Interpretative report

Assessment report of the attention profile

nesplora
Attention Kids
aula

This report is intended to be used by the test administrator as an interpretive aid.

This report should not be used as the sole basis for clinical diagnosis or intervention.

FULL NAME	**MARKEL ANÓNIMO**
GENDER	**MALE**
DATE OF BIRTH	**13/11/2020 11:17**
AGE	**7**
EXECUTION OF THE TEST	**13/11/2020 11:17**
DURATION OF THE TEST	**0:16:40**
SCALE USED	**7 MALE**
PREVIOUS NOTES	
SUBSEQUENT NOTES	

1. Nesplora Aula assessment report

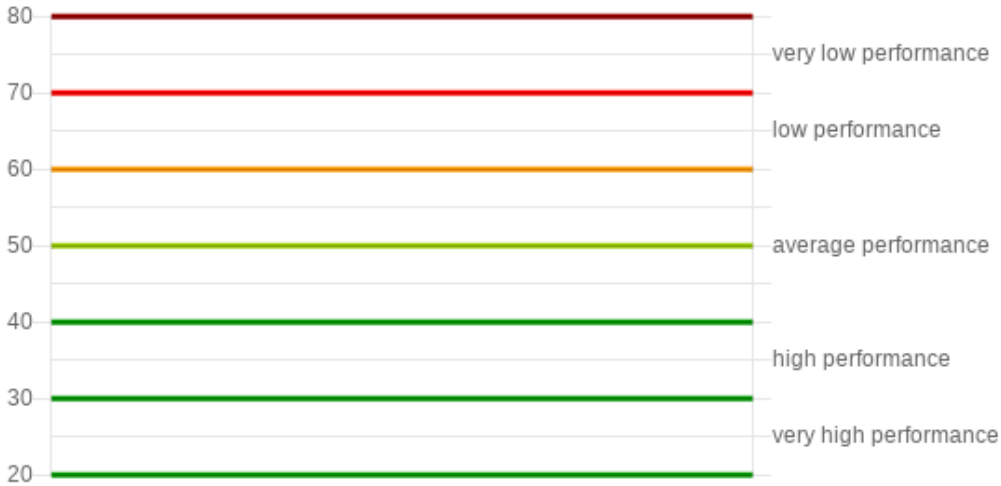
1.1 General Description

Nesplora Aula is a Continuous Performance Test (CPT) performed in a virtual environment, shown through a headset with motor sensors and headphones. This tool is designed to assess attentional processes and help in the diagnosis of cognitive disorders.

The virtual environment presented through the headset is similar to a classroom, and the perspective places the child in a pupil's desk. The software continuously shifts the child's view of the classroom based on their head movements, providing them with the impression of actually being inside the classroom.

On the virtual blackboard and through the audio input, a series of stimuli are presented. The child responds according to instructions provided by the virtual teacher. The test consists of two assessment tasks. In the first task, the child presses the button anytime the stimulus on the blackboard is different from the identified target stimulus. On the second task, the child presses the button anytime they hear or see the target stimulus.

The data is shown in graphics and tables. Obtained T-scores and percentiles related to the performance of the child are explained in each of the paragraphs: 20 - 30 very good or very high performance in relation to the population of their age and gender, 31 - 40 high performance, 41 - 60 average performance, 61 - 70 low performance, and 71 - 80 very low performance.



For a better interpretation of the report, it is recommended to consult the Nesplora Aula manual.

2. EVI - Embedded Validity Indicator

For the filtering of this assessment, an EVI (Embedded validity indicator) has been used. This ratio (EVI) shows performance problems during the administration of the test. This allows the professional to assess whether problems of performance incongruence are detected that could affect the results before a clinical diagnosis is considered.

In the case of **Markel**, **this assessment meets the requirements to be considered valid in its execution and the results can be analysed**.

3. General indices

ATTENTION

It is the ability to sustain attention for long periods of time, or what is known as concentration.

53

PROCESSING

Mean reaction time is a highly reliable measure of processing speed and answer consistency.

35

AUDITORY AND VISUAL

56 **54**

VIGILANCE

Deviation of reaction time is a measure of variability and answer inconsistency, and it can be a measure of a decrease in vigilance

64

MOTOR ACTIVITY

Motor activity may be related to the diversion of attention to external stimuli or sterile motor activity.

