

ABSTRACT

A meta-analysis conducted by Martinussen and her colleagues (2005) reported that children with ADHD exhibited moderate to large impairments in working memory. Local studies using electrophysiological measures to examine working memory functioning in children with ADHD were sparse. Therefore, this pilot study aimed at developing an n-back task that allows us differentiating clinical and non-clinical subjects. We also hoped that our findings could reveal the electrophysiological pattern underlying working memory deficits of ADHD children. Both behavioral and ERP measures were acquired during the process.

The current experiment recruited four children with ADHD and three normal controls. Clinical subjects displayed poorer behavioral performance than normal controls. The preliminary behavioral results fell in line with our hypotheses. On the ERP findings, smaller P3 amplitude and delayed P3 latency were found.

Given the pilot nature of our study, flaws and practical constraints in the current paradigm were identified. Results were discussed from theoretical and clinical perspectives. Contributions of the current experimental design and future research directions were also proposed.