



## ***IntegNeuro Focus Report***

Client: ADC-Sample-01  
Gender: female

Test Date: Sep 2002  
Birth Date: withheld

### **1. Markers consistent with ADHD**



### **2. Impairments in:**

- Sustained Attention
- Response Variation

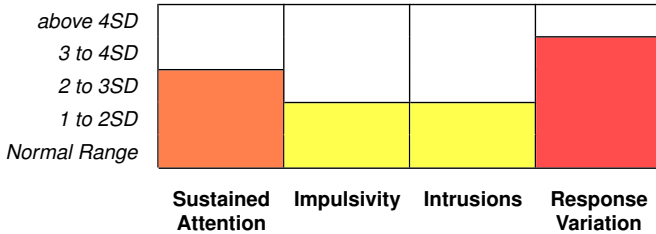
**The remainder of this report provides the test details.**

\* See context and disclaimer details on last page.

# 1. Summary of ADHD Marker Profile

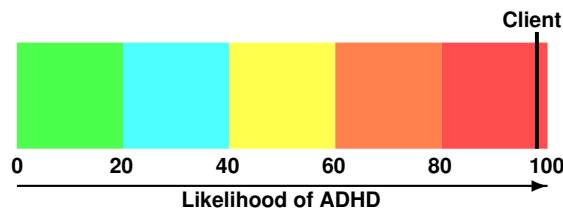
Different individuals have personalized profiles. Four markers in ADHD have been found to reflect severity (see Appendix 2). The markers are listed below along the horizontal axis. Severity is indicated by the changes in standard deviation (SD) with respect to healthy peers (vertical axis).

## Session 1:



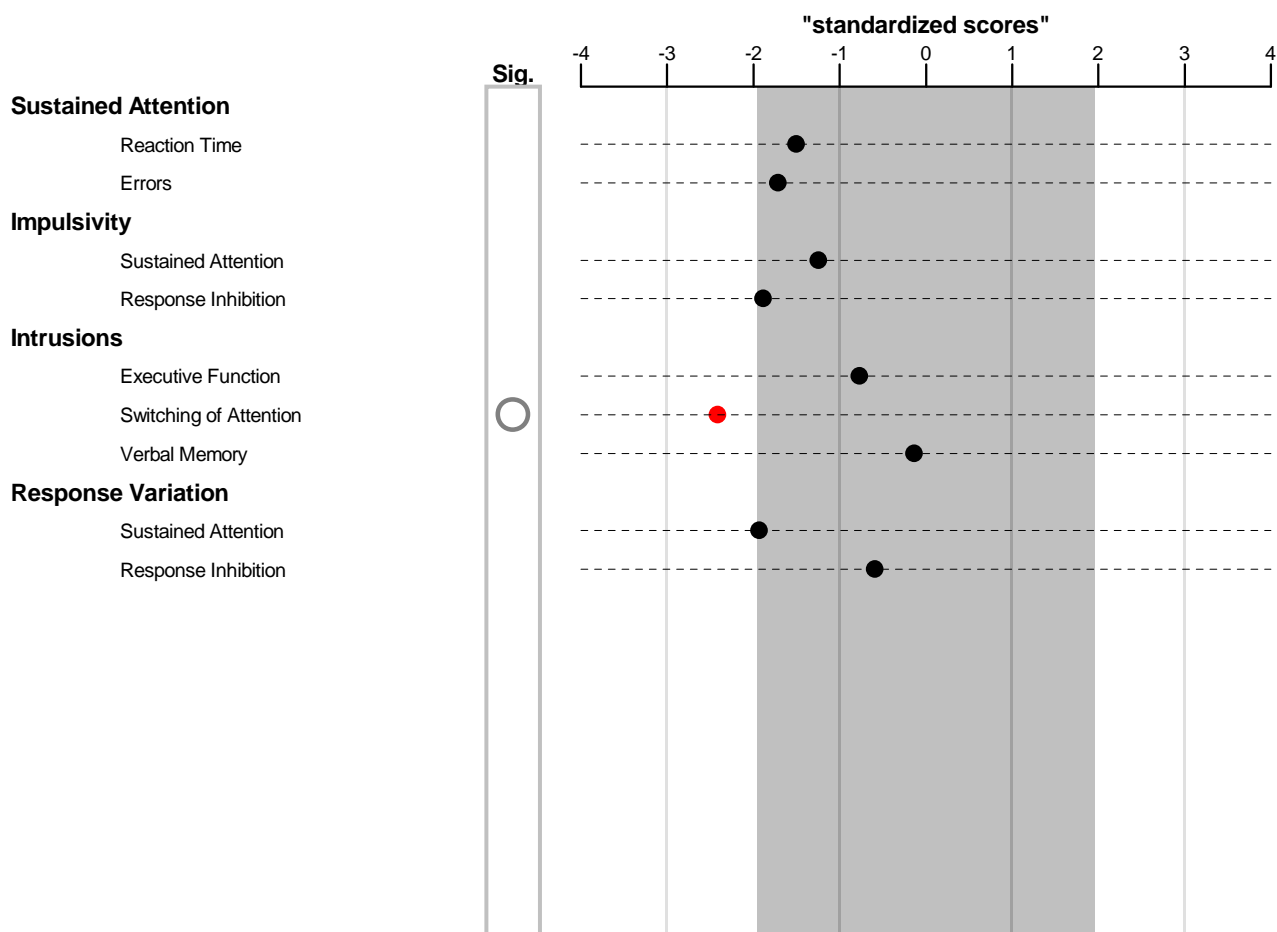
- Client scored outside 3 SD of the normal range consistent with ADHD.
- Client scored outside 2 SD of the normal range consistent with ADHD.
- Client scored outside 1 SD of the normal range consistent with ADHD.
- Client scores within 1 SD of the normal control group.
- Client scored outside 1 SD of the normal range NOT consistent with ADHD.
- Paradigm missing (interpreted as task failure, will increase Severity Index).

