Global Journal of Intellectual & Developmental Disabilities
ISSN: 2575-8586

Juniper Publishers
key to the Researchers

Mini Review
Volume 13 Issue 1 - March 2024
DOI: 10.19080/GJIDD.2024.13.555860

Glob J Intellect Dev Disabil

Neuro Diverse Relationships: Neuroplasticity and Hope for Building the Autistic Brain's "Joy Center"

Stephanie C Holmes*

Autism Spectrum Resources for Marriage & Family, LLC, Georgia, USA

Submission: February 19, 2024; **Published:** March 05, 2024

***Corresponding author:** Stephanie C Holmes, Autism Spectrum Resources for Marriage & Family, LLC, Dunwoody, Georgia, USA,

Email: dr.stephanie@HolmesASR.com

Introduction

This opinion article and research exploration seek to enrich the understanding of relational dynamics within neurodiverse partnerships, emphasizing the intricate connection between neurodevelopmental factors and communication challenges. By delving into the specific neural underpinnings, this discussion aims to enhance the collective knowledge of the unique experiences of neurodiverse couples, facilitating the development of more effective support and intervention strategies. Through a brief literature review of common challenges with neurodiverse relationships, as well as an examination of brain structures impacted by autism, and a discussion of neuroplasticity, there is a need for further research on developing the "joy center" of the brain for increased relational outcomes.

Common Challenges

Existing research on neurodiverse couples, particularly those in which one partner is diagnosed with autism spectrum disorder (ASD), has consistently shown that non-autistic (NA) partners tend to report lower levels of marital satisfaction [1-8], whereas autistic partners report higher levels of satisfaction within their marital relationships [3,4]. Strunz et al. [9], discovered that autistic individuals experience greater satisfaction when in a relationship with another individual on the autism spectrum. Moreover, current diagnostic criteria and subsequent studies highlight the difficulties individuals with ASD encounter in starting, developing, and maintaining long-term romantic relationships, although they desire relationships [9,10]. Although communication between autistic individuals has been identified as effective [11], interactions between autistic and non-autistic partners are frequently challenged by differences in language usage, context, subtlety, and social language pragmatics [5,12,13], further complicated by the double empathy problem between mixed neuro-type partners [14]. "Double empathy" simply means that neither partner truly understands the lived the experience of the opposite neurotype spouse or partner [14].

Enemy Mode and NeuroDiverse Relationships

In exploring resources based on neuroscience to better help neurodiverse couples, the book "Escaping Enemy Mode" was found to address the posterior cingulate cortex (PCC), the right cingulate cortex, and the right orbital prefrontal cortex (rOFC) in relation to what is termed "enemy mode" [15]. As defined by Wilder, enemy mode arises when an individual's relationship circuits (RCs) are disengaged, leading to the perception of a usually liked or enjoyed person as a problem to be solved or a threat to be removed. This situation is especially relevant in neurodiverse relationships, where the non-autistic partner may often feel treated as an adversary, citing experiences of being viewed as an enemy or opponent due to having a differing viewpoint, perspective, or opinion [5]. Upon consulting with and interviewing Dr. Wilder [16], the lead researcher on enemy mode, regarding whether individuals with incomplete development of the PCC or issues with the rOFC, as seen in ASD, would be more susceptible to entering or remaining in enemy mode, Dr. Wilder confirmed that any developmental divergencies or deviations in the posterior cingulate, amygdala, or prefrontal cortex significantly increase the likelihood of individuals being propelled into an enemy mode, with those on the autism spectrum being particularly at risk of overstimulation by what might be considered 'normal' intensity inputs.

Drawing upon Wilder's investigations and supplementary inquiries, this review explores the variances within the right orbital prefrontal cortex (OFC) in individuals diagnosed with autism. Notably, Rowland [17], has emerged as a polarizing

figure within the field of autism research due to his assertions that autism is frequently over diagnosed and his perspective that emphasizes autism as a disorder rather than a variation or neurodiversity. Despite this, Rowland's work delineates four distinct neurophysiological differences within the autistic cerebrum. Firstly, the cingulate gyrus (CG), responsible for attention allocation, ostensibly confines the focus of autistic individuals to the left frontal lobe. Within this region, the prevalence of alpha frequencies (8-12 Hz) over beta (12.5-30Hz) frequencies is observed, a pattern Rowland posits as inverted in neurotypical brains. This heightened alpha activity in autistic individuals is purported to compensate for a reduced capacity for intuitive processing from the brain's right hemisphere. Secondly, Rowland identifies underdeveloped neural networks in the right frontal cortex, linked to social connectivity. A third point of distinction is observed in the amygdala, integral to emotional expression and threat assessment. Rowland suggests that the unique operation of the CG in autistic individuals might inhibit emotional sensation, culminating in the controversial claim that autistic individuals are incapable of experiencing fear, a stance this author refutes, advocating instead for a nuanced understanding of autism beyond the scope of overdiagnosis or an absence of fear.

