Useful Field of View Test

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Purpose of this document

This file contains all the information to understand and analyze the Useful Field of View Test. You will be able to find relevant information about how this assessment task works, what it measures, and all relevant data about the variables recorded during the performance of the activity.

Task Info

In this section information about the task, its structure, and stimuli will be given.

Task Description

The *Useful Field of View Test* is a task aimed at measuring the user's ability to capture information located in the periphery of the visual field. Each trial is composed of two parts: the one when the target stimulus is presented and the one when the user has to recognize the presented stimulus. First, the user will have to identify the model figure located in the center, presented in an increasingly smaller time, among three figures. Secondly, the user will have to identify in which block in the periphery a stimulus has been presented. Finally, he/she will have to do both activities at the same time. When the user fails two trials in a row, he/she passes to the next phase or finishes the test if he/she is in the last phase.

The concept of this task is based on the $UFOV^{1}$ Test (Ball et al, 1993).

You can try the *Useful Field of View Test* for free on this page. If you want more information about its technical details, you can contact us at support@cognifit.com.

Cognitive skills measured

The primary cognitive ability measured by this task is the **Field of view**.

This task contributes to the measurement of the Width of Field of View.

[1]*UFOV is a registered trademark of Visual Awareness Inc.*

Task Structure

The task is divided into 6 phases:

Phase	Stimuli position	Amount of trials	Exposure time	Time allowed to answer
1 (Learning)	Center	3	250	5000 ms
1 (Testing)		12	250	5000 ms
2 (Learning)	Periphery	3	250	5000 ms
2 (Testing)		12	250	5000 ms
3 (Learning)	Center & Periphery	3	250	5000 ms
3 (Testing)		12	250	5000 ms

Task Stimuli

During phase 1, a figure is presented in the center. It can be a triangle, a hexagon, or a figure similar to an hourglass. Then, the user is shown three of the aforementioned figures, one of them being the one presented. During phase 2, there are 12 empty squares forming a rectangle on the periphery of the screen. In one of them, a circle will appear. During phase 3, the stimuli of the first and second phases will be presented simultaneously. Between trials, a fixation point is shown.

Variables Info

In this section details about the variables, their definition, range, and other pieces of relevant information will be given.

Basic Variables

Accuracy

This variable measures the percentage of accuracy in all trials of the testing phase. It ranges from 0 to 100, and higher values indicate better performance.

Response time

This variable measures the average response time to correct trials in the testing phase. It ranges from 0 to 5000 milliseconds, and lower values indicate better performance.

Omission errors

This variable measures the number of trials where no response is given by the user, that is, the number of timeouts across all trials. It ranges from 0 to 36. High scores on this variable indicate that the user is distracted (not paying attention) or has a slow response.

Omission errors (percentage)

This variable measures the percentage of trials where no response is given by the user, that is, the percentage of timeouts. It ranges from 0 to 100. High scores on this variable indicate that the user is distracted (not paying attention) or has a slow response.

Additional Variables

Additional variables refer to the variables and indices that are calculated by CogniFit for its internal computation of results.

Accuracy in phase 1

This variable measures the percentage of accuracy in all trials of the first testing phase. It ranges from 0 to 100, and higher values indicate better performance.

Accuracy in phase 2

This variable measures the percentage of accuracy in trials of the second testing phase. It ranges from 0 to 100, and higher values indicate better performance.

Accuracy in phase 3

This variable measures the percentage of accuracy in trials of the third testing phase. It ranges from 0 to 100, and higher values indicate better performance.

Response time in phase 1

This variable measures the average response time to correct trials in the first testing phase. It ranges from 0 to 5000, and lower values indicate better performance.

Response time in phase 2

This variable measures the average response time to correct trials in the second testing phase. It ranges from 0 to 5000, and lower values indicate better performance.

Response time in phase 3

This variable measures the average response time to correct trials in the third testing phase. It ranges from 0 to 5000, and lower values indicate better performance.

Discrepancy in accuracy between phases 1 and 3

This variable measures the difference in accuracy between phase 1 and phase 3. It ranges from -100 to 100. Positive scores on this variable indicate that the user had a better performance in phase 1, while negative scores indicate a better performance in phase 3.

Discrepancy in accuracy between phases 2 and 3

This variable measures the difference in accuracy between phase 2 and phase 3. It ranges from -100 to 100. Positive scores on this variable indicate that the user had a better performance in phase 2, while negative scores indicate a better performance in phase 3.

Discrepancy in response time between phases 3 and 1

This variable measures the difference in reaction time between phase 3 and phase 1. It ranges from -5000 to 5000. Positive scores on this variable indicate that the user was faster in phase 1, while negative scores indicate a faster performance in phase 3.

Discrepancy in response time between phases 3 and 2

This variable measures the difference in reaction time between phase 3 and phase 1. It ranges from -5000 to 5000. Positive scores on this variable indicate that the user was faster in phase 2, while negative scores indicate a faster performance in phase 3.

Omission errors in phase 1

This variable measures the number of trials where no response is given by the user, that is, the number of timeouts in phase 1. It ranges from 0 to 12. High scores on this variable indicate that the user is distracted (not paying attention) or has a slow response.

Omission errors in phase 2

This variable measures the number of trials where no response is given by the user, that is, the number of timeouts in phase 2. It ranges from 0 to 12. High scores on this variable indicate that the user is distracted (not paying attention) or has a slow response.

Omission errors in phase 3

This variable measures the number of trials where no response is given by the user, that is, the number of timeouts in phase 3. It ranges from 0 to 12. High scores on this variable indicate that the user is distracted (not paying attention) or has a slow response.

Omission errors in phase 1 (percentage)

This variable measures the percentage of trials where no response is given by the user, that is, the percentage of timeouts in phase 1. It ranges from 0 to 100. High scores on this variable indicate that the user is distracted (not paying attention) or has a slow response.

Omission errors in phase 1 (percentage)

This variable measures the percentage of trials where no response is given by the user, that is, the percentage of timeouts in phase 2. It ranges from 0 to 100. High scores on this variable indicate that the user is distracted (not paying attention) or has a slow response.

Omission errors in phase 1 (percentage)

This variable measures the percentage of trials where no response is given by the user, that is, the percentage of timeouts in phase 3. It ranges from 0 to 100. High scores on this variable indicate that the user is distracted (not paying attention) or has a slow response.

Validity Index

The user's performance will be considered to deviate from what is expected to the point of invalidating the results of the assessment when it falls outside these ranges.

Task validity

This variable represents the validity of the whole task, and it is 'true' only when all the individual variables of the Validity Index of the task are 'true'. Otherwise, it is 'false'.

Accuracy validity

This variable measures the validity of the variable "Accuracy" and it is 'true' when its value is between 0 and 100. Otherwise, it is 'false'.

Response time validity

This variable measures the validity of the variable "Response time" and it is 'true' when its value is between 0 and 5000. Otherwise, it is 'false'.

Omission errors validity

This variable measures the validity of the variable "Omission errors", and it is 'true' when its value is below 18, included. Otherwise, it is 'false'.

References

Ball, K., Owsley, C., Sloane, M. E., Roenker, D. L., Bruni, J. R. (1993). Visual attention problems as a predictor of vehicle crashes in older drivers. *Invest Ophthalmol Vis Sci*, 34 (11), 3110-23. PMID: 8407219.