Neurofeedback as an Intervention to Improve Reading Achievement in Students with Attention Deficit Hyperactivity Disorder, Inattentive Subtype

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Abstract

Research consistently demonstrates that attention deficits have a deleterious effect on academic achievement. Impairments in attention, and not hyperactivity/impulsivity, are associated with learning difficulties and academic problems in students with attention-deficit/hyperactivity disorder (ADHD). To date, most studies have focused on symptoms of hyperactivity/impulsivity, with little research being conducted on interventions for students with ADHD, inattentive subtype. This study examines the use of neurofeedback as an intervention to improve reading achievement in a public school setting. A multiple-baseline-across-participants single-case model was used to assess five fourth-grade students who received 40 daily sessions of neurofeedback. Following the intervention, improvements were observed on objective measures of attention: a continuous performance test (Integrated Visual and Auditory Continuous Performance Test [IVA+Plus]) and/or a test of shifting attention (CNS Vital Signs, Shifting Attention Test [CNS-VS, SAT]). Results on tests of reading fluency revealed little change, although participants demonstrated gains on a measure of reading comprehension (Gray Oral Reading Tests–Fifth Edition [GORT-5]). Results suggest that neurofeedback helped participants to become more accurately engaged with the text with more focused attention to content. Thus, neurofeedback may be a viable option to assist children with attention deficits for improving both attention and reading achievement.