

ABSTRACT

The optimal stimulation theory suggests that children with ADHD demonstrate a deficit in arousal regulation. Similarly, the cognitive energetic model proposes that ADHD children show impairments in their effortful control which affect their phasic responding and physiological tonic readiness to respond. Impaired readiness to respond in ADHD children was evidenced by their poorer behavioral and physiological performances on the vigilance task in comparison to normal children. In our current study, ten children with and without ADHD undertook the CPT-AX while electroencephalographic (EEG) data were obtained. A between-subject design was adopted and the effect of instructions was investigated. It was postulated that the revised instructions would facilitate arousal regulation and enhance the performances of children with ADHD. On the contrary, it was also possible that such physiologically based arousal regulation deficit might not be normalized by the change of instructions. Results from the current study confirmed with previous findings that ADHD children showed vigilance deficits and impaired attention allocation. By speculation, it appeared that ADHD children benefited from the revised instructions and showed improvement in both behavioral and physiological performances in comparison to the conventional instructions. Due to the pilot nature of our study, further investigations need to be done to verify the effect of instructions on the performances of children with ADHD. Strengths and challenges related to the current experimental paradigm were presented in the discussion section. Arguments that supported the continuation or abortion of the current experimental design were also illustrated from clinical, theoretical, and practical perspectives.