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Title: Increased variability of stimulus-driven cortical responses is associated with genetic variability in children with and without dyslexia

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Increased variability of stimulus-driven cortical responses is associated with genetic variability in children with and without dyslexia

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Highlights:

- Quantified variability in evoked neural responses of children with and without dyslexia
- A subset of children with dyslexia had significantly higher variability in cortex
- Higher variability observed in auditory and visual domains in multiple reading network nodes
- Risk alleles in *KIAA0319* were related to degree of variability in auditory cortex
- Results support unstable neural responses as a mechanism for some cases of dyslexia

Abstract

Individuals with dyslexia exhibit increased brainstem variability in response to sound. It is unknown as to whether increased variability extends to neocortical regions associated with audition and reading, extends to visual stimuli, and whether increased variability characterizes all children with dyslexia or, instead, a specific subset of children. We evaluated the consistency of stimulus-evoked neural responses in children with (N = 20) or without dyslexia (N = 12) as measured by magnetoencephalography (MEG).

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