Commentary

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Autism Spectrum Disorder Is Characterized By Sensory Abnormalities

Adrian Roberts*

Department of Computer Science, University College London, London, UK

***Corresponding author:** Adrian Roberts, Department of Computer Science, University College London, London, UK, E-mail: robertsadrian@gmail.com

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Description

There are few effective treatments for the core and associated features of autism spectrum disorder, a neurodevelopmental condition with a wide range of manifestations. In order to tailor therapies to specific neurobiological profiles, we need to identify and validate neural markers that help to sort heterogeneity. Although atypical hemispheric lateralization has been found consistently across autism studies, its potential as a neural stratification marker has not been extensively investigated. A neurodevelopmental condition known as autism spectrum disorder is characterized by sensory abnormalities, restricted and repetitive behaviors, and social-communicative deficits. The extreme phenotypic and biological heterogeneity of autism is one of its most important features. The heterogeneity of the autism population has been blamed for the inconsistent and mixed results, especially in the neuroimaging literature. It is essential to address the heterogeneity of the autism neuropathology and identify the neural markers that are consistent across studies in order to provide a more coherent picture. Individuals with autism can be stratified using such markers in a way that is clinically relevant. A large body of research points to a disruption in hemispheric specialization, one of our brains' most fundamental biological properties, as the consistently implicated neural feature in autism. According to this fundamental organizing principle, the two hemispheres have distinct functional specializations and significant structural asymmetries. Language and motor skills are lateralized to the left and spatial perceptual abilities are lateralized to the right during functional specialization. Gray matter asymmetries also demonstrate this, with the thalamus and posterior parietal cortex exhibiting rightward asymmetries and the frontal opercular and temporal perisylvian regions and hippocampus exhibiting leftward asymmetries.

Autistic Symptoms

A wide range of treatments, including complementary and alternative ones, are available for autism, a neurodevelopmental disorder with many different manifestations.. Alternative treatment use was predicted by co-occurring diagnoses, younger age at diagnosis, and use of mainstream treatments. Patients in the clinical care study who had received treatment from a homeopath or osteopath more frequently had parents who were highly educated and of Dutch or Western ancestry, and they were also more frequently enrolled in special education. The use of alternative treatments should be incorporated into treatment guidelines. The advantages and disadvantages of these treatments should be made clear to parents, professionals, and people with autism. The choice and effects of alternative autism treatments need to be better understood, and mainstream care should be improved. The current study aims to investigate whether a novel measure of autistic symptoms can distinguish between children who are developing normally and those with varying levels of autistic symptoms.

In the DSM-5 version of the Diagnostic and Statistical Manual of Mental Disorders, combined all previous autism diagnoses, whether official or unofficial like Asperger's, high-functioning autism, *etc.* into the Autism Spectrum Disorder (ASD) diagnostic category. Because clinical practice continued to use unofficial diagnoses like High-Functioning Autism, this change in the diagnostic criteria was especially beneficial. The DSM-5-TR currently defines ASD as having restricted or repetitive interests, activities, and behaviours as well as persistent deficits in social communication and interactions. Additionally, symptoms must begin in early childhood, be disruptive to daily life, and cannot be better explained by another developmental disability. DSM-5-TR maintained the two major symptom categories of DSM-5: Aspect A: Communication and social interaction deficits, such as: lack of emotional and social reciprocity; a lack of nonverbal communication skills that come with social interaction; deficiencies in creating, understanding and keeping up with associations with others, and Rules B: Behaviours that are restrictive and repetitive, such as: motor patterns, speech, or use of objects that are stereotyped repeatedly; insistence on consistency, rigidity in routines, or ritualization of verbal or nonverbal behaviour; confined interests with abnormally intense focus; and unusual interest in sensory aspects of the environment, as well as hyper- or hypo-reactivity to sensory stimuli. It is interesting to note that Criteria A of the DSM-5-TR now requires all three symptoms to be present, whereas Criteria B still requires two of the four symptoms for an ASD diagnosis. Psychosocial disabilities are more prevalent in children and teens with autism. Key psychosocial factors, such as adaptive functioning, school absence, special needs education, the frequency of peer socialization, and participation in organized leisure activities, may have a different relationship with autistic internalizing and externalizing symptoms, according to autism

research; however, the results of these studies are mixed to date.

Behavioural Impairment

More social communication issues than internalizing, externalizing, or autistic-like symptoms like rigidity, stereotypy, and sensory sensitivity were the primary causes of lower adaptive functioning, frequency of peer socialization, and leisure activity participation across all participants, according to multiple linear regression analyses. Notably, rather than autistic or externalizing symptoms, increased school absences were specifically caused by an increase in internalizing symptoms. These associations appear to be dimensional and general because they were observed across all participants, including children with autism and those with typical development. When compared to children in the autism spectrum who received regular education, those who had a developmental history of social interaction issues were associated with lower adaptive functioning, while children in the special needs group had fewer issues with social communication. Our findings suggest that social communication issues are more important to psychosocial functioning than other behaviours that are autistic-like, internalizing or externalizing symptoms. However, efforts to reduce absenteeism from school should focus on internalizing symptoms rather than externalizing or autistic-like symptoms. It has been reported that interventions implemented by parents have positive effects on both the children with autism and their parents. Individuals with autism spectrum disorders exhibit peripheral immune activation, which is correlated with increased behavioural impairment. Neuroinflammation in autism brain samples is caused by increased innate immune cytokines and activation of microglia. According to studies of the brain transcriptome, autism causes an increase in innate immune activation. Microglia activation and macrophage activation are also observed in autism-relevant animal models. Communication and social behaviour issues are hallmarks of Autism Spectrum Disorder (ASD), a neurodevelopmental condition with a wide range of manifestations. These deficits are frequently accompanied by restricted and repetitive behaviors, which can range from mild to severe. The prevalence of ASD has significantly increased over the past few decades.