Developmental dyslexia: The Visual attention span deficit hypothesis

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Abstract

The visual attentional (VA) span is defined as the amount of distinct visual elements which can be processed in parallel in a multi-element array. Both recent empirical data and theoretical accounts suggest that a VA span deficit might contribute to developmental dyslexia, independently of a phonological disorder. In this study, this hypothesis was assessed in two large samples of French and British dyslexic children whose performance was compared to that of chronological-age matched control children. Results of the French study show that the VA span capacities account for a substantial amount of unique variance in reading, as do phonological skills. The British study replicates this finding and further reveals that the contribution of the VA span to reading performance remains even after controlling IQ, verbal fluency, vocabulary and single letter identification skills, in addition to phoneme awareness. In both studies, most dyslexic children exhibit a selective phonological or VA span disorder. Overall, these findings support a multifactorial view of developmental dyslexia. In many cases, developmental reading disorders do not seem to be due to phonological disorders. We propose that a VA span deficit is a likely alternative underlying cognitive deficit in dyslexia.

Key words: developmental dyslexia, phoneme awareness, visual attention span, dyslexic subtypes, reading acquisition, French, children.