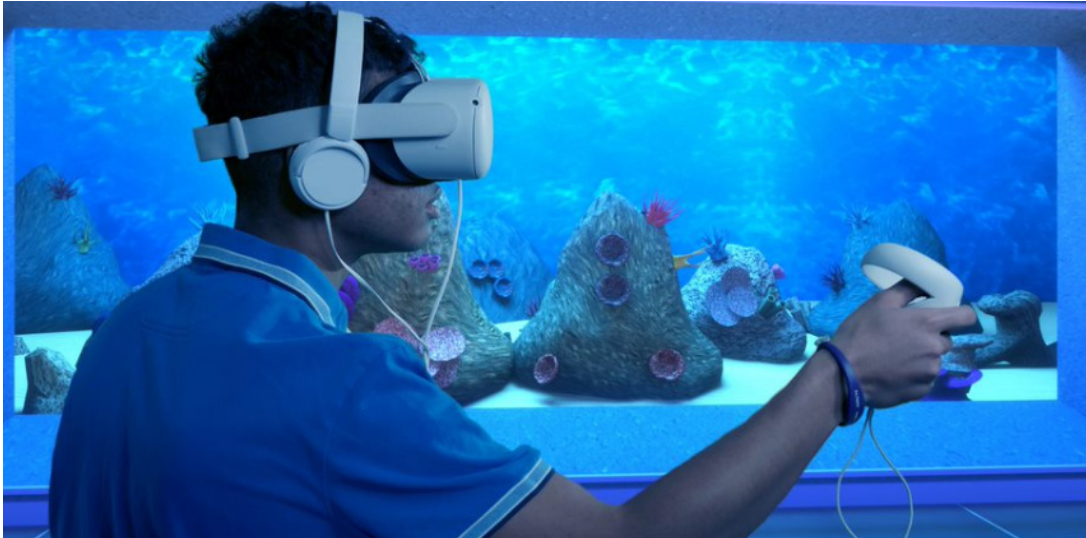


NESPLORA ATTENTION ADULTS

AQUARIUM












What is Aquarium?

Aquarium is a test for the assessment of attentional processes in adults aged 16 to 90 years.

Aquarium is a test for the assessment of attentional processes and working memory in adults with a versatility of application in pathological as well as in normal and transitory processes. In Aquarium, two different continuous performance tasks (CPT) including dual performance tasks are performed.

Variables evaluated:

-  SELECTIVE AND SUSTAINED ATTENTION
-  AUDITORY AND VISUAL ATTENTION
-  MOTOR ACTIVITY
-  IMPULSIVITY
-  PERSEVERANCE
-  WORKING MEMORY
-  REACTION TIME
-  QUALITY OF ATTENTIONAL FOCUS
-  TASK SWITCHING COST

AGE and NORMS

Aquarium can be applied from 16 to 90 years of age. The normative is representative, the sample has 1469 people.

TIME

The test's length is variable, usually ranging from 18 to 22 minutes.

ADVANTAGES

Virtual reality allows us to increase the ecological validity, decrease evaluator and administration bias and causes real immersion, increasing motivation and decreasing false negatives.

1

RELIABILITY

All tasks scored greater than 0.9 (0.927; 0.926; 0.929).
Task 1 Dual execution 0.975
Task 2 Dual execution + interference .968

2

VALIDITY

Quality of representation of content and domain and convergent validity rated **Excellent**

3

SENSITIVITY

significantly predicted current and retrospective ADHD symptoms



PSYCHOMETRIC PROPERTIES

Aquarium is the most sensitive, accurate and specific test for the detection of attentional processes in adults. It has excellent diagnostic and discriminatory power with no ceiling or floor effect, high predictive value and reliability.

Reliability

All tasks scored greater than 0.9 (0.927; 0.926; 0.929).

Convergent validity

The tests with which the correlation tests and their respective averages were carried out were the Caras test, with an average of .835, the D-2 test, with an average of .754, the Conners CPT (1995) with an average of .773 and the EDAH with an average between .406 and .544 in the inattention variable.

Sensitivity

Nesplora Aquarium, by testing participants with low (N = 41) and elevated (N = 41) symptoms of depression and anxiety. Participants completed a continuous performance test where they had to respond to stimuli (species of fish) in a virtual aquarium, as well as paper-and-pencil and computerised tests. Participants' performance in Nesplora Aquarium was positively associated with classic measures of attention and inhibition, and effectively predicted symptoms of depression and anxiety above and beyond traditional cognitive measures such as psychomotor speed and executive functioning, spatial working memory span. [Hence, VR is a safe, enjoyable, effective and more ecological alternative for the assessment of attention and inhibition among individuals with elevated anxiety and depression symptoms.](#)

Aceres et al. presented a VR-CPT (Nesplora Aquarium) test for adolescents and adults that was designed to measure executive function. The study used the Adult ADHD Self-Report Scale (ASRS) as an ADHD symptom scale. Results showed that the Nesplora Aquarium VR test significantly predicted current and retrospective ADHD symptoms.

This paper aims to study the cognitive-executive performance of adolescents between the ages of 17 and 23 with an ADHD diagnosis, relative to a control group. The total sample consisted of 120 male participants who were given the Nesplora Aquarium test. Dual execution tasks assessed attention, response speed, and inhibition capability. When comparing the experimental and control groups, statistically significant differences were detected in processing speed, selective attention, and cognitive inhibition [general execution (T_correct_n) (p ¼ 0.008), attention arousal (T_omission_n) (p ¼ 0.008), and processing speed (T_correctreactime_mean) (p ¼ 0.008)]. We demonstrate that a new virtual reality tool, designed to measure attention in people over the age of 16 years, is effective at measuring attention and working memory. In addition, item difficulty and discrimination values were also acceptable.

Standards and regulation

All of the Nesplora System tests comply with the essential requirements according to the Council Directive 93/42/EEC, its amendments according to Directive 2007/47/EC and with the essential requirements of the EN ISO 13485 management systems regulation of quality for sanitary products. These certifications allow you to use our tests and certify their value in any clinical, forensic or research process.

CE marking



European Seal of Excellence



Medical device certificate



Web de interés sanitario



A total of 1,469 participants from different regions of Spain (57.6% female) aged between 16 and 90 years participated in this normative study. Nesplora Aquarium was developed in order to support clinicians in the assessment of attentional and working memory processes in adults over 16 years of age. (...) This study revealed that the new VR tool, designed to measure attention and working memory in adults, showed good psychometric properties related to reliability and internal consistency.

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<https://nesplora.com/nesplora-aquarium-estudios-y-referencias/>