Further empirical studies, such as those conducted by Harden et al. [18], have utilized functional MRI to examine the OFC in both autistic and non-autistic individuals, underscoring the OFC's critical role in emotional, cognitive processing, and the acquisition of social behaviors. Their findings indicate disturbances in the autistic OFC, attributed not to structural anomalies but to functional discrepancies. Similarly, Girgis et al. [19], have emphasized the OFC's significance in social-emotional processing, particularly noting the orbitofrontal-amygdala circuit as a pivotal element in emotional regulation and social engagement within autism, echoing the hypotheses of Bachevalier and Loveland [20]. O'Doherty et al. and Völlm et al. [21,22], have pinpointed the right lateral subdivision of the OFC as a focal area of interest, with Völlm and colleagues further implicating the medial prefrontal cortex among other structures in the nuanced Theory of Mind (ToM) differences observed in autism, encompassing empathy, intuition, and the discernment of others' emotional states. Girgis et al.'s [19], findings suggest an overdominance of the left hemisphere in autistic individuals, favoring knowledge acquisition at the potential expense of right hemisphere faculties, including relational and emotional processing. This imbalance may be exacerbated by a preference for solitary, knowledge-intensive activities over social engagement.

The Joy Center of the Brain

Dr. Allan Schore, an American psychologist, researched the adaptation and regulation of affect in infants. In *Affect Regulation and the Origin of Self*, Schore's (1994) research indicated that the right brain prevails in social, emotional, and survival roles not just in infancy but throughout all subsequent phases of human life. Furthermore, Schore [23], stated joy responses that happen between infants and their mothers happen through eye contact and create attunement through their right hemispheres which is important to the attachment [24]. It is known that eye contact can be challenging for those on the autism spectrum even if compensatory strategies for eye contact are learned later in life. Eye contact is key to building attachment and relational bonds not only in mother-child bonds but in friendship and romantic attachment as well [24,25]. Research on the importance of building joy or the impact of joy and the brain has been increasing since the 1990s based on Schore's work and research from Harvard University and The Yale Center for Faith & Culture to name a few [24]. Lehman [26], Wilder and fellow authors [27], and others indicate that through neuroplasticity the "joy center" or the OFC remains neuroplastic throughout the lifespan [24,27]. As research has focused on the early detection of autism and parent-child attachment, further research is needed on autistic adults who desire to be in romantic relationships and how to become more attuned and relational with their spouse or partner. Research in neuroplasticity from Doidge [28,29] and White [30], indicates that through neuroplasticity the brain can heal, the brain can change, new learning can occur and more evidence-based practices are needed that target key areas of the brain for optimal living in mind, soul, body, and relationships. Dr. Wilder and associates have developed techniques and skills that target the OFC or "joy center" of the brain. This review suggests research to target growth strategies for the autistic brain to further develop the OFC for increased personal joy and better relational outcomes.

Conclusion

In conclusion, while the pursuit of knowledge and engagement in focused, passionate interests is vital for autistic individuals for decompression and happiness, a balance is advocated to mitigate potential exacerbations in hemisphere functionality disparities. This review seeks to contribute to a more scholarly discourse on the neurophysiological underpinnings of the autistic brain's OFC (joy center), challenging prevailing narratives and encouraging a deeper, more empathetic understanding of the autistic experience, and providing hope for relational improvement with their romantic partners.

References

1. Arad P, Shechtman Z, Attwood T (2021) Physical and mental well-being of women in neurodiverse relationships: A comparative study. Journal of Psychology & Psychotherapy 12(1): 1-22.
2. Bostick-Ling J, Cumming S, Bundy A (2012) Life satisfaction of neurotypical women in intimate relationship with an Asperger's partner: A systematic review of the literature. Journal of Relationships Research 1-11.
3. Holmes S (2023a). Neurodiverse Christian couples: Autism. Religion. Marriage an exploratory qualitative study. International Journal of Psychiatry 8(5): 106-116.
4. Holmes S (2023b) Exploring a later in life diagnosis and its impact on marital satisfaction in the lost generation of Autistic adults: An exploratory phenomenological qualitative study. Global Journal of Intellectual & Developmental Disabilities 12(1): 1-10.

