

# Playing video games may enhance reading skills

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Data shows the activity may contribute to improving one's peripheral attention skills that are essential for reading ability.

According to data collected in 2020 by the [Entertainment Software Association of Canada](#), 23 million Canadians are "gamers"—or people who regularly play video games—with the number of hours played per week increasing since the onset of the COVID-19 pandemic.

In Canada, 89% of children aged 6 to 17 reported to have played video games regularly, with 66% of kids and teens saying they have been streaming (playing or watching) video games more during the pandemic.

To determine how this wildly popular Canadian pastime affects reading skills, Kress' research team analyzed what types of video games were most popular, and assessed each one to determine the average number of objects placed peripherally—to the side, top or bottom of the screen—versus in the middle that players had to react to.

A group of participants with varying levels of [video game](#) experience completed an attention-demanding reading task involving words flashing in one of eight possible locations on a screen. The words were a mix of well-known words that were easy to read on the spot, and fake words that required phonetics—or "sounding out"—to read.

The study determined that exposure to more peripheral demands in video games likely exercise visual attention systems in the brain that are required for quick and efficient reading.

"We observed that individuals with more exposure to peripherally-presented visual demands in video games—for example, a text notification or enemy appearing on the side of your screen, rather than the center of the screen—tended to have faster reading reaction times than individuals with less or no exposure to peripherally-presented visual demands," said Kress.

She notes that a surprising finding of the study was the relationship

between reading times and peripherally-presented visual demands occurred during phonetic (sounding out) decoding of words as well as during lexical (sight reading) reading of words.

This means participants with more experience with peripheral visual demands from gaming may be able to read known words and sound out new words more quickly than those who do not play as often.

"Attention is an important part of successful reading. Your eyes need to scan across a page in a systematic manner to correctly process each word and sentence, for example. Therefore, activities which may impact attentional processes, such as video games, may also have an impact on reading as well," said Kress.

Kress said the research can lead to better video game designs that can promote healthier habits and increased skill development for children and adults who enjoy [video](#) games.

"Economy and health sectors benefit from this research because it could lead to collaborations between scientists, clinicians, and [game](#) developers to create educational games tailored to improve reading ability," said Kress.

"Finally, society in general benefits from this research by gaining a better understanding of what impacts their hobbies might have on their brain."

Kress completed her Master of Arts degree in 2020 and is now pursuing her doctorate at USask under the supervision of Dr. Ron Borowsky (Ph.D.), director of the Cognitive Neuroscience Lab and a professor of cognitive neuroscience in the USask College of Arts and Science Department of Psychology and Health Studies. Kress has been involved in research leading to 10 peer-reviewed publications so far.

Kress said her Ph.D. research will focus on further exploration into the role of peripheral visual demands on reading performance. This will involve [functional magnetic resonance](#) imaging (fMRI) scans of participants during peripheral visually demanding activities to determine which regions of the brain are involved.

Provided by University of Saskatchewan

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