Research Synopsis

Attention Deficit Hyperactivity Disorder (ADHD) is a chronic health problem which is associated with significant social impairments, educational attainment, and poor quality of life. As such, early diagnosis is crucial as this could improve a person's social, emotional, and educational prospects. Yet despite the detrimental impact ADHD can have on a person's life the diagnosis process is limited, and no 'Gold standard' diagnosis protocol exists.

Consequently, the ADHD Foundation is undertaking 3 research projects to help improve our understanding of ADHD, reduce time to diagnosis, and revolutionise the ADHD diagnostic protocol.

Project 1 synopsis: *What is the accuracy and Validity of BrainGaze as a diagnostic method compared to the current available diagnostic methods for 6-17 year olds?*

The purpose of this study is to test the diagnostic accuracy and validity of BrainGaze. BrainGaze is a robust objective measure of attention which has a reported accuracy of 90.84%. The technology uses cognitive vergence as a means of measuring inattention in ADHD via a visual stimulus task and eye tracking. This identifies if the patient has a cognitive deficit in processing sensory information by measuring any disruption in the eye vergence.

Once the technology has been validated it will be incorporated into a new diagnostic protocol which will undergo vigorous testing.

Project 2 synopsis: *What is the accuracy and Validity of BrainGaze as a diagnostic method compared to the current available diagnostic methods for 18-65 year olds?*

Similar to project 1, project 2 will validate the BrainGaze technology so as to improve the diagnostic protocol for 18-65 year olds.

Project 3 synopsis: *Identifying early risk factors in ADHD.*

The purpose of this project is to validate and understand the potential for early identification of higher-risk groups. Given the impact ADHD can have on a child's emotional, social, and educational development early identification is crucial, as early interventions can substantially reduce ADHD symptoms and improve educational attainment.

Therefore, this study will confirm that in 4-6 year old children the eye vergence is different between neuro-typical children and those with suspected ADHD. Project 3 will also help identify early risk factors of ADHD.

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