

Assessment Details

ID: 574983

Birthdate: 2012/12/31

Group: Females 13-15

Date: 2024/02/14

Page: 1 / 6

Cognitive Assessment Summary

<p><b>Cognitive Markers</b> Outside Typical Range: <b>3</b></p>	<p><b>SWAN Questionnaire</b> Hyperactive/Impulsive Subtype: <b>Not Indicative</b> Inattentive Subtype: <b>Indicative</b></p>
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Cognitive Assessment Results

Task	Marker	Result	Typical Range	Percentile	Population	Description
<b>Planning</b> Spatial Planning	Overall score	11	> 12	15		Page 3
<b>Spatial Working Memory</b> Token Search	Average score	4.91	> 4.83	23		Page 3
<b>Attention</b> Feature Match	Number of errors	2	< 3	85		Page 4
	Reaction time	2491ms	> 2472ms	20		Page 4
	Impulsivity	Less accurate, but not faster				Page 4
<b>Response Inhibition</b> Double Trouble	Number of errors	8	< 11	88		Page 5
	Interference ratio for errors	4	< 5	85		Page 5
	Interference ratio for reaction time	0.8	< 1.0	90		Page 5
	Overall reaction time	2521ms	< 2684ms	87		Page 5
	Reaction time variability	987ms	< 1088ms	35		Page 5
<b>Sustained Attention to Response Task</b> SART	Commission errors	17	< 18	85		Page 6
	Omission errors	22	< 17	93		Page 6
	Reaction time variability	264ms	< 215.68ms	9		Page 6
	Slowing after errors	99ms	> -63.5ms	45		Page 6

SWAN Questionnaire Results

Measure	Result	Threshold		Description
Hyperactive/Impulsive ADHD	+0.6	> +0.745		Page 2
Inattentive ADHD	+2.2	> +0.745		

The purpose of the ADHD protocol is to assist the clinician in assessing attention deficit disorder symptoms, however it is not a standalone diagnostic tool. Any conclusions drawn from the ADHD protocol should be paired with clinical interviews and observations, other mental health examinations or assessments administered, and other evaluations of the patient and/or the patient's family history.

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Page: 2 / 6

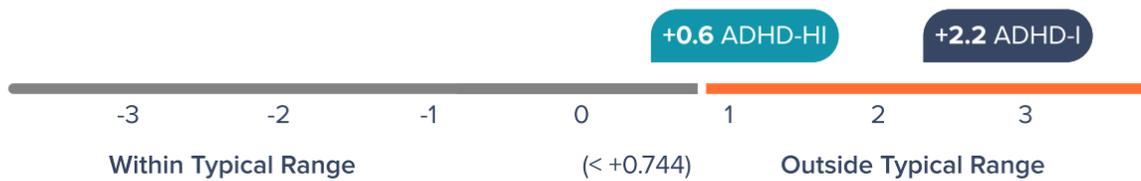
Questionnaire Details

SWAN Questionnaire

ADHD-Related Symptoms

The Strengths and Weaknesses of Attention-Deficit/Hyperactivity Disorder Symptoms and Normal Behavioral Scale (SWAN) was developed to assess ADD/ADHD in patients 18 years of age and under. SWAN scores range from +3 to -3, where far below average is 3, average is 0, and far above average is -3. Items 1-9 focus on the inattentive subtype, and 10-18 on the hyperactive/impulsive subtype. Responses are averaged to obtain sub-scale results.

**Indicative** of symptoms that are consistent with the inattentive subtype of ADHD.



Test Scores

**+0.6** hyperactive/impulsive subtype (ADHD-HI)

**+2.2** inattentive subtype (ADHD-I)

Threshold

**+0.745 or more** for both the hyperactive/impulsive and inattentive subtypes of ADHD.

Symptoms

The following activities may be more challenging for this individual, based on responses of "slightly below average" or lower on the items in this questionnaire:

Hyperactive/impulsive ADHD symptoms:

- Sitting still
- Staying seated
- Controlling excess movement
- Playing quietly
- Settling down to rest
- Controlling excess talking
- Reflecting before speaking
- Waiting their turn
- Entering social situations without interrupting

Inattentive ADHD symptoms:

- Avoiding careless mistakes
- Sustained attention on tasks
- Listening when spoken to
- Following through on work
- Organizing tasks
- Tasks requiring sustained mental effort
- Keeping track of things
- Ignoring extraneous stimuli
- Remembering daily activities

Chan, G., Lai, K. Y., Luk, E .S., Hung, S., & Leung, P. W. (2014). [Clinical utility of the Chinese Strengths and Weaknesses of ADHD-Symptoms and Normal-behaviors questionnaire \(SWAN\) when compared with DISC-IV.](#) *Neuropsychiatric Disease and Treatment*, 10, 1533-1542.

