



# Interpretative report

## Assessment report of the attention profile



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

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

FULL NAME

MARKEL ANONYMOUS

GENDER

MALE

DATE OF BIRTH

03/03/2014

AGE

6

EXECUTION OF THE TEST

27/11/2020 18:13

DURATION OF THE TEST

0:15:49

SCALE USED

8 MALE

PREVIOUS NOTES

SUBSEQUENT NOTES

# 1. Nesplora Aula assessment report

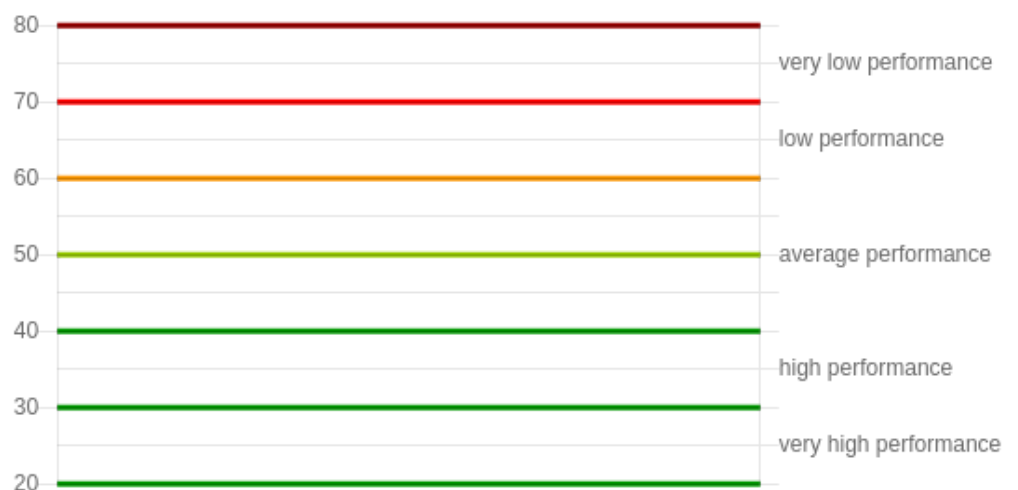
## 1.1 General Description

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.



