Effect of handedness on auditory attentional performance in ADHD students.

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Abstract

The relationship between handedness and attentional performance is poorly understood. Continuous performance tests (CPTs) using visual stimuli are commonly used to assess subjects suffering from attention deficit hyperactivity disorder (ADHD). However, auditory CPTs are considered more useful than visual ones to evaluate classroom attentional problems. A previous study reported that there was a significant effect of handedness on students' performance on a visual CPT. Here, we examined whether handedness would also affect CPT performance using only auditory stimuli. From an initial sample of 337 students, 11 matched pairs were selected. Repeated ANOVAs showed a significant effect of handedness on attentional performance that was exhibited even in the control group. Left-handers made more commission errors than right-handers. The results were interpreted considering that the association between ADHD and handedness reflects that consistent left-handers are less lateralized and have decreased interhemispheric connections. Auditory attentional data suggest that left-handers have problems in the impulsive/hyperactivity domain. In ADHD, clinical therapeutics and rehabilitation must take handedness into account because consistent sinistrals are more impulsive than dextrals.