Reduced benefit from regularities in language among Dyslexics

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Abstract: The "Anchoring Deficit" hypothesis (Ahissar et al., Nat Neurosci. 2006) proposed that Dyslexics have a difficulty in automatic extraction of simple stimulus regularities in sound sequences. JaffeDax et al. (J Neurosci. 2015) modelled these difficulties as yielding noisy priors.

The current study was aimed to assess the impact of long-term regularities in language, which listeners had life long experience with. Our assumption was that this familiarity would enhance Controls' performance more than Dyslexics' due to a noisier prior formation among Dyslexics. This question was addressed in a series of experiments - in each there was one condition for which information accumulated over the life span could be utilized.

In all three experiments Dyslexics did not benefit as much as Controls from the long term statistics associated with the input. These results suggest that Dyslexics could not compensate for the deficit despite multiple exposures to lingual input with the same statistics.