

## Video games improve your motion perception, but only when walking backwards

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**Source:** University of Leicester

Playing first-person action games can enhance your perception of movement -- but only when you're walking backwards.

This is one of the findings of a new paper by University of Leicester psychologists, published in the journal *Perception*, which examines the effect of playing video games on motion perception.

Their paper, "Selectively enhanced motion perception in core video gamers," shows that -- for the most part -- gamers are not significantly better than non-gamers at perceiving motion.

The only significant difference was in the case of contracting radial motion -- which we would generally only experience when travelling backwards and seeing our surroundings shrinking away towards the distance.

Gamers proved to be significantly better at detecting this motion than non-gamers.

The researchers believe this is because walking backwards is a fairly common movement in the world of action games, particularly when a player is dodging an enemy or exploring an area.

In contrast, we would very rarely walk backwards with our eyes fixed forward in everyday life.

Dr Claire Hutchinson and Rachel Stocks, of the University's School of Psychology, enlisted 16 action video game players -- who played for more than 10 hours a week -- along with 16 people who played action games for less than an hour per week.

Participants were asked to watch a screen showing a visualisation of 400 white dots moving on a grey background.

While some of the dots moved randomly, a certain number in each test moved in a coherent pattern -- either translational (up or down), radial (contraction or expansion), or rotational (anticlockwise or clockwise).

The fewer consistently-moving dots it took for the participant to correctly identify the overall pattern, the higher their motion perception.

But in all cases apart from radial contraction, there was no significant difference between gamers and non-gamers.

The researchers believe this is because, generally, action games are very good at mimicking the real motions we experience in day-to-day life.



Playing first-person action games can enhance your perception of movement -- but only when you're walking backwards.

*Credit: © Igor S. / Fotolia*

Dr Claire Hutchinson said: "Our study suggests playing a lot of action video games does not really have much effect on motion perception.

"I probably would have expected people who play a lot of games to do better at these tests -- but if you think about it, when you walk and drive a car you experience the same movements in daily life.

"The fact that gamers were significantly better at radial contraction does show that games do have the ability to train your visual system. The next step will be to look at the effect of other games."

The work was funded by the British Academy.

**Story Source:**

The above story is based on [materials](#) provided by **University of Leicester**. *Note: Materials may be edited for content and length.*

**Journal Reference:**

1. Hutchinson C V, Stocks R. **Selectively enhanced motion perception in core video gamers.** *Perception*, 42(6) 675-687 (2013) [\[link\]](#)
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