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Genetic defect linked to visual impairment in dyslexics

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A risk gene for dyslexia is associated with impairments in visual motion detection, according to a study published May 27 in *The Journal of Neuroscience*.

Mutations in the gene DCDC2 have previously been associated with dyslexia, and this study found that dyslexics with an altered copy of the gene are unable to detect certain types of visual motion.

- The researchers used a series of visual tests to compare typical readers with two groups of dyslexics—one with and one without a specific deletion in the DCDC2 gene.
- The subjects were presented with images of patterned black and white lines and asked to determine whether the image was moving horizontally or vertically.
- Dyslexics with the genetic deletion failed to detect the motion of the image, although they were able to determine the orientation of the lines.
- The group of dyslexics with a normal copy of the DCDC2 performed similarly to the normal readers, with only a minor impairment in motion detection.

"This is the first paper I am aware of demonstrating a genetic marker that distinguishes between dyslexics with deficits in motion perception and those without," says Joseph LoTurco, a neuroscientist at the University of Connecticut who studies brain development and was not involved in the study.

"It could be extremely valuable in future studies designed to discover optimal intervention strategies, and in early detection for children at risk for dyslexia."

Provided by Society for Neuroscience