Mobile-Based Analysis of Visual Attention in Young Children

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Abstract

There is a crucial need to screen young children for attention impairments given that the ability of a child to deal with the demands of everyday life is dependent on the development of the childs attention. Intervention at a young age facilitates the training and enhancement of attention, as young brains are the most responsive to treatment. Sri Lanka, a low- income country, lacks accessible, home-based screening tools which can be used to assess the attention of young children. Moreover, most Sri Lankan parents are not aware of attention impairments. To bridge this gap, this paper proposes an easily accessible, home-based attention assessment tool in the form of a mobile application. The application provides a series of engaging tasks for assessing and training, the aspects of visual attention (focused attention, selective attention, divided attention, sustained attention and shifting attention). The assessments were carefully designed to suit the age and the attention span of the child. The performance analysis performed on the data collected showed the varied responses of children of different ages on different assessments. Clustering was performed in identifying the varying performance levels of typical children and this project will be extended to evaluate a typical child performance.

Keywords

Attention Assessment, Focused Attention, Selective Attention, Divided Attention, Sustained Attention, Shifting Attention, Child Attention