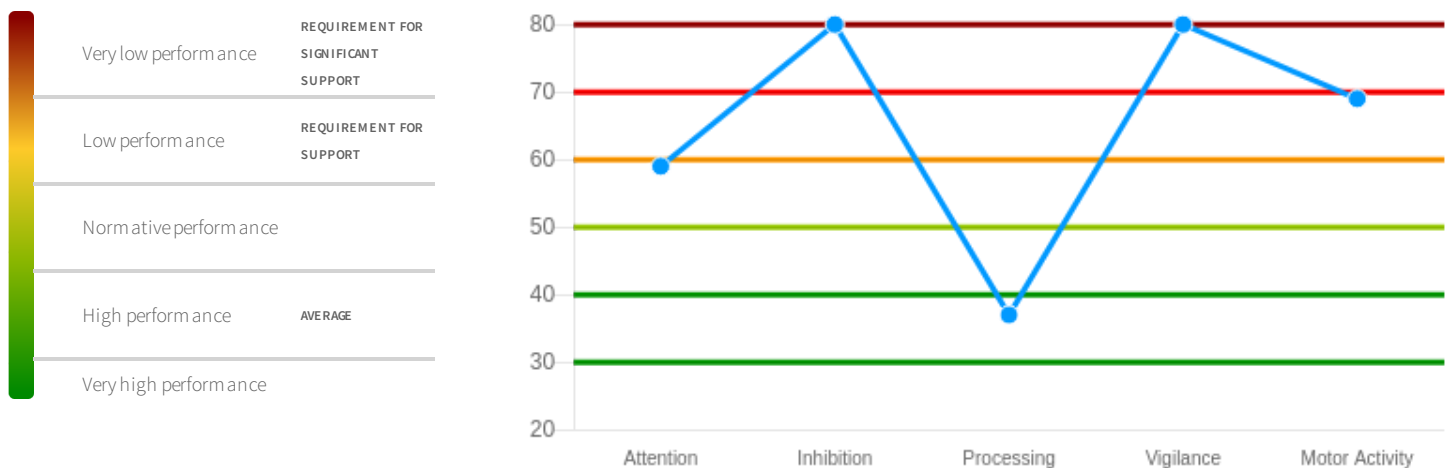
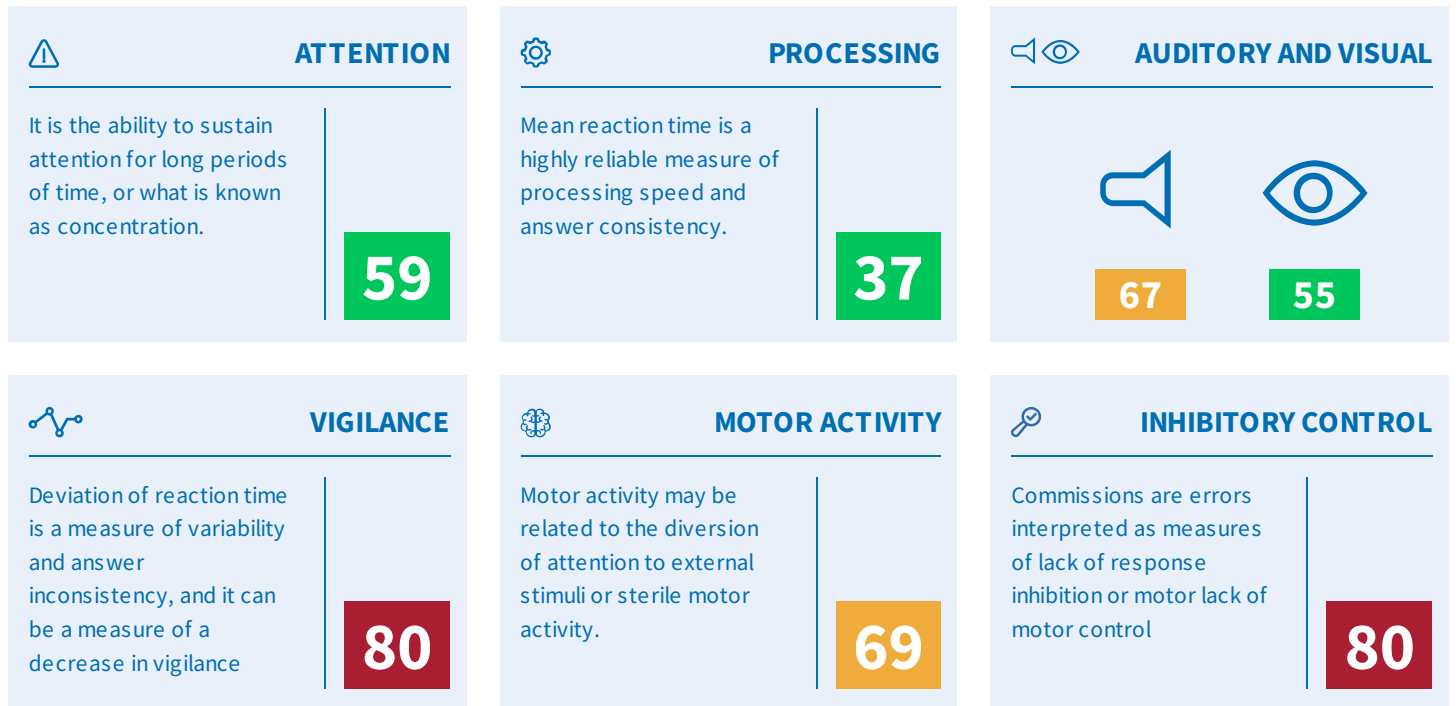
For a better interpretation of the report, it is recommended to consult the Nesplora Aula manual.

## 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



	Pc	Raw	T score
Percentile rank (Pc)			
Raw scores (Raw)			
T scores			
Attention: Total omissions	81	58	59
Inhibitory control: Total commissions	99	116	80
Processing: RT Mean-hits	10	751.31	37
Vigilance: ( $\sigma$ ) Standard deviation RT-Total hits	99	637.1	80
Total motor activity	97	2.1	69

### 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 58 in Total omissions. These data correspond to a percentile of 81 and a T-score of 59 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 116 in Total commissions. 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**.

#### 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 751.31 in Mean RT-Total hits. This data corresponds to a percentile 10 and a T score of 37 compared to the normal sample, which indicates a **high performance**.

#### Vigilance ( $\sigma$ ) 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 637.1 in ( $\sigma$ ) Standard deviation RT-hits. 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**.