80

INHIBITORY CONTROL

Commissions are errors interpreted as measures of lack of response inhibition or motor lack of motor control

67

	Pc	Raw	T score
Attention: Total omissions	62	51	53
Inhibitory control: Total commissions	96	38	67
Processing: RT Mean-hits	7	747.9	35
Vigilance: (σ) Standard deviation RT-Total hits	92	487.29	64
Total motor activity	99	3.36	80

Percentile rank (Pc)

Raw scores (Raw)

T scores

3.1 Description of the indices

Attention
Total omissions

Omission errors occur when Markel must respond to the target stimulus but omits to do so. Omission errors are considered a measure of selective and focused inattention. Markel has obtained a score of 51 in Total omissions. These data correspond to a percentile of 62 and a T-score of 53 compared to the normal sample. This reflects an average performance.

Inhibitory control
Total commissions

Commission errors occur when the target stimulus does not appear but the child presses the button impulsively. Commission errors reflect a lack of response inhibition and lack of motor control. Markel has obtained a score of 38 in Total commissions. These data correspond to a percentile of 96 and a T-score of 67 compared to the normal sample, which indicates a low performance.

Processing
RT Mean-hits

Mean reaction time is a highly reliable measure of processing speed and answer consistency. It also reflects attention ability. Markel has obtained a score of 747.9 in Mean RT-Total hits. This data corresponds to a percentile 7 and a T score of 35 compared to the normal sample, which indicates a high performance.

Vigilance
(σ) Standard deviation RT-Total hits

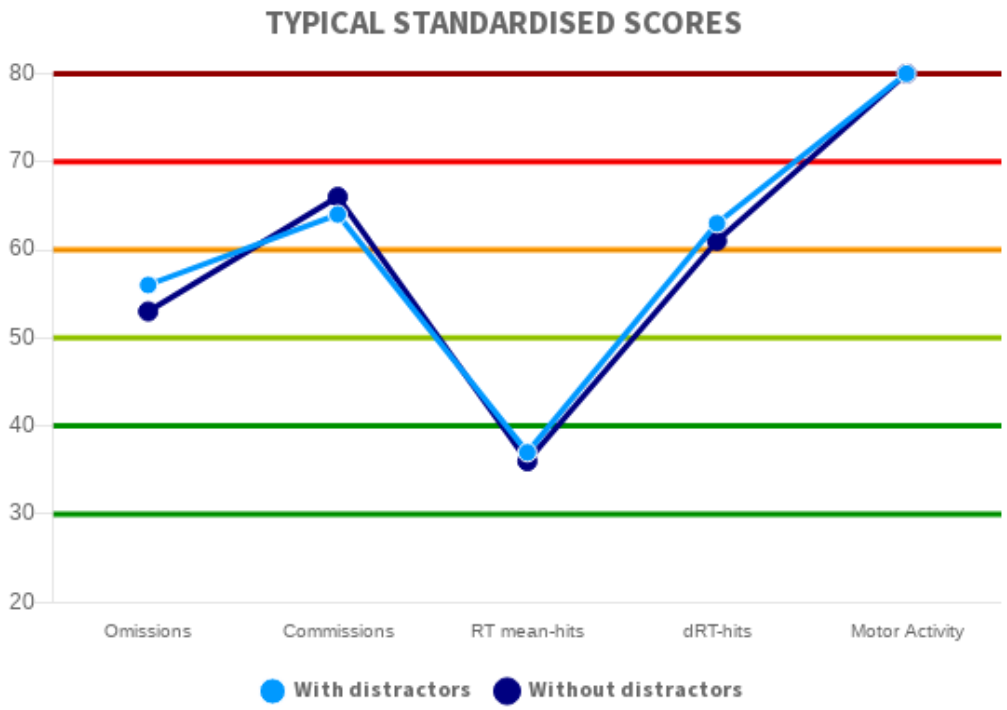
Deviation of reaction time is a measure of variability or answer inconsistency, and it can be a measure of a decrease in vigilance. Markel has obtained a score of 487.29 in (σ) Standard deviation RT-hits. These data correspond to a percentile of 92 and a T score of 64 compared to the normal sample, which indicates a low performance.

Total motor activity

Motor activity is measured by the sensor from the headset. It evaluates the child's head movements while they perform the exercise. That is, whether they have moved a lot or a little, or in an unnecessary manner. Markelhas obtained a score of 3.36 in Total motor activity. These data correspond to a percentile of 99 and a T score of 80 compared to the normal sample, which indicates a very low performance.

4. Task performance in the presence and absence of distractors

Nesplora Aula has analysed Markel's performance in the presence and absence of distractors, so that the results can be compared. The following tables demonstrate how much the distractors affected Markel during the test administration.

