

ABSTRACT

The present study was directed by the conceptual framework and the network theory of attention proposed by Posner and colleagues in the 1990s and adopted the experimental procedures of the child version of the Attention Network Test. The purpose of the present study was to investigate and compare the performance and efficiency of the three attentional networks between ADHD and normal children in Hong Kong, namely the alerting, orienting, and conflict networks. It aimed at identifying the cognitive deficits of ADHD children using the Attention Network Test. It also attempted to see whether independence of attentional networks existed in these children.

A total of 28 boys with ADHD and 41 control subjects within the age range of 6-12 years participated in the study. Results of the study showed that: The three attentional networks were basically independent in both groups of children, with nearly all of the correlations being insignificant. No speed-accuracy tradeoff was observed. ADHD children were significantly less accurate and more variable in performance, but not significantly slower than controls. Nearly all of the condition effects were significant, showing that the experimental manipulations increased task demands for almost all conditions. The only significant interaction effect (which was marginal) between group and cue condition in the alerting network in terms of mean reaction time suggested that ADHD children's cognitive deficits might lie in this specific network. For the other two networks, with group differences being significant in terms of within-subject variability only, we could not conclude here that ADHD children's cognitive deficits lie in these two areas.