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Mapping Cognitive-Attentional Profiles in Chinese Dyslexia: The Impact of ADHD and its Medical Treatment on Literacy Outcomes

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Abstract

Chinese dyslexia frequently co-occurs with ADHD, creating complex literacy and attentional difficulties. This project examined (1) cognitive profile types in Chinese dyslexia, (2) their links to attention, and (3) whether ADHD and its treatment alter literacy-related performance. Study 1 assessed 150 children in Grades 1–3 on Chinese reading and related skills, comparing typical, dyslexia-only, and dyslexia+ADHD groups. Study 2 related attention scores to cognitive profiles within the dyslexia-only group. Study 3 tested medication effects on reading and cognitive performance in children with dyslexia+ADHD. Pure dyslexia was marked by rapid automatized naming (RAN), morphological, and orthographic deficits, whereas comorbid dyslexia+ADHD showed a consistent RAN deficit only. Within dyslexia, attentional problems were elevated mainly in children with RAN or phonological deficits. Medication improved attention, RAN, and phonological awareness but not literacy, underscoring the value of profile-based assessment, systematic ADHD screening, and integrating attention management with Chinese literacy intervention.