Markers (composite scores) revealed by ADHD group findings are combined below to calculate an overall **ADHD Severity Index** for this client (see page Appendix 2 for more details). The higher the Index of the client, the more likely he/she fits an ADHD profile. This client's Index is **98**, which means this client's Index is greater than 98% of controls.



## 2. ADHD Marker Details

### Client ADC-Sample-01 compared to normal controls

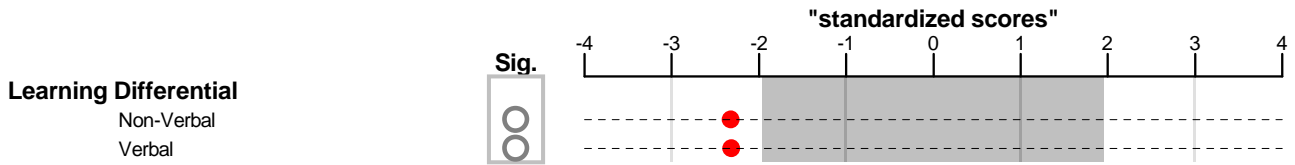


The circles on the left indicate statistically significant differences compared with the normal control. The "standardized scores" on the right are normalized for age, gender and years of education, which means differences from zero reflect differences from 'average peer' (also known as z-scores). Positive "standardized scores" indicate strengths, negative "standardized scores" indicate potential deficits. "Standardized scores" beyond -2 to +2 are statistically significant. **See Appendix 1 for details of all the cognition raw scores and rankings. See Appendix 2 for description of these scores.**

### 3. Comorbidity Details

**Flag for potential Learning Problem:** No evidence of learning deficit. Non-Verbal score does not exceed Verbal score by  $> 1SD$ .

#### Client ADC-Sample-01 compared to normal controls



The circles on the left indicate statistically significant differences compared with the normal control. The "standardized scores" on the right are normalized for age, gender and years of education, which means differences from zero reflect differences from 'average peer' (also known as z-scores). Positive "standardized scores" indicate strengths, negative "standardized scores" indicate potential deficits. "Standardized scores" beyond -2 to +2 are statistically significant.

The Non-Verbal and Verbal scores shown here represent a composite of scores across all the Non-Verbal and Verbal tests, respectively.

A Learning Deficit is typically determined by a psycho-educational assessment. This flag may be helpful as part of that assessment. The results from the memory test may also be useful in this regards.

See Appendix 3 for Client Demographics.

