Reliability and validity of an eye tracking technology

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Introduction: A new prototyped eye tracking technology with functional oculomotor disorders and reading disabilities is introduced.

Aim: The aim of this study is to investigate intra and inter reliability of oculomotor functions expressed in eye saccades and smooth pursuits.

Material & Methods: The reference population consists of children and adults of both genders between five to 70 years of age with normal or dysfunctional conditions in eye movements, classified by the optometrist. The study sample consisted of six controls and 12 oculomotor disabled subjects related to age and dysfunction. The dysfunction was classified as “normal”, “mild”, “moderate to severe”. The study was performed as a randomized observer blinded trial with stratified, nested Latin squared design. The sequence of investigation was allocated by a 3x3 Orthogonal Latin square.

Results: Kappa analysis was performed and intra agreement for both the optometrists and the eye tracker were classified as “Very good”. Additionally, the agreement between the eye tracker and each of the two optometrists were found classified as “Good”.

Conclusion: the eye tracker seem to be a reliable and valid method to measure oculomotor functions in eye saccades and smooth pursuits

Biography
Bård Dalhøi, D.O. (Dr. Osteopathic Manual Medicine) is pursuing PhD studies, and is the co-founder of Heads AS, Norway. He is the Vice President R&D at Heads AS.

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