

# World of Warcraft boosts cognitive functioning in some older adults

22 February 2012

For some older adults, the online video game World of Warcraft (WoW) may provide more than just an opportunity for escapist adventure. Researchers from North Carolina State University have found that playing WoW actually boosted cognitive functioning for older adults - particularly those adults who had scored poorly on cognitive ability tests before playing the game.

"We chose [World of Warcraft](#) because it has attributes we felt may produce benefits - it is a cognitively challenging game in a socially interactive environment that presents users with novel situations," says Dr. Anne McLaughlin, an assistant professor of psychology at NC State and co-author of a paper on the study. "We found there were improvements, but it depended on each participant's baseline cognitive functioning level."

Researchers from NC State's Gains Through Gaming laboratory first tested the cognitive functioning of study participants, aged 60 to 77, to set a baseline. The researchers looked at cognitive abilities including spatial ability, memory and how well participants could focus their attention.

An "experimental" group of study participants then played WoW on their home computers for approximately 14 hours over the course of two weeks, before being re-tested. A "control" group of study participants did not play WoW, but were also re-tested after two weeks.

Comparing the cognitive functioning test scores of participants in the experimental and control groups, the researchers found the group that played WoW saw a much greater increase in cognitive functioning, though the effect varied according to each participant's baseline score.

"Among participants who scored well on baseline [cognitive functioning](#) tests, there was no significant improvement after playing WoW - they were already doing great," McLaughlin says. "But we

saw significant improvement in both spatial ability and focus for participants who scored low on the initial baseline tests." Pre- and post-game testing showed no change for participants on memory.

"The people who needed it most - those who performed the worst on the initial testing - saw the most improvement," says Dr. Jason Allaire, an associate professor of psychology at NC State and co-author of a paper on the study.

**More information:** The paper, "Individual differences in response to cognitive training: Using a multi-modal, attentionally demanding game-based intervention for older adults," is published online in *Computers in Human Behavior*.

Provided by North Carolina State University

APA citation: World of Warcraft boosts cognitive functioning in some older adults (2012, February 22) retrieved 7 May 2021 from <https://medicalxpress.com/news/2012-02-world-warcraft-boosts-cognitive-functioning.html>

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