

## The Development of a Quantitative Electroencephalographic Scanning Procedure for Attention Deficit-Hyperactivity Disorder: Reliability and Validity Studies

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The development of a quantitative electroencephalographic (QEEG)-based procedure for use in the assessment of attention deficit-hyperactivity disorder (ADHD) was examined through a series of studies investigating test reliability and validation issues. This process, involving a spectral analysis of the electrophysiological power output from a single, midline, central location (the vertex), was conducted in 469 participants, 6 to 20 years of age, classified as ADHD, inattentive type; ADHD, combined type; or control. The results indicated that the QEEG scanning procedure was reliable ( $r = .96$ ), was consistent with the Attention Deficit Disorders Evaluation Scale (S. B. McCarney, 1995) and the Test of Variables of Attention (L., M. Greenberg, 1994; chi-square,  $p < .01$ ), and differentiated participants with ADHD from a nonclinical control group ( $p < .001$ ). The sensitivity of the QEEG-derived attentional index was 90%; the specificity was 94%.



