

Children with ADHD likely to have touch-processing abnormalities

October 11 2017

Children with attention deficit hyperactive disorder (ADHD) are likely to also have trouble with touch (tactile) processing. A new study finds that children with ADHD fare worse on several tests of tactile functioning, including reaction time and detecting a weak stimulus on the skin (detection threshold). The article, published ahead of print in the *Journal of Neurophysiology*, was chosen as an APSselect article for October.

Two groups of children (ages 8 to 12) participated in a series of tests in which researchers administered [tactile stimulation](#) (low-frequency vibrations) to the skin of their fingers. One group of children had ADHD, and the other group was typically developing (control). The children reported when they felt the weakest amount of stimulation, which stimulus was stronger or faster, or the order in which they felt two stimuli applied to two fingers (temporal order judgment).

When compared to the control group, the ADHD group was significantly slower to react when instructed to click a button as soon as they felt sensation on their hand or fingers. The children with ADHD also had more difficulty detecting weak stimuli and performed worse on temporal order judgment tasks.

However, [children](#) with ADHD did not perform worse on all tasks, suggesting that poor performance on sensory activities is not only due to the inattention issues that are a hallmark of ADHD, but possibly also due to low levels of the neurotransmitters that calm nerve activity, the

research team explained. "There is likely a complex interplay of different factors, which need further investigation. Understanding these mechanisms may provide a potential target for future therapies to address sensory symptoms, both through pharmacological and behavioral interventions," the researchers wrote.

More information: NICOLAAS A J PUTS et al. Altered tactile sensitivity in children with Attention Deficit Hyperactive Disorder, *Journal of Neurophysiology* (2017). [DOI: 10.1152/jn.00087.2017](https://doi.org/10.1152/jn.00087.2017)

Provided by American Physiological Society

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