# A child's brain activity reveals their memory ability

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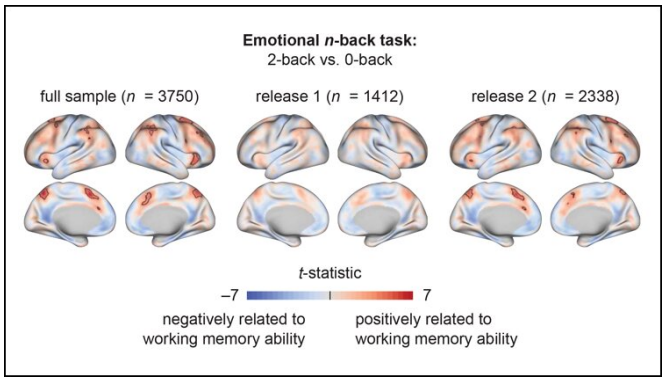


Frontoparietal activation reflects individual working memory abilities. Credit: Rosenberg et al., JNeurosci 2020

A child's unique brain activity reveals how good their memories are, according to research recently published in *JNeurosci*.

When you scramble to remember a phone number as you enter it into your phone, you rely on your working memory to keep the number at the front of your mind. Briefly holding and manipulating information relies on the activity of the frontoparietal network, a group of brain regions coined the "cognition core." Working memory performance changes throughout development, but can an individual's memory facility be determined based on brain activity?

Rosenberg et al. analyzed fMRI data from the Adolescent Brain Cognitive Development (ABCD) data set, a repository of scans and behavioral tests from over 11,000 children aged nine and ten. Children with better working memory performed better on a range of cognitive, language, and problem-solving tasks.

Activity in the frontoparietal network during a memory task reflected the individual working memory capabilities of the children, with an activity pattern unique to working memory.

The ABCD data set will reexamine the children for ten years, allowing future studies to explore how the neural signature of working memory evolves across development.

**More information:** Behavioral and Neural Signatures of Working Memory in Childhood, *JNeurosci* (2020). DOI: 10.1523/JNEUROSCI.2841-19.2020

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