

# 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 [visual attention](#)," says [psychology professor](#) 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 [play](#) the first-person 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 [control participants](#)—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 [visual search](#) 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 [link.springer.com/article/10.3758%2Fs13414-013-0440-2](https://link.springer.com/article/10.3758%2Fs13414-013-0440-2)

Provided by University of Toronto

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