Robaey, P., Amre, D., Schachar, R., & Simard, L. (2007). [French version of the Strengths and Weaknesses of ADHD Symptoms and Normal Behaviors \(SWAN-F\) questionnaire.](#) *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, 16, 80-89.

Swanson, J. M., Schuck, S., Porter, M. M., Carlson, C., Hartman, C. A., Sergeant, J. A., Clevenger, W., Wasdell, M., McCleary, R., Lakes, K., & Wigal, T. (2012). [Categorical and dimensional definitions and evaluations of symptoms of ADHD: History of the SNAP and the SWAN rating scales.](#) *The International Journal of Educational and Psychological Assessment*, 10, 51-70.

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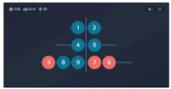
Birthdate: 2012/12/31

Group: Females 13-15

Date: 2024/02/14

Page: 3 / 6

Cognitive Assessment Details



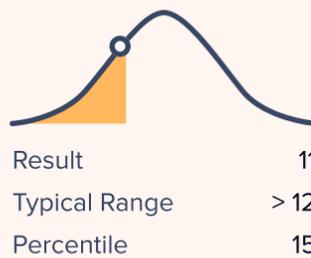
**Planning**  
Spatial Planning

A measure of planning — the ability to act with forethought and prepare a sequence of steps to reach a goal. Common everyday activities associated with planning include:

- Deciding the order of items to pack in a trunk or moving van.
- Organizing your schedule to effectively balance work, chores, and social life.
- Planning where to put your hands and feet when rock climbing.
- Building or assembling furniture without any instructions.

**Overall Score**

Overall planning ability, indicating the ability to arrive at a planned solution quickly and accurately. Some people with ADHD perform poorly on planning tasks, but deficits may be context-dependent and inconsistent.



Patros, C. H. G., Tarle, S. J., Alderson, R. M., Lea, S. E., & Arrington, E. F. (2019). [Planning deficits in children with attention-deficit/hyperactivity disorder \(ADHD\): A meta-analytic review of tower task performance.](#) *Neuropsychology, 33*, 425–444.

Cognitive Assessment Details



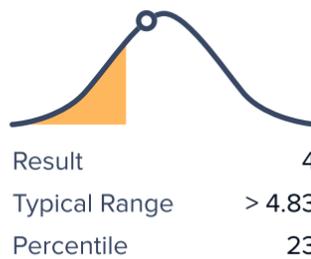
**Spatial Working Memory**  
Token Search

Measures working memory — the ability to temporarily hold information in mind and manipulate or update it based on changing circumstances or demands. Common everyday activities associated with spatial working memory include:

- Systematically searching for a lost item in your home.
- Solving a mystery by remembering a set of clues, then rearranging them in your mind to tell a story and form a theory.
- Finding the most efficient way to complete a to-do list of tasks around your home before leaving in the morning.
- Efficiently navigating shifting priorities at work.

**Average Score**

The average number of items that could be stored and manipulated in memory. Spatial working memory is a key component of executive function. People with ADHD tend to be impaired on complex spatial memory tasks, indicating executive dysfunction in addition to attention-specific deficits.



Alderson, R. M., Kasper, L. J., Hudec, K. L., & Patros, C. H. G. (2013). [Attention-deficit/hyperactivity disorder \(ADHD\) and working memory in adults: A meta-analytic review.](#) *Neuropsychology, 27*, 287–302.

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Page: 4 / 6

Cognitive Assessment Details



Attention

Feature Match

A measure of attention — the ability to focus on relevant details or differences. Common everyday activities associated with attention include:

- Staying focused on a task when it counts, such as when driving.
- Identifying similarities and differences when comparing two things, such as two similar brands of a product.
- Noticing small interpersonal details, like a partner’s haircut, or subtle facial expressions indicating that somebody is upset or bored.

