

Visual Spatial Attention Skills and Holistic Processing in High School Students With and Without Dyslexia

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Abstract

Visual-spatial attention has been shown to influence literacy development, yet studies investigating its influence on reading in non-alphabetic scripts such as Chinese are scarce, despite recent studies demonstrating orthographic and visuo-spatial skills to be key deficits in people with dyslexia in Chinese. Here, we investigate visual-spatial processing skills in Chinese adolescents by measuring their 1) exogenous and endogenous attentional orienting, and 2) holistic processing a phenomenon typically demonstrated in face perception in Chinese character recognition. Compared with typically developing students, Chinese high-school students with dyslexia showed deficits in both endogenous and exogenous visual-spatial attention. Dyslexics also perceived characters more holistically than the controls, suggesting that they selectively attended to individual components within Chinese characters less readily. These results demonstrated irregularities in visual-spatial processing skills in students in dyslexia. This study provides implications for reading intervention programs in order to facilitate selective attention to character components to enhance literacy.