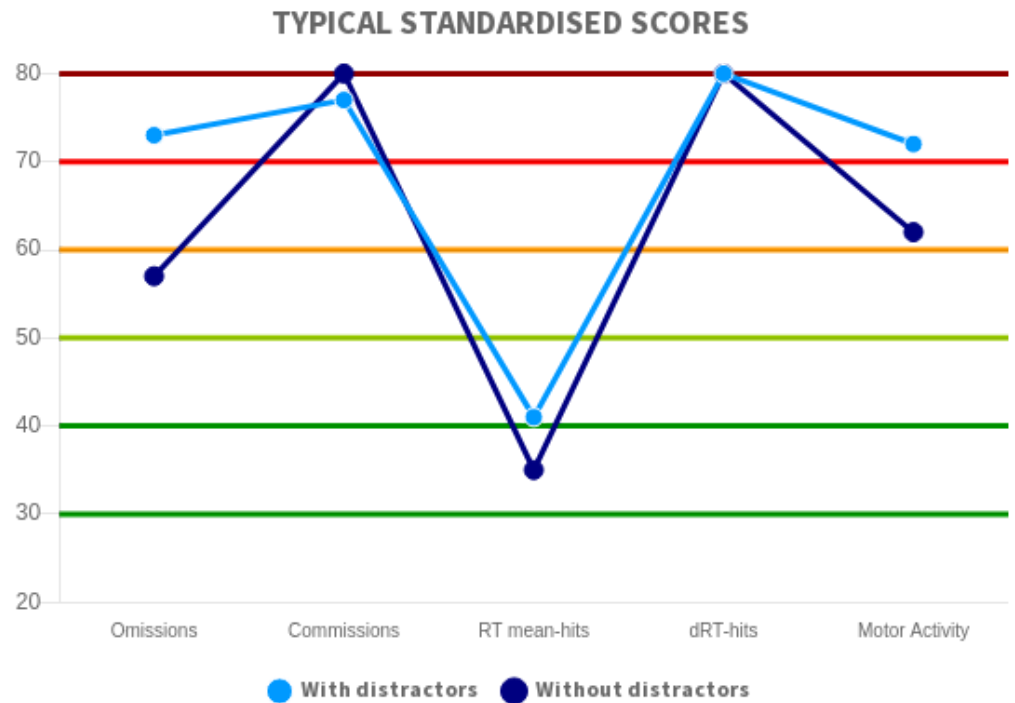
#### Total motor activity



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. Markel has obtained a score of 2.1 in Total motor activity. These data correspond to a percentile of 97 and a T score of 69 compared to the normal sample, which indicates a **low performance**.

## 4. Task performance in the presence and absence of distractors

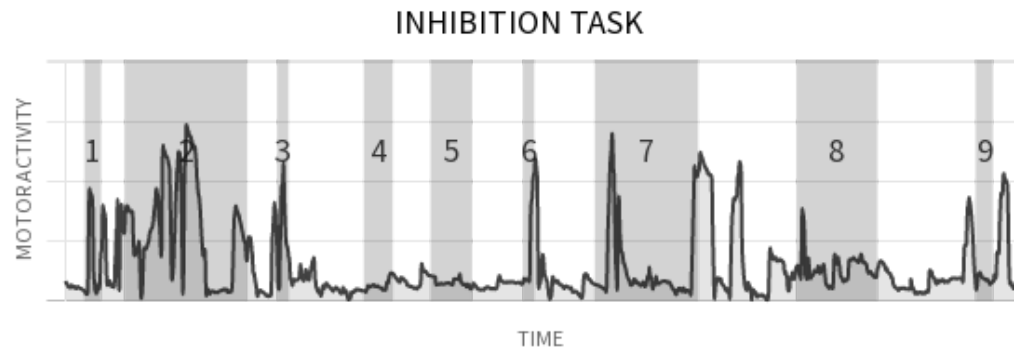
Nesplora Aula has analysed Markel's performance in the presence and absence of distractors, so that the results can be compared. The following tables demonstrate how much the distractors affected Markel during the test administration.



	WITH DISTRACTORS			WITHOUT DISTRACTORS		
	Pc	Raw	T score	Pc	Raw	T score
Total omissions	98	31	73	75	27	57
Total commissions	99	32	77	99	84	80
RT Mean-hits	21	821.24	41	7	714.6	35
(σ) Standard deviation RT-Total hits	99	635.37	80	99	634.93	80
Total motor activity	98	3.08	72	88	1.83	62

## 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 Markel followed the distractor with their head, shifting attention away from the 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

