

Effects of External Body Movement on Visual Attentional Performance in Children with ADHD

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Abstract : Background: Parts of researchers assert that external hyperactivity behaviors of ADHD children interfere with their abilities to perform internal cognitive tasks; however, there are still other researchers hold the opposite viewpoint, the external high level of activity may serve as the role of improving internal executive function. Objectives: This study explored the effects of external motor behavior of ADHD on internal visual attentional performance. Methods: A randomized, two-period crossover design was used in this study, a total of 80 children (aged 6-12) were recruited in this study. 40 participants have received ADHD diagnosis, and others are children with typically developing. These children were measured through the visual edition of TOVA (The Test of Variables of Attention) when they wore actigraphy, their testing behavior and movement data were collected through closely observation and the actigraphies under different research conditions. Result: According to the research result, the author found (1) Higher frequency of movement under attentional testing condition was found in children with ADHD, comparing to children with typically developing, and (2) Higher frequency of foot movement showed better attentional performance of the visual attentional test in children with ADHD. However, these results were not showed in children with typically developing. Conclusions: The findings support the functional working memory model, which advocated that a positive relation between gross motor activity and attentional performance within the context of attentive behavior in children with ADHD.

Keywords : ADHD, movement, visual attention, children

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