Number of Errors

Inaccuracy of responses. Some people with ADHD are less accurate in simple attention tasks.



Result 2  
 Typical Range < 3  
 Percentile 85

Tirosh, E., Perets-Dubrovsky, S., Davidovitch, M., & Hocherman, S. (2006). [Visuomotor tracking related to attention-deficit hyperactivity disorder \(ADHD\)](#). *Journal of Child Neurology, 21*, 502-507.

Reaction Time

Speed of responding. Some people with ADHD respond faster than average to simple attention tasks.



Result 2491ms  
 Typical Range > 2472ms  
 Percentile 20

Langley, K., Marshall, L., van den Bree, M., Thomas, H., Owen, M., O'Donovan, M., & Thapar, A. (2004). [Association of the dopamine D4 receptor gene 7-repeat allele with neuropsychological test performance of children with ADHD](#). *American Journal of Psychiatry, 161*, 133-138.

Impulsivity

People who respond faster and less accurately than average are considered impulsive. People with ADHD are more likely to respond quickly but inaccurately on simple attention tasks.

Result Less accurate, but not faster  
 Typical Range Below threshold on both Errors and Reaction Time

Inoue, K., Nadaoka, T., Oiji, A., Morioka, Y., Totsuka, S., Kanbayashi, Y., & Hukui, T. (1998). [Clinical evaluation of attention-deficit hyperactivity disorder by objective quantitative measures](#). *Child Psychiatry and Human Development, 28*, 179-188.

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Page: 5 / 6

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## Response Inhibition

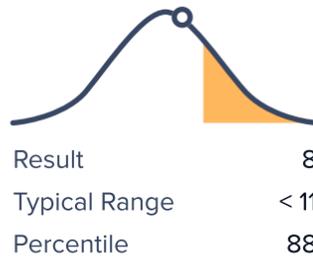
### Double Trouble

Measures response inhibition, the ability to concentrate on relevant information in order to make a correct response despite interference. Common everyday activities associated with response inhibition include:

- Keeping your eyes on the road when driving, despite passing distracting signs or people.
- Blocking out background conversations when you're on the phone.
- Inhibiting your emotional gut reaction to a social media post to formulate a more rational response.

#### Number of Errors

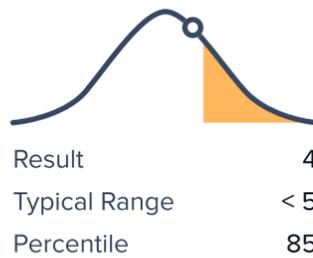
Inaccuracy of responses. People with ADHD tend to make more errors in response to all types of stimuli.



Shallice, T., Marzocchi, G. M., Coser, S., Del Savio, M., Meuter, R. F., & Rumiati, R. I. (2002). [Executive function profile of children with attention deficit hyperactivity disorder.](#) *Developmental Neuropsychology*, 21, 43-71.

#### Interference Ratio for Errors

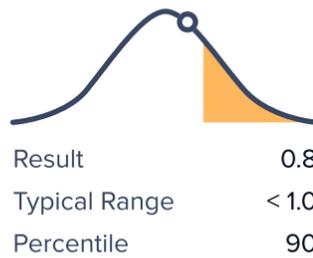
The ratio of accuracy when responding to complex stimuli vs. simple stimuli. High scores indicate a deficit specific to inhibition—that is, responding less accurately to distracting stimuli.



Homack, S., & Riccio, C. A. (2004). [A meta-analysis of the sensitivity and specificity of the Stroop Color and Word Test with children.](#) *Archives of Clinical Neuropsychology*, 19, 725-743.

#### Interference Ratio for Reaction Time

The ratio of reaction time to complex stimuli vs. simple stimuli. High scores indicate a deficit specific to inhibition—that is, responding more slowly to distracting stimuli.



Lansbergen, M. M., Kenemans, J. L., & van Engeland, H. (2007). [Stroop interference and attention-deficit/hyperactivity disorder: A review and meta-analysis.](#) *Neuropsychology*, 21, 251–262.