## Appendix 1. Details of all the cognition raw scores and rankings

Measure	Client	Int. Brain Database Average	Std. Dev	Standardized Score	Percentile
<b>Sustained Attention CPT</b>					
Reaction time <sup>1,4</sup>	672ms	516ms	104ms	-1.5	7 <sup>th</sup>
False alarms <sup>1,2</sup>	4	1.5	2	-1.25	11 <sup>th</sup>
False misses <sup>1</sup>	6	1.2	2.5	-1.93	3 <sup>rd</sup>
<b>Response Inhibition</b>					
Reaction time <sup>2</sup>	286ms	277ms	42ms	-0.22	41 <sup>st</sup>
False alarms <sup>3</sup>	5	2.4	2.1	-1.22	11 <sup>th</sup>
False misses	2	0.32	0.89	-1.88	3 <sup>rd</sup>
<b>Switching of Attention</b>					
Completion time (digits)	24.8s	20.8s	4.3s	-0.93	18 <sup>th</sup>
Avg. connection time (digits)	763ms	742ms	148ms	-0.14	44 <sup>th</sup>
Errors (digits)	2	0.7	1.4	-0.92	18 <sup>th</sup>
Completion time (digits+letters)	51s	47s	11s	-0.37	35 <sup>th</sup>
Avg. connection time (digits+letters)	1576ms	1715ms	382ms	0.36	64 <sup>th</sup>
• Errors (digits+letters) <sup>3</sup>	10	1	3.7	-2.44	1 <sup>st</sup>
<b>Verbal Memory</b>					
Immediate recall trial 1	4	6	1.3	-1.49	7 <sup>th</sup>
Immediate recall trial 2	7	8.4	1.6	-0.88	19 <sup>th</sup>
Immediate recall trial 3	8	9.7	1.6	-1.06	15 <sup>th</sup>
Immediate recall trial 4	8	10.4	1.9	-1.31	9 <sup>th</sup>
Total immediate recall trials 1-4	27	34.3	4.6	-1.58	6 <sup>th</sup>
Learning rate trials 1-4	1.3	1.38	0.6	-0.13	45 <sup>th</sup>
Total intrusions errors trials 1-4 <sup>3</sup>	1	0.8	1.4	-0.14	45 <sup>th</sup>
Total perseveration errors trials 1-4	18	4	11	-1.27	10 <sup>th</sup>
Distractor recall trial 5	5	5.1	1.7	-0.09	47 <sup>th</sup>
Intrusion errors trial 5	0	0.25	0.47	0.53	70 <sup>th</sup>
Interference errors trial 5	1	0.14	0.5	-1.71	4 <sup>th</sup>
• Short delay recall trial 6	5	9.1	1.9	-2.16	2 <sup>nd</sup>
• Intrusion errors trial 6	2	0.11	0.67	-2.81	< 1 <sup>st</sup>
Interference errors trial 6	0	0.08	0.27	0.28	61 <sup>st</sup>
Long delay recall trial 7	5	8.8	1.9	-1.96	3 <sup>rd</sup>
• Intrusion errors trial 7	2	0.21	0.8	-2.24	1 <sup>st</sup>
• Interference errors trial 7	2	0.07	0.47	-4.1	< 1 <sup>st</sup>
• Recognition accuracy	9	11.6	1.2	-2.25	1 <sup>st</sup>
Rejection accuracy	10	11.8	1	-1.8	4 <sup>th</sup>
<b>Executive Function</b>					
Trials completed	13	7.5	3.7	-1.47	7 <sup>th</sup>
Completion time	216s	159s	60s	-0.96	17 <sup>th</sup>
Path learning time	191s	125s	90s	-0.73	23 <sup>rd</sup>
Total errors <sup>3</sup>	43	31	15	-0.77	22 <sup>nd</sup>
Number of overruns	20	13.7	7.2	-0.88	19 <sup>th</sup>

Raw scores of the Client findings ( • = statistically significant; Std. Dev = standard deviation; Int = international).

1 = Sustained Attention, 2 = Impulsivity, 3 = Intrusions, 4 = Response Variation.

