

Neural Plasticity Following Auditory Training in Children with Learning Problems

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Children with either ADHD or a learning disability participated in an eight week commercially based auditory processing software training package and were compared to control groups of both learning impaired and non learning impaired children who received no remedial interventions. Comparisons were performed on auditory brainstem function in response to click and speech stimuli, and cortical function was compared in response to speech stimuli in quiet and noisy conditions. The groups that participated in the remediation program demonstrated improved measures of auditory processing and cortical responses in both quiet and noisy conditions. Brainstem responses did not show significant changes. The researchers conclude that children with learning problems exhibited plasticity of neural encoding at the cortical, but not subcortical levels, following participation in this remediation program. The plasticity was accompanied by changes in behavioral performance.