

Playing action videogames improves visual search

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Researchers at the University of Toronto have shown that playing shooting or driving videogames, even for a relatively short time, improves the ability to search for a target hidden among irrelevant distractions in complex scenes.

"Recent studies in different labs, including here at the University of Toronto, have shown that playing first-person shooter videogames can enhance other aspects of <u>visual attention</u>," says <u>psychology professor</u> Ian Spence. "But no one has previously demonstrated that visual search is also improved."

Searching efficiently and accurately is essential for many tasks. "It's necessary for baggage screening, reading X rays or MRIs, interpreting satellite images, defeating camouflage or even just locating a friend's face in a crowd," says Spence.

In the first experiment, the researchers compared action videogame players and non-players on three visual search tasks and found that the experienced players were better.

"But this difference could be a result of a pre-existing superiority in experienced gamers compared to those who avoid them, says Sijing Wu, a PhD candidate in Spence's lab in U of T's Department of Psychology and lead author of the study. "A training experiment was necessary to establish whether playing an action game could actually improve search skills."



In the second experiment, 60 participants—who had not previously played videogames—played for a total of 10 hours in one to two hour sessions. Twenty participants were randomly assigned to <u>play</u> the firstperson shooter game, Medal of Honor, 20 to a driving-racing game, Need for Speed and 20 to a three-dimensional puzzle game, Ballance as a control.

"After playing either the shooter or driving game for only 10 hours, participants were faster and more accurate on the three visual search tasks," says Wu. "However, the <u>control participants</u>—who played the puzzle game—did not improve."

"We have shown that playing a driving-racing game can produce the same benefits as a shooter game," says Wu. "This could be very important in situations where we wish to train <u>visual search</u> skills. Driving games are likely to be more acceptable than shooting games because of the lower levels of violence."

More information: The study is available online in advance of print publication in *Attention, Perception, & Psychophysics* at <u>link.springer.com/article/10.3758</u>%2Fs13414-013-0440-2

Provided by University of Toronto

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