



# ***IntegNeuro Focus Report***

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Report Version: IntegNeuro Focus 3.1.1

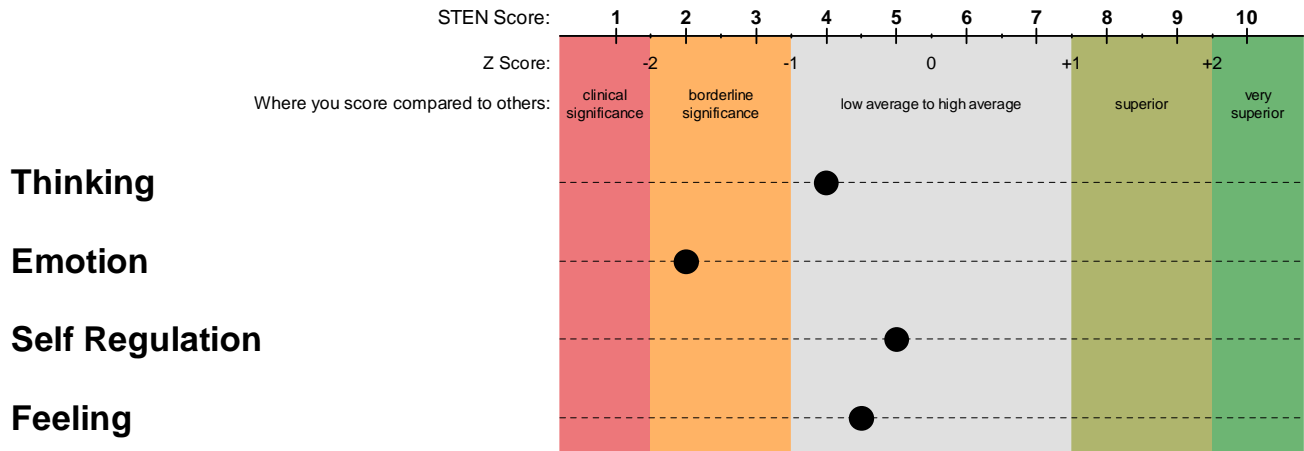
Data Version: IntegNeuro Focus 3.1.0

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# Summary

Unique Identifier: INF-Sample-01  
Gender: Female

Test Date: Feb 2010  
Birth Date: withheld



## Information for Consideration

### CASE IDENTIFICATION:

**Likelihood of ADHD\*:**

Yes – Moderate

**Indicators for associated conditions:**

Yes – Present

### MANAGEMENT PLAN:

**Medication:** Medications for ADHD may be of benefit

**Behavioral therapy:** Behavioral therapies may be of benefit for Anxiety

**Referral for further evaluation:** Yes

### OTHER CONSIDERATIONS:

**Strengths:** Not present in the superior range

### REVIEW:

Review 8 weeks after commencing Management Plan

\* Likelihood of ADHD is a composite of Thinking markers for Sustained Attention, Impulsivity, Intrusions, Inhibition and Response Variability

# Summary

## Rationale for Information for Consideration

### CASE IDENTIFICATION:

**Likelihood of ADHD\***: Moderate.

**Thinking markers relevant to ADHD**: Present in the significant range:<sup>1,2,3</sup>

- Sustained Attention
- Intrusions

**Indicators for associated conditions**: Present.

- Anxiety – Depression is indicated by the presence of Feelings of Anxiety-Stress in the significant range<sup>13</sup>. Additional markers in the significant range, include:
  - Emotion Identification, which has been associated with Anxiety – Depression in ADHD<sup>14</sup>.
  - Negativity Bias, which has been associated with predisposing risk for mental health issues such as Anxiety – Depression<sup>15</sup>.

### MANAGEMENT PLAN:

#### **Medication**

Medications for ADHD may be of benefit. The Anxiety marker is related to specific aspects of worry and the Stress marker to generalized tension<sup>13</sup>. Treatment guidelines suggest treating Anxiety before proceeding with stimulants<sup>7</sup>. Non-stimulant medications are an alternative to stimulants when Anxiety is present<sup>8</sup>. ADHD with Anxiety has been found to improve with non-stimulant medications<sup>9</sup>.

#### **Behavioral therapy**

Behavioral therapies may be of benefit for Anxiety. ADHD and Anxiety have been found to improve with medication combined with psychotherapy – counseling<sup>10,11,12</sup>.

#### **Referral for further evaluation**

Consider further specialist assessment of

- Anxiety-Stress if these feelings persist at significant levels after treatment.