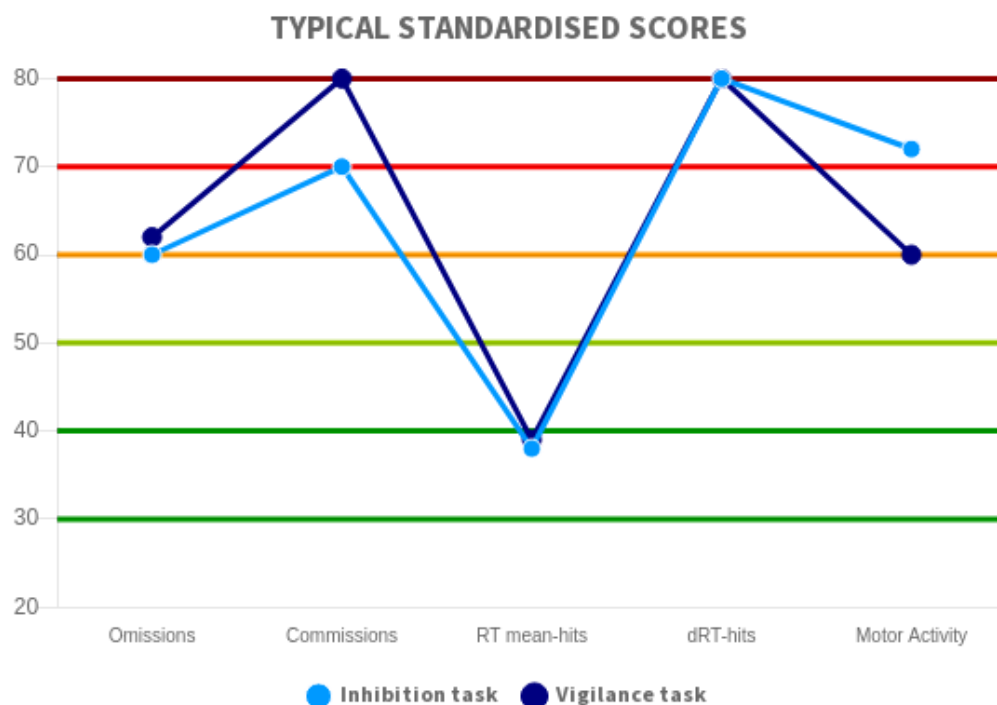


### TASK 2

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, Markel performed 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.

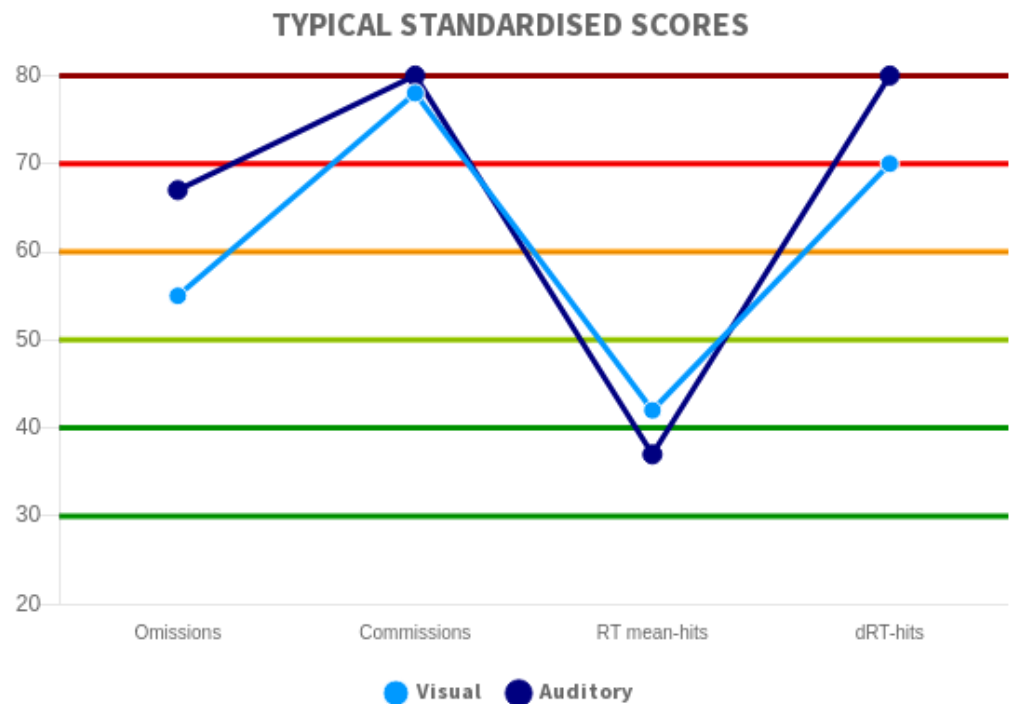


	INHIBITION TASK			VIGILANCE TASK		
	Pc	Raw	T score	Pc	Raw	T score
Total omissions	84	48	60	88	10	62
Total commissions	96	26	70	99	90	80
RT Mean-hits	12	730.18	38	14	829.35	39
(σ) Standard deviation RT-Total hits	99	600.74	80	99	751.22	80
Total motor activity	98	2.44	72	85	1.75	60



