

Stability of gaze control in dyslexia

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abstract:

The neurobiological basis of saccade control has at least three components: fixation, reflexes, voluntary control. It was found in earlier studies that the voluntary component of saccade is specifically impaired in dyslexics as compared with controls of the same age. In this study, we searched for evidence of fixation instability by analyzing the eye movements of 99 control subjects and 262 dyslexics (age 7-17 years) performing an overlap prosaccade and a gap antisaccade task. The percentage of intrusive saccades was counted for each subject during a period of the trial where stationary fixation was required. Both groups showed improvements of fixation stability with age, but the dyslexic group exhibited developmental deficits. It is discussed whether these deficits could be interpreted as consequences of deficits in the magnocellular pathway.