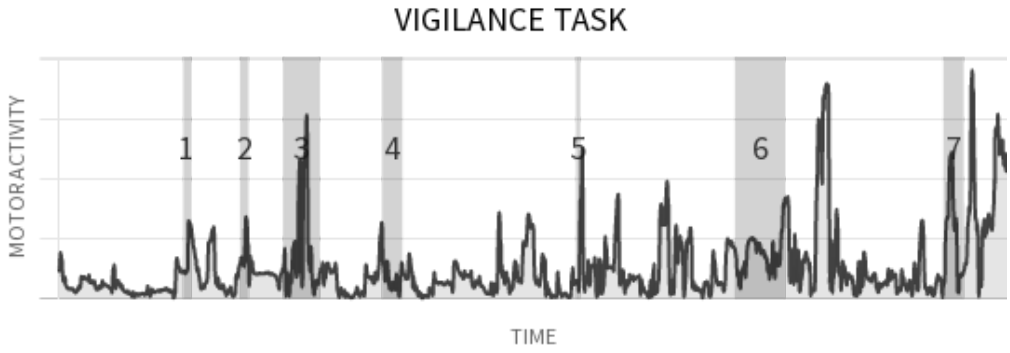


	WITH DISTRACTORS			WITHOUT DISTRACTORS		
	Pc	Raw	T score	Pc	Raw	T score
Total omissions	71	21	56	61	30	53
Total commissions	92	13	64	94	25	66
RT Mean-hits	9	733.37	37	8	758.03	36
(σ) Standard deviation RT-Total hits	90	502.29	63	87	476.29	61
Total motor activity	99	3.81	80	99	3.41	80

4.1 Motor activity graphs in relation to the distractors

These graphs reflect Markel's activity in relation to the distractors. A peak of activity related to a distractor means that Markelfollowed the distractor with their head, shifting attention away fromthe task.

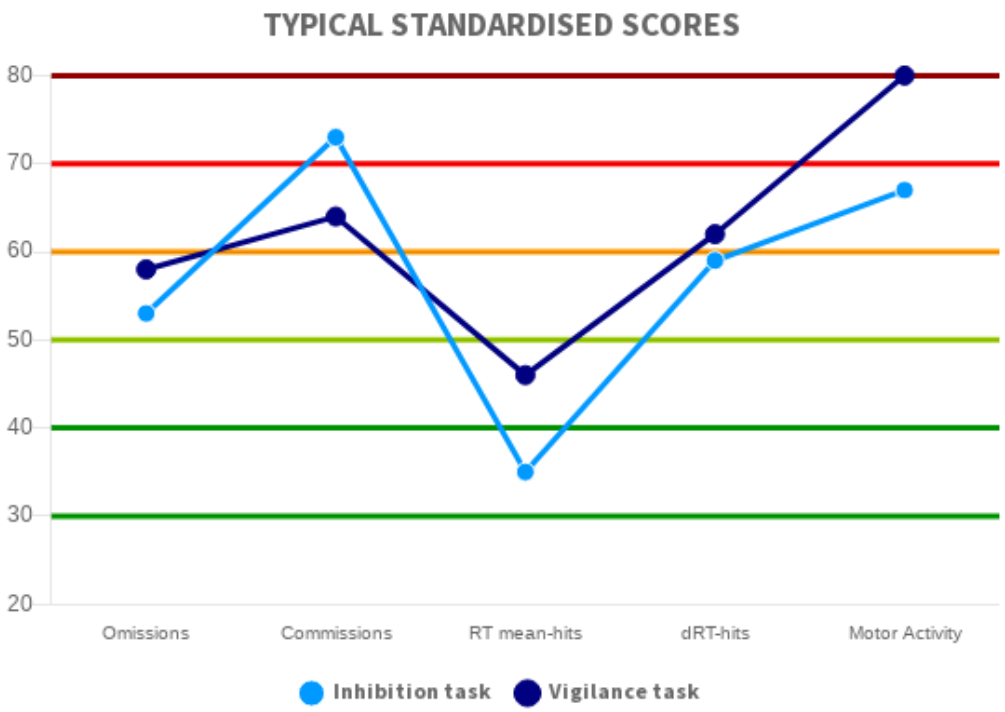
	TASK 1
1. Ball of paper	VISUAL
2. Teacher's footsteps	VISUAL
3. Whispering to the right	AUDITORY
4. The teacher drops a pen	VISUAL
5. A child passes a note	VISUAL
6. Coughing to the left	AUDITORY
7. A child hands a piece of paper to the teacher	VISUAL
8. An ambulance drives by	VISUAL
9. The bell rings	AUDITORY