## 6. Sensory channels (Auditory and visual)

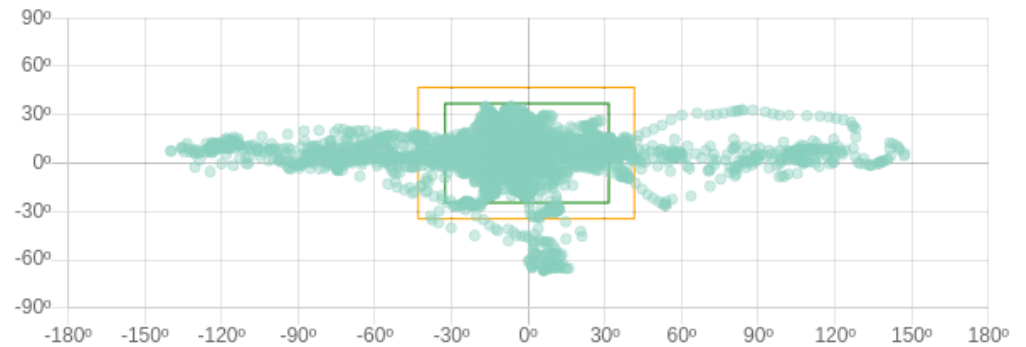
In Nesplora Aula, Markel must respond to auditory and visual stimuli. We can obtain sensory channel differences by comparing the results between the two types of stimuli.



	VISUAL			AUDITORY		
	Pc	Raw	T score	Pc	Raw	T score
Total omissions	69	29	55	95	29	67
Total commissions	99	59	78	99	57	80
RT Mean-hits	22	652.11	42	10	860.78	37
(σ) Standard deviation RT-Total hits	97	600.66	70	99	657.89	80

## 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).

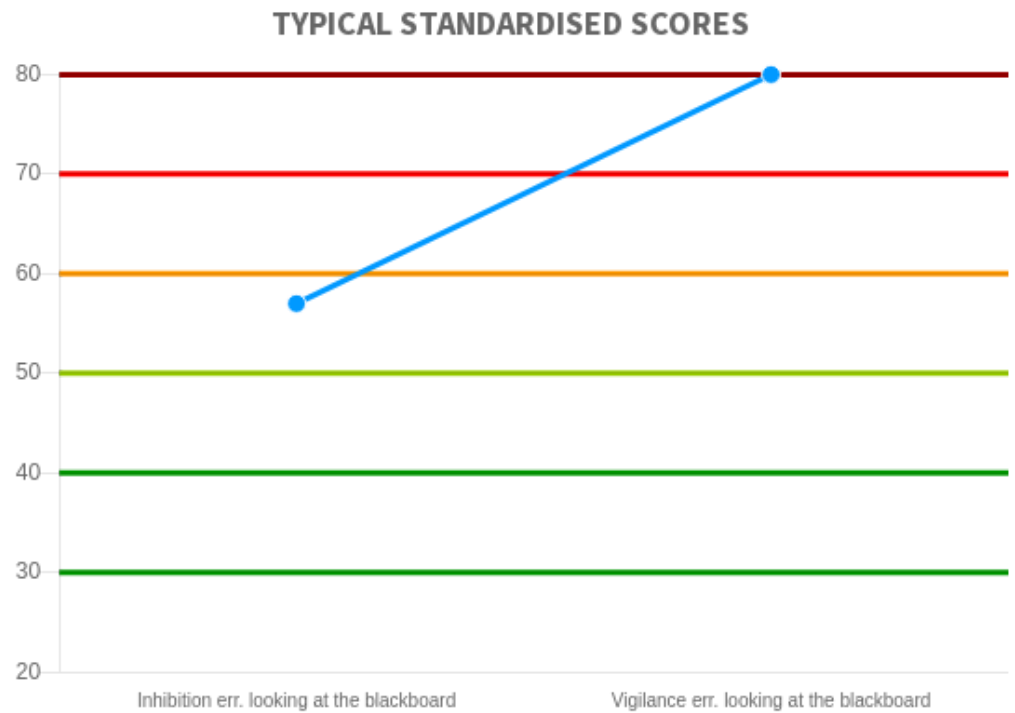


The index of motor activity can reflect many phenomena, including: the tendency to become distracted by external stimuli (see the Distractors graph), sterile motor activity (with no relation to distractors) or, in the case of low activity but poor task performance, possible internal distractors (see 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	77	34	57
Total errors in VIGILANCE TASK looking at the blackboard	99	51	80

## Summary table

### TYPICAL STANDARDISED SCORES

