Medical Xpress

Adults with autism show a diminished brain response to hearing their own name

January 30 2018

Previously, research has shown that children at risk of an autism diagnosis respond less to hearing their own name. Now, a new study from Ghent University shows for the first time that the brain response to hearing one's own name is also diminished in adults with an autism diagnosis. The study was conducted by Dr. Annabel Nijhof as part of her Ph.D. project, supervised by Prof. Dr. Roeljan Wiersema and Prof. Dr. Marcel Brass.

People hearing their own name usually evince a strong orienting response, considered an important aspect of successful social interaction. Problems with social interaction and communication belong to the core symptoms of autism spectrum disorder (ASD). Studies with infants at risk for ASD have indicated that a diminished orienting response to their own name is one of the strongest predictors for developing ASD. Surprisingly, however, this had not yet been studied in individuals with an ASD diagnosis.

In a new study from Ghent University, Belgium, the brain response to hearing one's own name versus other names was compared between a group of adults with ASD, and a control group of adults without an ASD diagnosis. Participants in the study were listening to their own name, and names of close and unfamiliar others, but did not need to respond to these names. Meanwhile, their brain activity was recorded.

Results showed that, as expected, the brain response to one's own name was much stronger than for other names in neurotypical adults.

Strikingly, this preferential effect was completely absent in adults with ASD. Furthermore, this group difference was related to diminished activity in the right temporoparietal junction (rTPJ). Previous research has related the rTPJ to the processes of self-other distinction and mentalizing (representing another person's mental states). During these processes, abnormal patterns of activity have been found in individuals with ASD.

This study is the first to show that brains of adults with ASD respond differently when hearing their own name, suggestive of a core deficit in self-other distinction associated with dysfunction of the rTPJ. This novel finding is important for our understanding of this complex condition and its development, and warrants further research on the possibility to use the atypical neural response to the own name as a potential biological marker of ASD.

More information: Annabel D. Nijhof et al. Atypical neural responding to hearing one's own name in adults with ASD., *Journal of Abnormal Psychology* (2018). DOI: 10.1037/abn0000329

Provided by Ghent University

Citation: Adults with autism show a diminished brain response to hearing their own name (2018, January 30) retrieved 23 April 2024 from https://medicalxpress.com/news/2018-01-adults-autism-diminished-brain-response.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.