Poor anchoring limits dyslexics' perceptual, memory, and reading skills.

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Oganian, Y, Ahissar M. 2012.

Abstract:

The basic deficits underlying the severe and persistent reading difficulties in dyslexia are still highly debated. One of the major topics of debate is whether these deficits are language specific, or affect both verbal and non-verbal stimuli. Recently, Ahissar and colleagues proposed the "anchoring-deficit hypothesis" (Ahissar, Lubin, Putter-Katz, & Banai, 2006), which suggests that dyslexics have a general difficulty in automatic extraction of stimulus regularities from auditory inputs. This hypothesis explained a broad range of dyslexics' verbal and non-verbal difficulties. However, it was not directly tested in the context of reading and verbal memory, which poses the main stumbling blocks to dyslexics. Here we assessed the abilities of adult dyslexics to efficiently benefit from ("anchor to") regularities embedded in repeated tones, orally presented syllables, and written words. We also compared dyslexics' performance to that of individuals with attention disorder (ADHD), but no reading disability. We found an anchoring effect in all groups: all gained from stimulus repetition. However, in line with the anchoring-deficit hypothesis, controls and ADHD participants showed a significantly larger anchoring effect in all tasks. This study is the first that directly shows that the same domain-general deficit, poor anchoring, characterizes dyslexics' performance in perceptual, working memory and reading tasks.

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