



## Structural neuroimaging correlates of social deficits are similar in autism spectrum disorder and attention-deficit/hyperactivity disorder: analysis from the POND Network

### What is the research about?

Children use social skills to communicate and interact with others. Poor social skills, known as social deficits, include limited social communication and interaction skills, among others. Social deficits are a defining characteristic of some neurodevelopmental disorders. The researchers in this study investigated the underlying biology of social deficits in children with different neurodevelopmental disorders. This study included various disorders because of the increasing recognition that different neurodevelopmental disorders have similar symptoms and characteristics.

### What did the researchers do?

Structural Magnetic Resonance Imaging (MRI) is a type of technology that is used to take pictures of the brain. In this study, 312 children had an MRI image of their brain taken. The Social Communication Questionnaire and the Reading the Mind in the Eyes Test were used to test social deficits. Researchers looked at networks in the brain based on previous research. The researchers also looked at the brain as a whole. Brain images were compared to results from the two social deficits tests to understand if there are specific patterns in the brain that link to a child's social behaviour.

### Number of Participants



### What did the researchers find?

The research showed that there were more similarities than differences' in the links between brain images and social deficits, in children with ASD and ADHD. This finding is consistent with other research that suggests ADHD and ASD may be overlapping disorders with similar biologic foundations. The brain structures and behaviour associations in the OCD group were less affected than the other groups.



**Take home message.**

Evidence suggests there are overlapping symptoms and brain differences in neurodevelopmental disorders. This study showed that two different neurodevelopmental disorders, ASD and ADHD, had similar brain differences linked to social functioning. The research showed that ASD and ADHD were more alike than distinct, adding to the evidence that different neurodevelopmental disorders share brain differences.

**Notes**

The full research article can be accessed at this link: <https://www.nature.com/articles/s41398-019-0382-0>

**Reference (APA):**

Baribeau, D. A., Dupuis, A., Paton, T. A., Hammill, C., Scherer, S. W., Schachar, R. J., Arnold, P. D., Szatmari, P., Nicolson, R., Georgiades, S., Crosbie, J., Brian, J., Iacono, A., Kushki, A., Lerch, J. P., & Anagnostou, E. (2019). Structural neuroimaging correlates of social deficits are similar in autism spectrum disorder and attention-deficit/hyperactivity disorder: analysis from the POND Network. *Translational psychiatry*, 9(1), 72.