

Minecraft test shows beer bad for young brain

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An experiment using the popular video game Minecraft has shown that teens who drink too much may be in for some serious consequences in the not-too-distant future.

Undergrads Amentha Rajagobal and Maya Sengupta-Murray have found that [alcohol](#) can have a significant impact on the developing brain – specifically the hippocampus, responsible for [spatial navigation](#) and [memory formation](#).

Researchers have known for some time that alcohol can impact brain function in adults, but less is known about the effects of alcohol on young brains.

To test its impact, the students recruited undergraduate participants who answered questions about their use of alcohol: when did they take their first drink, how often do they drink, how much and so on.

They then asked the subjects to play a game in which they had to remember where objects were found in the world of Minecraft.

The pair of researchers found that those who started drinking at an earlier age, had more trouble remembering objects' locations than those who drank later in adolescence.

"The [frontal lobe](#) and the hippocampus keep developing into our twenties," says Rajagobal. "They keep growing and changing in ways the rest of the brain doesn't, so they're more susceptible to damage from things like drinking at an early age."

The effects of such damage, however, could extend well beyond the diminished ability to navigate through a [video game](#), or even down the street.

"The hippocampus is used to form memories," says Sengupta-Murray. "Let's say you have a dog: you can smell it, you can hear it, you can feel it. The hippocampus connects all those sensations and forms the memories of your dog. If you damage your [hippocampus](#), it's not just

that you'll have difficulty remembering where things are – it's that you'll have difficulty forming memories of anything."

What's most alarming about the research isn't even the results, but how quickly damage appears to be occurring amongst drinkers.

"These are the kind of results you'd expect from a 50-year-old alcoholic, not 19-year-old students," says Rajagobal. "We didn't expect to see such significant differences between drinkers and non-drinkers so early in life."

The results have had an immediate impact on the young researchers: Rajagobal and Sengupta-Murray drink much less than they used to.

"It's alarming," says Sengupta Murray. "The fact that three years of [drinking](#) is enough to produce measurable deficits is frightening."

The research was performed for Sue Becker's fourth-year Cognitive Neuroscience course.

Provided by McMaster University

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