### OTHER CONSIDERATIONS:

**Strengths**: Not present in the superior range.

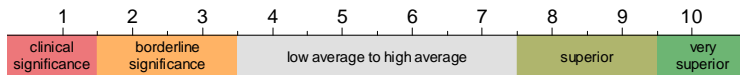
### REVIEW:

Review 8 weeks after commencing Management Plan to monitor progress.

\* Likelihood of ADHD is a composite of Thinking markers for Sustained Attention, Impulsivity, Intrusions, Inhibition and Response Variability

# Scores on the Markers

STEN scores range from 1 to 10.  
Higher scores always indicate better functioning.



## Thinking – Selective awareness of information processing so we can know and remember



MARKER	SCORE	EXPLANATION
<b>Sustained Attention</b>	2	Focusing on the main task and resisting distraction over time.
<b>Impulsivity</b>	4	Balance between responding quickly and suppressing your responses as the situation changes.
<b>Intrusions</b>	3	Irrelevant information that can intrude on attention to a task or memory.
<b>Inhibition</b>	7	The suppression of one piece of well-learned information in order to focus on another or new aspect of a task.
<b>Response Variability</b>	3.5	The degree of consistency in the speed of responding.

## Emotion – Automatic and nonconscious processes that help us minimize danger and maximize reward



MARKER	SCORE	EXPLANATION
<b>Emotion Identification</b>	2	Identification of basic facial expressions of emotion, such as fear and happiness, which reflects our own emotional functioning.

## Self Regulation – Shaping and planning of our thinking and emotion over time to maximize our well being



MARKER	SCORE	EXPLANATION
<b>Negativity Bias</b>	3	The tendency to see yourself and your world as negative (lower scores) versus positive (higher scores). Associated with sensitivity versus hardiness to daily stresses.
<b>Emotional Resilience</b>	6.5	Capacity for coping and feeling confident, with self-esteem and self-efficacy.
<b>Social Skills</b>	6	Capacity for building and keeping relationships, associated with extraversion and empathy.