How to cite this article: Stephanie C H. Neuro Diverse Relationships: Neuroplasticity and Hope for Building the Autistic Brain's "Joy Center". Glob J Intellect Dev Disabil. 2024; 13(2): 555860. DOI: 10.19080/GJIDD.2024.13.555860

5. Holmes S, Holmes D (2024) Uniquely Us: Gracefully Navigating the Maze of NeuroDiverse Marriage: Autism- Marriage-Faith. In Publication Process.
6. Rench C (2014) When Eros meets Autos: Marriage to someone with autism spectrum disorder (Doctoral dissertation, Capella University).
7. Rench C (2023) When eros meets autos: Marriage to Someone with Asperger Syndrome. Independently Published.
8. Smith R, Netto J, Gribble N, Falkner M (2020) 'At the End of the Day, It's Love': An Exploration of Relationships in Neurodiverse Couples. J Autism Dev Disord 51(9): 3311-3321.
9. Strunz S, Schermuck C, Roepke S, Ballerstein S, Ahlers C, et al. (2016). Romantic relationships and relationship satisfaction among adults with Asperger Syndrome and High-Functioning Autism. Journal of Clinical Psychology 73(1): 113-125.
10. Causton-Theoharis J, Ashby C, Cosier M (2009) Islands of loneliness: Exploring social interaction through autobiographies of individuals with autism. Intellectual and Developmental Disabilities 47(2): 84-96.
11. Crompton C, Ropar D, Evans-Williams C, Flynn E, Fletcher-Watson S (2022) Autistic peer-to peer information transfer is highly effective. Autism 24(7): 1704-1712
12. Kowalski T (2010) Social-pragmatic success for Asperger Syndrome and other related disorders. Professional Communication Services.
13. Nason B (2014) The Autism Discussion Page on the core challenges of autism: A toolbox for helping children with autism feel safe, accepted, and competent. Jessica Kingsley Publishers.
14. Milton D (2012) On the ontological status of autism: The double empathy problem. Disability and Society 27(3): 883-887.
15. Wilder EJ, Woolridge R (2022) Escaping enemy mode: How our brains unite or divide us. Chicago: Moody Publishers.
16. Neurodiverse Christian Couples Podcast (2023) Escaping enemy mode with Dr. Jim Wilder [Audio podcast].
17. Rowland D (2020) Redefining autism. Journal of Neurology, Psychiatry, and Brain Research 20 (2).
18. Harden A, Girgis R, Lacerda A, Yorbik O, Kilpatrick M, et al. (2006) Magnetic resonance imaging study of the orbitofrontal cortex in autism. J Child Neurol 21(10): 866-871.
19. Girgis R, Minshew N, Melhem N, Nutche J, Keshavan M, et al. (2007). Volumetric alterations of the orbitofrontal cortex in autism. Progress in Neuro-Psychopharmacology and Biological Psychiatry 31(1): 41-45.
20. Bachevalier J, Loveland K (2006). The orbitofrontal-amygdala circuit and self-regulation of social-emotional behavior in autism. Neuroscience & Biobehavorial Reviews 30(1): 97-117.
21. O'Doherty J, Kringelbach M, Rollis E, Hornak J, Andrews C (2001) Abstract reward and punishment representations in the human orbitofrontal cortex. Nature Neurosciences 4: 95-102.
22. Völlm B, Taylor A, Richardson P, Corcoran R, Stirling J, et al. (2006) Neuronal correlates of theory of mind and empathy: A functional magnetic resonance imaging study in nonverbal task. NeuroImage 1: 90-98.
23. Shore A (1994) Affect regulation and the origin of the self: The neurobiology of emotional development. Taylor & Francis Group: Psychology Press.
24. Coursey C, Warner M (2023) The 4-habits of joy-filled people. Northfield Publishing
25. Gill WJ (2015) Face to face: Seven keys to a secure marriage. WestBrow Press.
26. Lehman K (2011). Outsmarting Yourself. This Joy Books.
27. Wilder EJ, Khouri E, Coursey C, Sutton S (2021) Joy starts here: The transformation zone, (revised ed.). Life Model Works.
28. Doidge N (2015) The brain's way of healing: Remarkable discoveries and recoveries from the frontiers of neuroplasticity. Penguin Books.
29. Shaffer J (2016) Neuroplasticity and clinical practice: Building brain power for health. Frontiers in Psychology 7: 1118.
30. White C (2011) Brain circuitry model for mental illness will transform management, NIH mental health director says. BMJ (Clinical research ed.) 343.

DOI: 10.19080/GJIDD.2024.13.555860

How to cite this article: Stephanie C H. Neuro Diverse Relationships: Neuroplasticity and Hope for Building the Autistic Brain's "Joy Center". Glob J Intellect Dev Disabil. 2024; 13(2): 555860. DOI: 10.19080/GJIDD.2024.13.555860