#### Overall Reaction Time

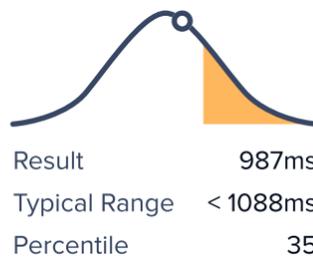
Speed of responding, regardless of the complexity of the stimulus. People with ADHD tend to respond slower on short-term response inhibition tasks.



Pocklington, B., & Maybery, M. (2006). [Proportional slowing or disinhibition in ADHD? A Brinley plot meta-analysis of Stroop Color and Word Test performance.](#) *International Journal of Disability, Development and Education*, 53, 67-91.

#### Reaction Time Variability

Variation in response speeds. People with ADHD may occasionally lose focus, leading to inconsistent reaction times.



Borella, E., Ribaupierre, A., Cornoldi, C., & Chicherio, C. (2013). [Beyond interference control impairment in ADHD: Evidence from increased intraindividual variability in the Color-Stroop test.](#) *Child Neuropsychology*, 19, 495-515.

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Page: 6 / 6

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Sustained Attention to Response Task

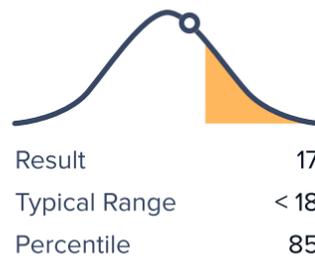
SART

SART measures the ability to sustain mindful, conscious processing of information, even in repetitive, boring, or distracting situations. Common everyday activities associated with impaired sustained attention include:

- Everyday “slips” in attention when performing routine tasks—for example, pouring cream in a requested black coffee, or throwing away the vegetables instead of their peels.
- Inappropriate or automatic responses when conditions change, such as responding “you too” when a server tells you to enjoy your food.
- Missing important information in situations that are not exciting or engaging, like classrooms or meetings.

Commission Errors

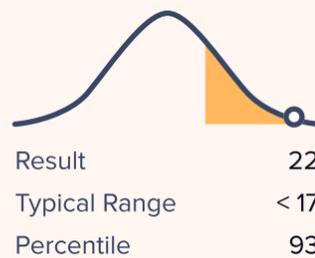
Errors related to responding inappropriately. A measure of response inhibition. Many people with ADHD have trouble with maintaining response inhibition and tend to make more errors of this type on sustained attention tasks.



Willcutt, E. G., Doyle, A. E., Nigg, J. T., Faraone, S. V., & Pennington, B. F. (2005). [Validity of the executive function theory of attention-deficit/hyperactivity disorder: A meta-analytic review.](#) *Biological Psychiatry*, 57, 1336-1346.

Omission Errors

Errors related to failing to respond at the appropriate time. A measure of vigilance. Some people with ADHD have deficits in vigilance and make more errors on sustained attention tasks.



Willcutt, E. G., Doyle, A. E., Nigg, J. T., Faraone, S. V., & Pennington, B. F. (2005). [Validity of the executive function theory of attention-deficit/hyperactivity disorder: A meta-analytic review.](#) *Biological Psychiatry*, 57, 1336-1346.

Reaction Time Variability

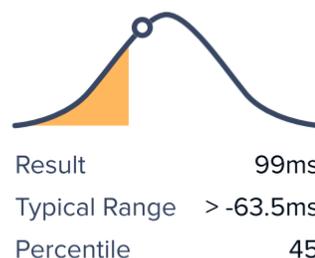
Variation in response speeds. People with ADHD may occasionally lose focus, leading to inconsistent reaction times. Variability in reaction time is consistently and strongly linked with ADHD.



Klein, C., Wendling, K., Huettner, P., & Peper, M. (2006). [Intra-subject variability in attention-deficit hyperactivity disorder.](#) *Biological Psychiatry*, 60, 1088-1097.

Slowing After Errors

The degree of slowing down after making a commission error. Most people tend to slow down and be more careful after making an error, but people with ADHD may slow down less, or even speed up after an error (indicated by a negative score).



Shallice, T., Marzocchi, G. M., Coser, S., Del Savio, M., Meuter, R. F., & Rumiati, R. I. (2002). [Executive function profile of children with attention deficit hyperactivity disorder.](#) *Developmental Neuropsychology*, 21, 43-71.