## Feeling – Your conscious experience of emotions that relies on feedback from your body reactions

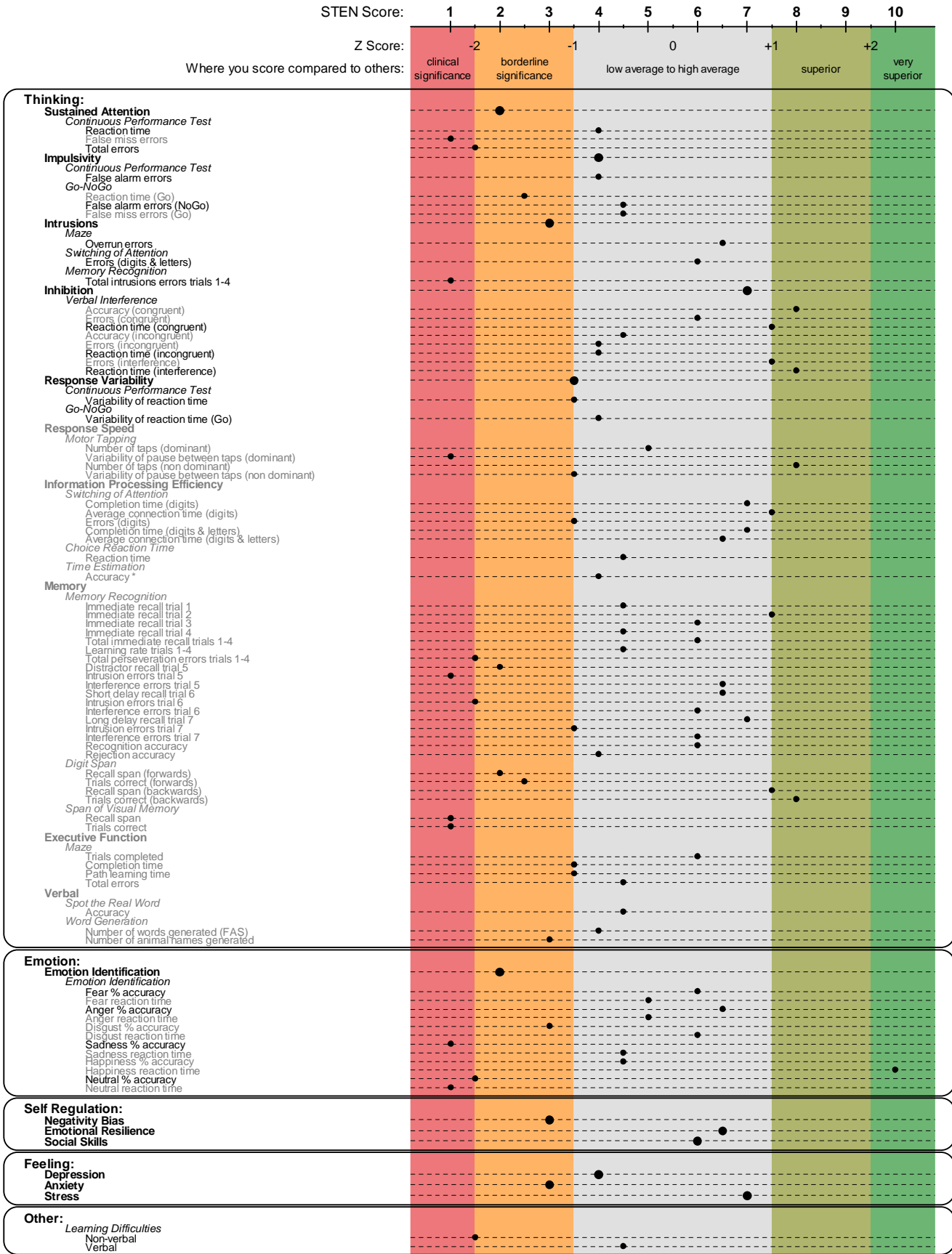


MARKER	SCORE	EXPLANATION
<b>Depression</b>	4	Ranges from feeling extremely low (lower scores) to an absence of sadness (higher scores).
<b>Anxiety</b>	3	Ranges from feeling extreme worry or panic (lower scores) to an absence of worry (higher scores).
<b>Stress</b>	7	Ranges from feeling extremely irritable and jumpy (lower scores) to feeling calm (higher scores).

## Other

MARKER	SCORE	EXPLANATION
<b>Learning Difficulties</b>	No	Performance on verbal is lower than non-verbal scores.
<b>Anxiety – Depression</b>	Yes	Indicators of an anxiety or depression conditions from Feeling markers.
<b>Emotional – Social Difficulties</b>	No	Difficulties associated with conduct problems and oppositional behaviors, indicated by Self Regulation markers.

# Details of Scores on the Markers



Black text indicates measures making substantial contributions to each marker. Gray text indicates measures providing information that is additional to the markers. Time Estimation Accuracy (\* optimum performance is STEN score of 5.5; score < 5.5 reflects underestimation of time intervals and score > 5.5 reflects overestimation of time intervals).

## Details of Scores on the Markers

Measure	Client	Int. Brain Database		Z Score	Percentile
		Average	Std. Dev		
<b>Sustained Attention – Continuous Performance Test</b>					
Reaction time	1067ms	965ms	189ms	-0.54	30 <sup>th</sup>
• False miss errors	20	2.8	7.1	-2.43	1 <sup>st</sup>
Total errors	25	6.7	9.6	-1.91	3 <sup>rd</sup>
<b>Impulsivity – Continuous Performance Test</b>					
False alarm errors	5	2.8	3.2	-0.7	24 <sup>th</sup>
<b>Impulsivity – Go-NoGo</b>					
Reaction time (Go)	431ms	356ms	52ms	-1.45	7 <sup>th</sup>
False alarm errors (NoGo)	4	3.2	2.1	-0.39	35 <sup>th</sup>
False miss errors (Go)	3	2.1	2.1	-0.44	33 <sup>rd</sup>
<b>Intrusions – Maze</b>					
Overrun errors	23	26	11	0.3	62 <sup>nd</sup>
<b>Intrusions – Switching of Attention</b>					
Errors (digits & letters)	1	1.4	1.6	0.23	59 <sup>th</sup>
<b>Intrusions – Memory Recognition</b>					
• Total intrusions errors trials 1-4	16	1.1	5.5	-2.7	< 1 <sup>st</sup>
<b>Inhibition – Verbal Interference</b>					
Accuracy (congruent)	18	15.2	2.7	1.05	85 <sup>th</sup>
Errors (congruent)	0	0.2	1.1	0.17	57 <sup>th</sup>
Reaction time (congruent)	1070ms	1218ms	167ms	0.89	81 <sup>st</sup>
Accuracy (incongruent)	8	8.8	3	-0.28	39 <sup>th</sup>
Errors (incongruent)	2	1	1.4	-0.68	25 <sup>th</sup>
Reaction time (incongruent)	2195ms	1892ms	423ms	-0.72	24 <sup>th</sup>
Errors (interference)	2	0.6	1.6	0.87	81 <sup>st</sup>
Reaction time (interference)	1125ms	578ms	495ms	1.1	87 <sup>th</sup>
<b>Response Variability – Continuous Performance Test</b>					
Variability of reaction time	493ms	342ms	156ms	-0.97	17 <sup>th</sup>
<b>Response Variability – Go-NoGo</b>					
Variability of reaction time (Go)	157ms	124ms	54ms	-0.6	27 <sup>th</sup>
<b>Response Speed – Motor Tapping</b>					
Number of taps (dominant)	120	123	24	-0.13	45 <sup>th</sup>
• Variability of pause between taps (dominant)	389ms	42ms	136ms	-2.56	1 <sup>st</sup>
Number of taps (non dominant)	129	108	21	1.01	84 <sup>th</sup>
Variability of pause between taps (non dominant)	118ms	66ms	68ms	-0.77	22 <sup>nd</sup>
<b>Information Processing Efficiency – Switching of Attention</b>					
Completion time (digits)	30.4s	35.2s	7.8s	0.62	73 <sup>rd</sup>
Average connection time (digits)	1006ms	1220ms	275ms	0.78	78 <sup>th</sup>
Errors (digits)	3	1.6	1.9	-0.77	22 <sup>nd</sup>
Completion time (digits & letters)	64s	78s	19s	0.7	76 <sup>th</sup>
Average connection time (digits & letters)	2.73s	3.05s	0.89s	0.36	64 <sup>th</sup>
<b>Information Processing Efficiency – Choice Reaction Time</b>					
Reaction time	989ms	922ms	189ms	-0.36	36 <sup>th</sup>

