

The IVA Test

Continuous Performance ADD Testing
for Adults and Children



Test Design

The main test task, which lasts approximately thirteen minutes, presents 500 trials of visual and auditory 1's and 2's in a pseudo-random pattern, requiring a set-shift between the visual and auditory modalities. The subject is required to click the mouse only when they see or hear a "1" and to inhibit clicking when they see or hear a "2." During some segments of the IVA+Plus test, the "1"s are more common than the "2"s, creating a response set which "pulls" for errors of commission, or impulsivity. During alternate segments of the IVA+Plus test, the "1"s occur rarely; this invites more errors of omission, or inattention, since the subject must remain vigilant while they wait for a "1" to occur.

The normative group (N=1700, ages 6-96) is divided by gender and grouped by age as follows: 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17-18, 19-21, 22-24, 25-29, 30-34, 35-39, 40-44, 45-54, 55-65, 66-96. It is comprised only of people without known attention, learning, neurological, or psychological problems. Many different ethnic groups from a variety of geographical areas were included in the normative sample.

Deficits in attention and impulsive thinking and behavior can have numerous causes: motivation, attitude, depression, anxiety, mental deficiencies, PTSD, poor sleep, family conflicts, sibling issues, teacher conflicts, etc. The IVA+Plus test is the only CPT that is QEEG verified in that abnormal brain patterns associated with poor attentional functioning are highly correlated with it. No other research studies of rating scales or other tests have been published research identifying a significant correlation of this magnitude (.8) with QEEG measures of attentional dysfunction. It has also been found to agree with differential clinical diagnoses of ADHD in research studies 70% to 90% of the time, depending on the comparison group. In comparison, the PAP test for cancer has been found in clinical research to be only about 70% accurate.

ADHD is a clinician's diagnosis and no "gold standard" test exists for it. The IVA+Plus and other CPTs are used by thousands of clinicians worldwide as one component of a multi-modal diagnostic assessment of individuals who have psychological disorders in order to help them better understand the causal factors underlying their client's problems. No test makes the diagnosis, the clinician does. However, the correlation of CPTs and behavioral rating scales has been found to be significant in numerous published studies and, thus, many clinicians believe that it is clinically relevant and necessary to include a CPT in their diagnostic test battery to either confirm or rule out that the underlying ADHD behaviors are not caused by other factors such as a student's boredom, lack of motivation, teacher and/or parent conflicts or other emotional/psychological factors such as depression or anxiety

Scoring

IVA+Plus scores are divided into four categories — Attention, Response Control, Attribute and Symptomatic. Primary diagnostic scales are the Full Scale Response Control Quotient and the Full Scale Attention Quotient. The Full Scale Response Control Quotient is based on separate Auditory and Visual Response Control Quotient scores.

These Response Control Quotient scores are derived from visual and auditory Prudence, Consistency and Stamina scales.

Prudence is a measure of impulsivity and response inhibition as evidenced by three different types of errors of commission.

Consistency measures the general reliability and variability of response times and is used to help measure the ability to stay on task.

Stamina compares the mean reaction times of correct responses during the first 200 trials to the last 200 trials. This score is used to identify problems related to sustaining attention and effort over time.

The Full Scale Attention Quotient is derived from separate Auditory and Visual Attention Quotients. The Attention Quotient scores are based on equal measures of visual and auditory Vigilance, Focus and Speed.

Vigilance is a measure of inattention as evidenced by two different types of errors of omission.

Focus reflects the total variability of mental processing speed for all correct responses.

Speed reflects the average reaction time for all correct responses throughout the test and helps identify attention processing problems related to slow discriminatory mental processing.

The Fine Motor Regulation scale provides additional information by recording off-task behaviors with the mouse — multiple clicks, spontaneous clicks during instruction periods, anticipatory clicks, and holding the mouse button down. In behavioral terms, the Fine Motor Regulation score quantifies fidgetiness and restlessness associated with small motor hyperactivity.

IVA+Plus' Attribute scores provide clinicians with data regarding the client's learning style. These scales are:

Balance indicates whether the test taker processes information more quickly visually or aurally, or is equally quick in either modality.

Readiness indicates whether the test taker processes information more quickly when the demand is quicker or when it is slower. Provides a subtle measure of inattention when the test taker just "can't quite keep up."

IVA+Plus' Symptomatic scales are auditory and visual Comprehension, Persistence and Sensory/Motor.

Comprehension identifies random responding by measuring idiopathic errors. Research has shown this to be the single most sensitive sub-scale in discriminating ADHD.

Persistence is a measure of motivation when the test taker is asked to do "one more thing." It can also reflect motor or mental fatigue.

Sensory/Motor scales provide a measure of reaction time speed to simple, singular test stimuli (i.e., the “1”). These scales help screen for slow reaction times which may impair test performance or possibly indicate neurological, psychological or learning problems.

Taken together, the Attribute and Symptomatic scales help the clinician to understand a person’s best modality for learning, need for structure, motivation level, comprehension, and possible learning, emotional or neurological problems.