Measure	Client	Int. Brain Database Average	Std. Dev	Standardized Score	Percentile
<b>Digit Span</b>					
Recall span (forwards)	5	5.7	1.5	-0.48	32 <sup>nd</sup>
Trials correct (forwards)	4	6	1.9	-1.04	15 <sup>th</sup>
Recall span (backwards)	3	3.9	1.8	-0.5	31 <sup>st</sup>
Trials correct (backwards)	2	3.1	1.9	-0.58	28 <sup>th</sup>
<b>Span of Visual Memory</b>					
• Recall span	2	5.2	1.4	-2.37	1 <sup>st</sup>
• Trials correct	1	6.9	1.9	-3.07	< 1 <sup>st</sup>
<b>Motor Tapping</b>					
Number of taps (right)	111	149	24	-1.56	6 <sup>th</sup>
Variability of reaction time (right)	135 <sup>ms</sup>	29 <sup>ms</sup>	62 <sup>ms</sup>	-1.73	4 <sup>th</sup>
Number of taps (left)	113	130	24	-0.73	23 <sup>rd</sup>
• Variability of reaction time (left)	278 <sup>ms</sup>	45 <sup>ms</sup>	117 <sup>ms</sup>	-1.99	2 <sup>nd</sup>
Number of taps (dominant)	113	148	26	-1.34	9 <sup>th</sup>
• Variability of reaction time (dominant)	278 <sup>ms</sup>	31 <sup>ms</sup>	100 <sup>ms</sup>	-2.46	1 <sup>st</sup>
Number of taps (non dominant)	111	128	24	-0.72	24 <sup>th</sup>
Variability of reaction time (non dominant)	135 <sup>ms</sup>	44 <sup>ms</sup>	75 <sup>ms</sup>	-1.22	11 <sup>th</sup>
<b>Choice Reaction Time</b>					
Reaction time	745 <sup>ms</sup>	712 <sup>ms</sup>	128 <sup>ms</sup>	-0.25	40 <sup>th</sup>
<b>Time Estimation</b>					
Accuracy	0.03 <sup>s</sup>	-0.03 <sup>s</sup>	0.18 <sup>s</sup>	0.3	62 <sup>nd</sup>
<b>Verbal Interference</b>					
Accuracy (word)	16	18.9	2.5	-1.17	12 <sup>th</sup>
Errors (word)	0	0.21	0.35	0.6	73 <sup>rd</sup>
Reaction time (word)	1178 <sup>ms</sup>	999 <sup>ms</sup>	146 <sup>ms</sup>	-1.22	11 <sup>th</sup>
Accuracy (color)	14	13	2.6	0.37	65 <sup>th</sup>
Errors (color)	0	0.8	0.68	1.18	88 <sup>th</sup>
Reaction time (color)	1379 <sup>ms</sup>	1395 <sup>ms</sup>	244 <sup>ms</sup>	0.07	53 <sup>rd</sup>
<b>Spot the Real Word</b>					
Accuracy	36	41.4	4.3	-1.26	10 <sup>th</sup>
<b>Word Generation</b>					
Number of words generated (FAS)	10	11.7	2.7	-0.62	27 <sup>th</sup>
Number of animal names generated	15	22.8	4.9	-1.6	5 <sup>th</sup>

Raw scores of the Client findings ( • = statistically significant; Std. Dev = standard deviation; Int = international).

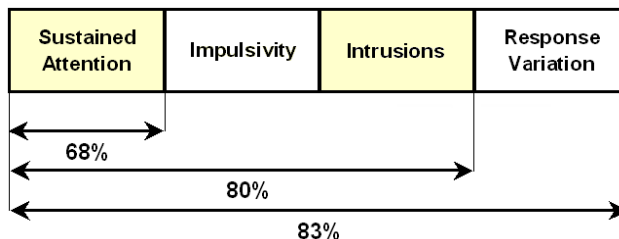
1 = Sustained Attention, 2 = Impulsivity, 3 = Intrusions, 4 = Response Variation.

Nominal classification bands	Percentile boundary
Very superior	≤ 100 <sup>th</sup>
Superior	< 98 <sup>th</sup>
High average	< 91 <sup>st</sup>
Average	< 75 <sup>th</sup>
Low average	< 25 <sup>th</sup>
Borderline	< 9 <sup>th</sup>
Extremely Low	< 2 <sup>nd</sup>

The test descriptions, selected references and how the scores are derived can be found at <http://www.brainresource.com/reportdetails.jsp>

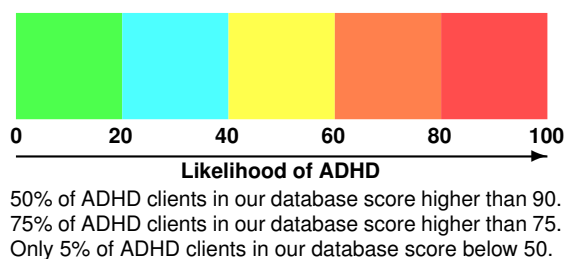
## Appendix 2. Description of ADHD Markers

### ADHD Group findings of markers and cumulative sensitivity



Four markers (composite scores) were identified from standardized variables from within a large referential database that differed significantly ( $p < .001$ ) between 175 ADHD and matched healthy controls. These variables were combined according to both statistical and theoretical rationale, to form each marker (details provided below). The first marker (Sustained Attention) is analogous to a continuous performance test (CPT) typically used to classify ADHD from healthy controls. As other markers were included in the discriminant analysis, higher levels of sensitivity were obtained (i.e. 68-83%). Sensitivity is the 'true positive rate' or the % of ADHD correctly classified as ADHD.