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

## Details of Scores on the Markers

Measure	Client	Int. Brain Database Average	Std. Dev	Z Score	Percentile
<b>Information Processing Efficiency – Time Estimation</b>					
Accuracy *	0.06s	0.16s	0.16s	-0.64	
<b>Memory – Memory Recognition</b>					
Immediate recall trial 1	4	4.4	1.3	-0.3	38 <sup>th</sup>
Immediate recall trial 2	8	6.6	1.6	0.84	80 <sup>th</sup>
Immediate recall trial 3	8	7.9	1.7	0.04	51 <sup>st</sup>
Immediate recall trial 4	8	8.9	2.1	-0.44	33 <sup>rd</sup>
Total immediate recall trials 1-4	28	27.5	5.1	0.1	54 <sup>th</sup>
Learning rate trials 1-4	1.2	1.47	0.57	-0.47	32 <sup>nd</sup>
Total perseveration errors trials 1-4	12	2.3	5.5	-1.77	4 <sup>th</sup>
Distractor recall trial 5	1	3.6	1.6	-1.63	5 <sup>th</sup>
• Intrusion errors trial 5	10	0.2	2.2	-4.5	< 1 <sup>st</sup>
Interference errors trial 5	0	0.18	0.65	0.28	61 <sup>st</sup>
Short delay recall trial 6	8	7.2	2	0.41	66 <sup>th</sup>
Intrusion errors trial 6	2	0.19	0.94	-1.92	3 <sup>rd</sup>
Interference errors trial 6	0	0.1	0.46	0.21	58 <sup>th</sup>
Long delay recall trial 7	8	6.9	2	0.54	71 <sup>st</sup>
Intrusion errors trial 7	1	0.18	0.93	-0.88	19 <sup>th</sup>
Interference errors trial 7	0	0.1	0.59	0.17	57 <sup>th</sup>
Recognition accuracy	11	10.8	1.5	0.16	56 <sup>th</sup>
Rejection accuracy	11	11.8	1.2	-0.63	27 <sup>th</sup>
<b>Memory – Digit Span</b>					
Recall span (forwards)	3	4.6	1	-1.53	6 <sup>th</sup>
Trials correct (forwards)	1	3.7	2	-1.39	8 <sup>th</sup>
Recall span (backwards)	4	2.7	1.6	0.82	79 <sup>th</sup>
Trials correct (backwards)	3	1.1	1.8	1.06	86 <sup>th</sup>
<b>Memory – Span of Visual Memory</b>					
• Recall span	0	3.9	1.5	-2.53	1 <sup>st</sup>
• Trials correct	0	4.5	2.2	-2.04	2 <sup>nd</sup>
<b>Executive Function – Maze</b>					
Trials completed	11	11.7	4.2	0.16	56 <sup>th</sup>
Completion time	494 <sub>s</sub>	341 <sub>s</sub>	163 <sub>s</sub>	-0.94	17 <sup>th</sup>
Path learning time	431 <sub>s</sub>	292 <sub>s</sub>	152 <sub>s</sub>	-0.91	18 <sup>th</sup>
Total errors	80	69	42	-0.25	40 <sup>th</sup>
<b>Verbal – Spot the Real Word</b>					
Accuracy	32	34.6	5.4	-0.48	32 <sup>nd</sup>
<b>Verbal – Word Generation</b>					
Number of words generated (FAS)	5.7	7.4	2.7	-0.62	27 <sup>th</sup>
Number of animal names generated	11	16.7	4.7	-1.2	11 <sup>th</sup>

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

Time Estimation Accuracy (\* optimum performance is a Z Score of 0; a negative Z Score reflects underestimation of time intervals and a positive Z Score reflects overestimation of time intervals).

