader, Y. (2024). Prevalence of attention-deficit hyperactivity disorder in children, adolescents and adults in the Middle East and North Africa region: A systematic review and meta-analysis. *BMJ open*, 14(1), e078849.
- Bertilsdotter Rosqvist, H. & Jackson-Perry, D. (2024). An introduction to research methods and ethics in neurodiversity studies. In H. Bertilsdotter Rosqvist & D. Jackson-Perry (Eds.) *The Palgrave Handbook of*

Research Methods and Ethics in Neurodiversity Studies. Springer Nature. https://doi.org/10.1007/978-3-031-66127-3_2

Cortese, S., Song, M., Farhat, L. C., Yon, D. K., Lee, S. W., Kim, M. S., ... & Solmi, M. (2023). Incidence, prevalence, and global burden of ADHD from 1990 to 2019 across 204 countries: data, with critical re-analysis, from the Global Burden of Disease study. *Molecular psychiatry*, 28(11), 4823-4830.

Hamilton, L. G., & Petty, S. (2023). Compassionate pedagogy for neurodiversity in higher education: A conceptual analysis. *Frontiers in Psychology*, 14, 1-9. <https://doi.org/10.3389/fpsyg.2023.1093290/full>

Lanthier, S., Tishcoff, R., Gordon, S., & Colyar, J. (2023). Accessibility services at Ontario colleges and universities: Trends, challenges and recommendations for government funding strategies. Higher Educationa Quality Council of Ontario. <https://heqco.ca/wp-content/uploads/2023/11/Accessibility-Services-at-Ontario-Colleges-and-Universities-FINAL-English.pdf>

Martínez-Jaime, M. M., Reyes-Morales, H., Peyrot-Negrete, I., & Barrientos-Álvarez, M. S. (2024). Access to early diagnosis for attention-deficit/hyperactivity disorder among children and adolescents in Mexico City at specialized mental health services. *BMC Health Services Research*, 24(1).