### ADHD Severity Index



The ADHD Severity Index is a representation of the overall impact of four markers revealed by a discriminant analysis (summarized above). Increased confidence can be attributed to more extreme severity index values.

### Marker Definition

**Sustained Attention:** Errors and reaction time from a continuous performance test (CPT).

**Impulsivity:** False alarms across tasks.

**Intrusions:** Errors relating to overruns, memory intrusions and failed switching.

**Response Variation:** Reaction time variability across tasks.

#### Glossary of terms:

**Executive Function:** Executive maze.

**Switching of Attention:** Taps coordination of attention.

**Verbal Memory:** Verbal recall.

**False Alarms (respond when should not):** Errors of commission.

**False Misses (not respond when should):** Errors of omission.

### Appendix 3. Client demographics (summary scores and clinical history)

<b>Personal Details</b>	Client				
Date of birth	withheld				
Gender	FEMALE				
Marital status	Single				
Height (cm)	160				
Weight (kg)	43				
Occupation	Student				
Highest level of education	Secondary/High school				
Number of years of education	9				
Handedness	Left				
<b>Physical/Medical History</b>	Client				
Sphere	Fatigue and Psychological Complaints				
Vision impairment	Yes				
Hearing difficulties	No				
Restricted movement	No				
Mobile phone	No				
Dyslexia (learning difficulties)	No				
Traumatic experience	No				
Family or personal psychiatric illness	No				
Family or personal neurological disorder	No				
CNS surgery	No				
Physical trauma	No				
Sleep difficulties	No				
Staying awake difficulties	No				
Eating problems	No				
Number of caffeine beverages per week	1				
<b>Substance Used</b>	Client				
Tobacco	No				
Alcohol	No				
Marijuana	No				
Non-prescription/recreational drugs	No				
<b>Depression Anxiety Stress Scales</b>	Client		Severity Rating		
Depression	4		Normal		
Stress	14		Normal		
Anxiety	6		Normal		
<b>Emotional Intelligence (EI)</b>	Client	Average	Std. Dev	Standardized Score	Percentile
Empathy/Intuition factor	17	20.52	3.26	-1.08	14 <sup>th</sup>
Social/Relationships factor	13	13.56	2.64	-0.21	42 <sup>nd</sup>
Self Esteem factor	13	13.09	1.93	-0.05	48 <sup>th</sup>
<b>NEO-FFI</b>	Client		T Score		Range
Neuroticism	24		N/A		N/A
Extraversion	28		N/A		N/A
Openness	24		N/A		N/A
Agreeableness	27		N/A		N/A
Conscientiousness	23		N/A		N/A

● = statistically significant (normalized for age, gender and years of education); Std. Dev = standard deviation; N/A = data not available  
 For the list of questions - see Report Details on <http://www.brainresource.com/reportdetails.jsp>

<b>Prescription Drugs</b>	Client
Use prescription medications	Yes
<b>Medication 1:</b>	
Name	Ritalin
Reason	lose of concentration
Dosage	N/A
Frequency	A few times per day
<b>Vision</b>	Client
Vision	Mildly vision impaired
Glasses/contact lenses	Yes - glasses



## Context and Disclaimer

Reference: BRC-Sample13-01

Test Date: Sep 2002

Report Date: 07 Jul 2006

This report provides indications of brain function and cognition as compared to an age and gender matched controls group normative database. It is not to be used as a basis for action without consideration by a competent relevant professional. Always seek the advice of a trained health professional or relevant specialist regarding any highlighted variances within this report before any treatment or action is taken.

**This report is not intended to diagnose, treat or cure any health condition. It is also not intended to be used in any way on its own.**

This report does not establish any physician-patient relationship or supplant any in-person medical consultation or examination. Appropriate medical attention should always be sought for specific ailments. Do not disregard professional medical advice or delay seeking medical treatment as a result of findings contained within this report.

BRC expressly disclaims any and all responsibility for any liability, loss or risk which may be or is incurred as a consequence, directly or indirectly, of any non-specialist use and application of this report.

**The Brain Resource Company<sup>©</sup>**

BRC Operations Pty Limited ABN 45 098 619 115

Email: [info@brainresource.com](mailto:info@brainresource.com) URL: [www.brainresource.com](http://www.brainresource.com)