## Details of Scores on the Markers

Measure	Client	Int. Brain Database Average	Std. Dev	Z Score	Percentile
<b>Emotion Identification – Emotion Identification</b>					
Fear % accuracy	50	46	22	0.18	57 <sup>th</sup>
Fear reaction time	2.64 <sub>s</sub>	2.5 <sub>s</sub>	0.67 <sub>s</sub>	-0.21	42 <sup>nd</sup>
Anger % accuracy	63	56	17	0.4	65 <sup>th</sup>
Anger reaction time	2.26 <sub>s</sub>	2.15 <sub>s</sub>	0.52 <sub>s</sub>	-0.21	42 <sup>nd</sup>
Disgust % accuracy	13	31	17	-1.1	14 <sup>th</sup>
Disgust reaction time	2.32 <sub>s</sub>	2.43 <sub>s</sub>	0.62 <sub>s</sub>	0.17	57 <sup>th</sup>
• Sadness % accuracy	13	67	22	-2.47	1 <sup>st</sup>
Sadness reaction time	2.3 <sub>s</sub>	2.15 <sub>s</sub>	0.57 <sub>s</sub>	-0.25	40 <sup>th</sup>
Happiness % accuracy	88	93	13	-0.45	33 <sup>rd</sup>
• Happiness reaction time	1041 <sub>ms</sub>	1614 <sub>ms</sub>	228 <sub>ms</sub>	2.51	99 <sup>th</sup>
Neutral % accuracy	25	82	30	-1.88	3 <sup>rd</sup>
• Neutral reaction time	3.47 <sub>s</sub>	2.02 <sub>s</sub>	0.56 <sub>s</sub>	-2.59	< 1 <sup>st</sup>
<b>Learning Difficulties</b>					
Non-verbal	-1.21	-0.45	0.4	-1.91	3 <sup>rd</sup>
Verbal	-0.6	-0.41	0.45	-0.43	33 <sup>rd</sup>

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

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>



## Self Report Questionnaires

<b>Personal Details</b>	Client		
Birth date	withheld		
Gender	FEMALE		
Height (cm)	144		
Weight (kg)	25		
Highest level of education	Primary/Elementary school		
Number of years of education	3		
Handedness	Right		
<b>Physical/Medical History</b>	Client		
Vision impairment	Yes		
Hearing difficulties	No		
Restricted movement	No		
Mobile phone	Yes		
Dyslexia (learning difficulties)	No		
Traumatic experience	Yes		
Family or personal psychiatric illness	No		
Family or personal neurological disorder	Yes		
Serious illness	No		
Physical trauma	No		
<b>Substance Used</b>	Client		
Tobacco	No		
Alcohol	No		
Marijuana	No		
<b>NEO-FFI</b>	Client	T Score	Range
Neuroticism	20	44	Low
Extraversion	32	53	Average
Openness	22	40	Low
Agreeableness	24	39	Low
Conscientiousness	30	49	Average
<b>Vision</b>	Client		
Color blind	No		
Other vision difficulties	Yes, but corrected by glasses/contacts		
<b>Mobile Phone</b>	Client		
Frequency	Occasionally (no more than a few minutes per week)		
<b>Traumatic Experience</b>	Client		
Type	Death of loved one		

N/A = data not available

## Self Report Questionnaires

<b>Neurological History</b>	Client
Diagnosed with neurological disorder	No
Family history	Yes
Family condition	Migraine, headache

*N/A* = data not available

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See <http://services.brainresource.com/webneurofocusreportreference> for Additional References.

### Grading

References were classified according to an accepted hierarchy of evidence adapted from the US Agency for Healthcare Policy and Research Classification summarized in the table below.

<b>US AHCPR Guidelines Agency for Health Care Policy &amp; Research</b>	
Level	Type of evidence
<b>I</b>	Evidence from large, representative samples.
<b>II</b>	Evidence from small, well-designed but not necessarily representative samples or studies which have been published but do not meet Level I criteria.
<b>III</b>	Evidence from non-representative surveys and case reports.
<b>IV</b>	Evidence from expert committee reports or opinions and/or clinical experience of respected authorities.