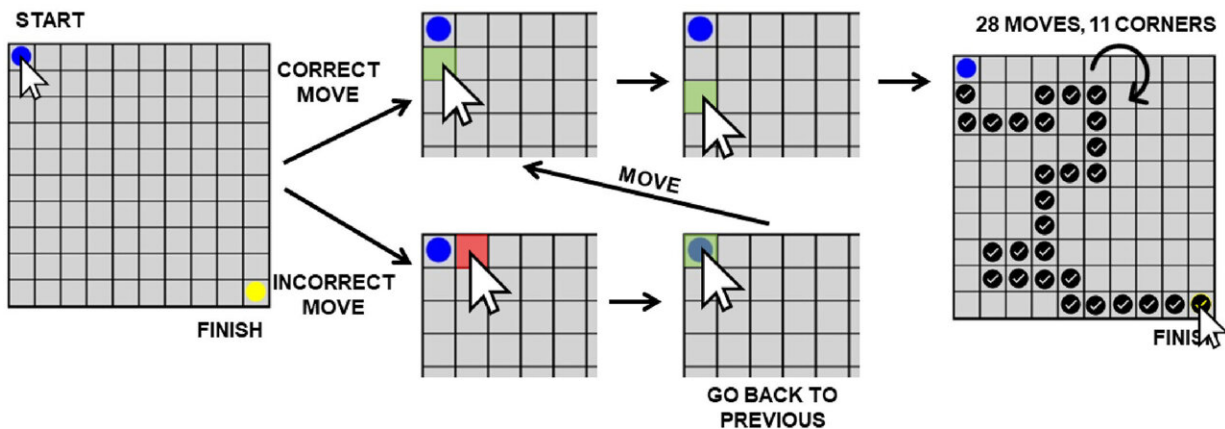


Playing video games may improve attention and memory, research finds

February 20 2024



Depiction of two example sequences containing two correct moves (top) and an incorrect move and correction (bottom) for the Groton Maze Task. Each time a correct move is made, the corresponding tile flashes green. When an incorrect move is made, the corresponding tile flashes red. The right-most image highlights the 28 moves and 11 corners comprising an example of a correct path for a given maze. Credit: *British Journal of Psychology* (2023). DOI: 10.1111/bjop.12692

A new study [published](#) in the *British Journal of Psychology* found that regular gamers performed better on tasks measuring cognitive functions such as attention and memory.

The study, which took place at the Lero Esports Science Research Lab at

the University of Limerick, involved 88 [young adults](#), half of whom regularly played more than seven hours of action-based video games each week.

Participants were tested with three tasks measuring different aspects of their cognitive performance—a simple reaction time test, a task that involved switching between responding to combinations of numbers and letters to evaluate executive function and working [memory](#), and a maze-based activity to assess visuospatial memory.

The researchers found that regular gamers were able to complete the number-letter task and the maze task 12.7 and 17.4% quicker, respectively than the group of non-gamers.

"The regular playing of video games is often criticized and seen as unhealthy, but our research shows that gamers may enjoy some [cognitive benefits](#) over the wider population, particularly relating to attentiveness and memory," according to Dr. Adam Toth of the University of Limerick and Lero, the Science Foundation Ireland Research Centre for Software, and one of the authors of the research.

Dr. Mark Campbell added, "In line with previous work out of our lab, this research may have implications in sectors where cognitive performance is paramount, such as surgery and air traffic control, where video game play could be encouraged to help develop the elite cognitive performance required."

The research also investigated a further angle—whether gamers are less prone to suffering from cognitive fatigue than the wider population.

Some participants were assigned an additional task designed to require concentration for a long period of time and bring about cognitive fatigue (decline in performance) before being reevaluated on the initial

cognitive tests.

The researchers found that gamers and non-gamers saw their performance decline at the same rate, with no significant difference found in the level of cognitive fatigue experienced.

More information: Mark J. Campbell et al, Comparing the cognitive performance of action video game players and age-matched controls following a cognitively fatiguing task: A stage 2 registered report, *British Journal of Psychology* (2023). [DOI: 10.1111/bjop.12692](https://doi.org/10.1111/bjop.12692)

Provided by Lero

Citation: Playing video games may improve attention and memory, research finds (2024, February 20) retrieved 15 May 2024 from <https://medicalxpress.com/news/2024-02-playing-video-games-attention-memory.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.