	TASK 2
1. Whispering to the left	AUDITORY
2. Coughing to the right	AUDITORY
3. Footsteps in the corridor	AUDITORY
4. A child to the left raises their hand	VISUAL
5. Laughter can be heard	AUDITORY
6. Somebody knocks on the door	VISUAL
7. A child to the right raises their hand	VISUAL

5. Type of task

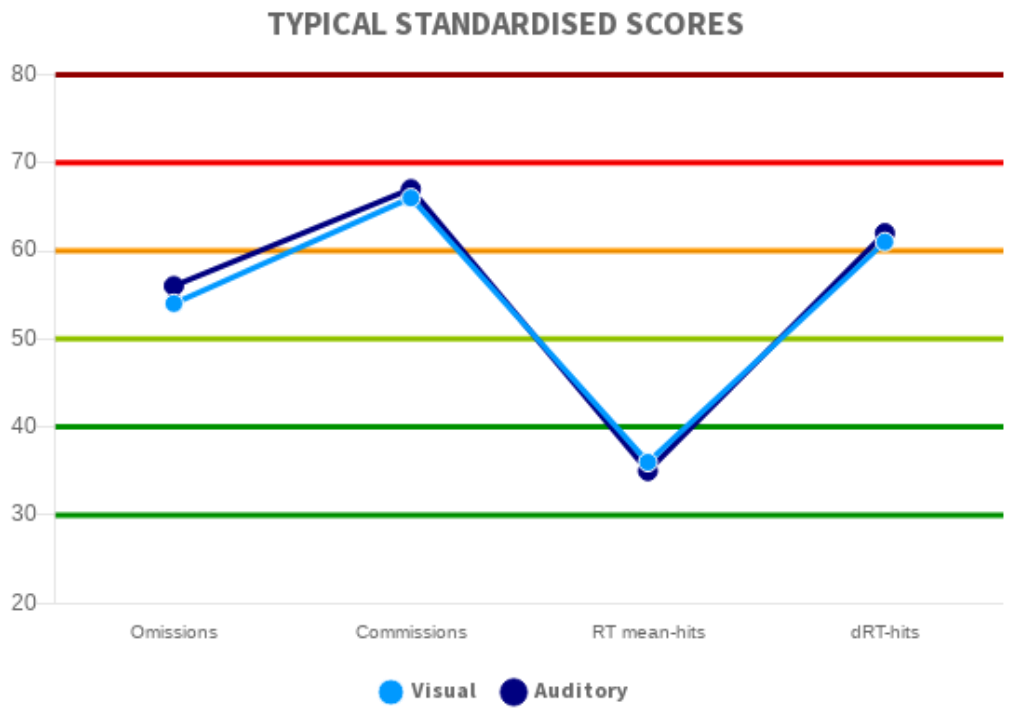
In Nesplora Aula, Markelperformed two tasks. In the first task, Markel must control impulses in the face of multiple stimuli which lead to over-stimulation. In the second task, a slower and monotonous presentation of stimuli is designed to challenge sustained attention and concentration, leading to hypoactivation. The following tables demonstrate Markel's performance task by task.



	INHIBITION TASK			VIGILANCE TASK		
	Pc	Raw	T score	Pc	Raw	T score
Total omissions	61	39	53	80	12	58
Total commissions	99	24	73	92	14	64
RT Mean-hits	7	691.28	35	34	995.62	46
(σ) Standard deviation RT-Total hits	82	475.21	59	89	461.46	62
Total motor activity	96	2.85	67	99	3.75	80

