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Dyslexia and the centre-of-gravity effect.

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Abstract

When human observers are presented with a double target display, a saccadic eye movement is triggered to an intermediate position close to the 'centre-of-gravity' of the configuration. This study examined the saccadic eye movements of dyslexic and normal readers in response to displays of single and double targets. Eye movement analyses revealed no differences in the spatial position of saccadic eye movements of dyslexic and normal readers in response to single targets presented at 5 degrees or 10 degrees. However, when presented with two targets simultaneously at 5 degrees AND 10 degrees, in contrast to normal readers who generated saccades to an intermediate position between the two targets (towards the 'centre-of gravity'), dyslexics generated saccades that landed close to the near target eccentricity. These findings suggest that dyslexia is associated with a deficit in the processing of global spatial information for the control of saccadic eye movements.

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