

Computerized assessment of eye tracking to enhance clinical observations in occupational therapy

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Introduction: Eye movements play a vital role in the development of functions such as visual form and space perception, reading, motor planning and eye-hand coordination. Fluidity and accuracy of eye movements give an indication of how well eye movements are coordinated, the sensory integration of vestibular and visual information and dissociation of the movements of the head and eyes. Occupational therapists mainly make use of informal clinical observations to assess clients' eye movements. However, observations can be subjective and are hard to quantify in a reliable and valid manner. Therefore, the need for a more precise assessment tool to assess eye movements exists.

Objectives: To develop a computerized eye tracking assessment system to enhance clinical observations in occupational therapy.

Method: A quantitative, descriptive approach was followed in this exploratory study. This paper reports on the rationale and procedures followed in the initial multi-disciplinary development of computer software for the assessment of eye movements using an electronic eye tracker.

Practice Implications: Data from pilot studies performed with different age groups are presented to demonstrate the strengths and challenges of the system. This system has the potential to be used to monitor progress, measure outcomes and perform further research in this field.

Conclusion: Computerized eye tracking assessment can enhance the accuracy and precision with which eye movements can be assessed by occupational therapists. It is envisioned that this system will provide a platform for the development of computerized interventions to address specific occupational dysfunctions related to poor eye movements.