

Using Brain Activation (nir-HEG/Q-EEG) and Execution Measures (CPTs) in a ADHD Assessment Protocol.

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Abstract

Attention Deficit Hyperactivity Disorder (ADHD) is a problem that impacts academic performance and has serious consequences that result in difficulties in scholastic, social and familial contexts. One of the most common problems in the identification of this disorder relates to the apparent over diagnosis of the disorder due to the absence of global protocols for assessment. The research group of School Learning, Difficulties and Academic Performance (ADIR) from the University of Oviedo, has developed a complete protocol that suggests the existence of certain patterns of cortical activation and executive control for identifying ADHD more objectively. This protocol takes into consideration some of the hypothetical determinants of ADHD, including the relationship between activation of selected areas of the brain, and differences in performance on various aspects of executive functioning such as omissions, commissions or response times, using innovative tools of Continuous Performance Testing (based on Virtual Reality CPT and Traditional CPT) and brain activation measures (two different tools, based on Hemoencephalography- nirHEG; and Quantified Electroencephalography --Q-EEG, respectively). This model of assessment aims to provide an effective assessment of ADHD symptomatology in order to design an accurate intervention and make appropriate recommendations for parents and teachers.