6. Sensory channels (Auditory and visual)

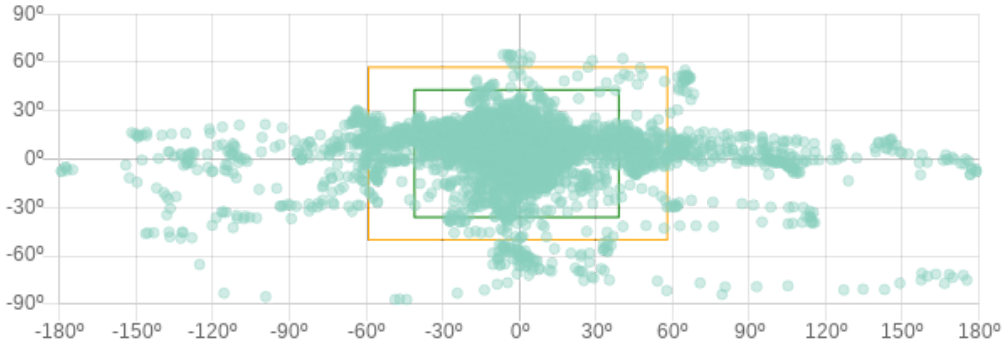
In Nesplora Aula, Markel must respond to auditory and visual stimuli. We can obtain sensory channel differences by comparing the results between the two types of stimuli.



	VISUAL			AUDITORY		
	Pc	Raw	T score	Pc	Raw	T score
Total omissions	67	42	54	70	9	56
Total commissions	94	19	66	96	19	67
RT Mean-hits	8	633.57	36	7	822.65	35
(σ) Standard deviation RT-Total hits	87	488.31	61	88	471.87	62

7. Motor activity

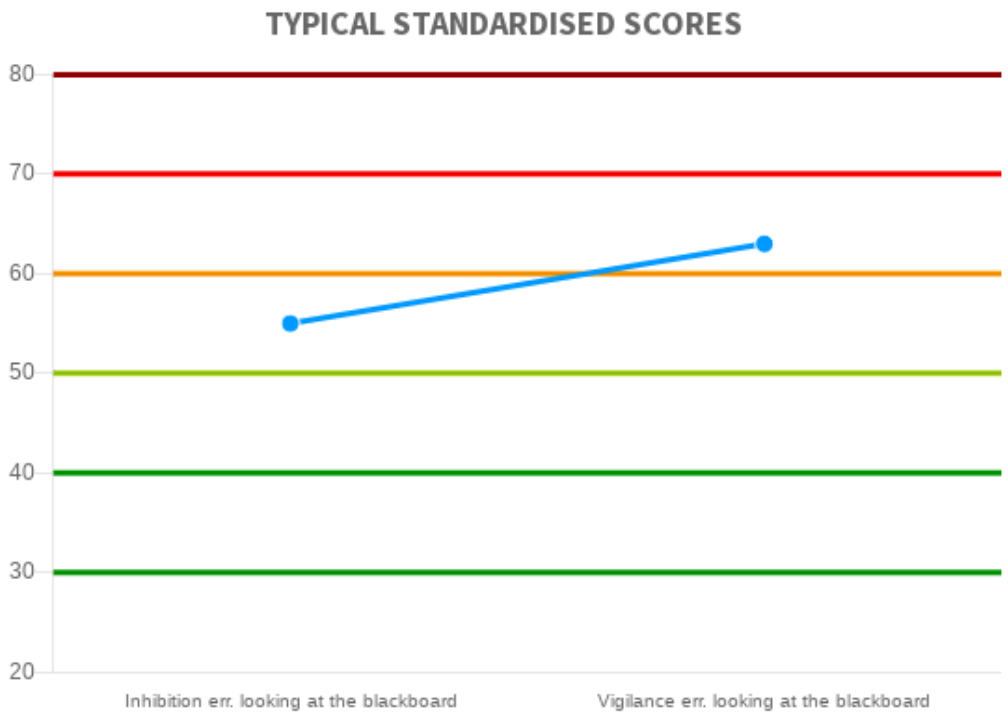
The graphics below show Markel's head movement throughout the test. The yellow framework represents the zone in which the virtual blackboard can be seen. Movement out of that zone makes it impossible for the child to correctly perform the visual task. The dot diagram below provides a visual image of their attention to the blackboard and to the general task. If they have looked at the blackboard's zone and have not performed the task correctly, internal distractors should be considered (see Quality of Attention).



The index of motor activity can reflect many phenomena, including: the tendency to become distracted by external stimuli (see the Distractors graph), sterile motor activity (with no relation to distractors) or, in the case of low activity but poor task performance, possible internal distractors (see the Quality of Attention graph).

8. Quality of the attentional focus

This measure allows us to assess the quality of the child's attentional focus, related to visual stimuli, when the child is not looking away from the attentional focus. These data complement data from motor activity, providing input on whether Markel's performance quality varies depending on either internal or external stimuli.



	Pc	Raw	T score
Total errors in INHIBITION TASK looking at the blackboard	70	42	55
Total errors in VIGILANCE TASK looking at the blackboard	91	17	63

Summary table