ABC Health & Wellbeing

Q: Online brain training: does it make you smarter?

A: Maybe. Research suggests it can benefit older people.

Our expert: Associate Professor Michael Valenzuela

Published 25/09/2012


[Image source: iStockphoto]

Have your say

have you tried online brain training? Did you notice any benefits?

Do you want to be smarter? Most of us do, which is why the idea of being able to boost your brain power by playing games online is so appealing.

Online brain training websites and phone apps are big business these days, their creators suggest you can improve your cognitive function by 'training' your brain. This training process involves the repetition of a series of exercises, such as problem-solving and memory games, that require different mental and cognitive abilities.

But are these programs worth the time and money we spend on them? Can online brain training actually make you smarter?

It depends, says Associate Professor Michael Valenzuela, from the Brain & Mind Research Institute at the University of Sydney.

The research surrounding the area of brain training is scarce; but the data that is available suggests online brain training does little to improve cognitive function (thinking ability) in healthy working-age adults, Valenzuela says.

One UK study has found those who did regular online brain training became better at the specific exercises they performed. However, there was no ongoing improvement in their overall brain function.

"The real distinction is whether the training is targeting healthy, working age people versus some kind of clinical population", says Valenzuela.

Various studies have shown brain training exercise can improve the level of cognitive function in people at risk of dementia or even in healthy people who are in their 60s or older.

"What hasn't been shown so far is improved general mental function in adults who don't have a particular disorder and are still of working age," Valenzuela says.

Neuro revolution

Online brain training is currently very popular because of our ageing population, says Valenzuela.

"This baby boomer generation is very into trying to access information on trying to keep their brain healthy for as long as possible," he says.

"There's this kind of 'neuro revolution' where people now understand the brain is a very plastic organ and is designed to respond to new stimulation, and so what we do with brains over long periods of time has very concrete and material effects on the structure of the brain," Valenzuela says.

As scientists discover more about the brain's ability to change in response to stimulation – known as neuroplasticity – there is increased speculation over the potential benefits of brain training exercises.

So far no brain training program has been shown to actually prevent dementia, a holy grail of sorts for researchers in this area.

But there is evidence to show it can help maintain and boost cognitive function in adults in their 60s and older. In these individuals, cognitive training on the computer may improve overall brain function, and these effects appear to last for at least a few months after the end of training.

It's important to note though, this evidence is based on supervised training. Participants undertake their tasks in a group setting under the guidance of an expert trainer, who offers feedback on how to perform the tasks.

What remains unclear is whether there's any ongoing improvement in brain function if you do your training online and without supervision.

"What typically happens is people tend to self-select and start training what they're good at and avoiding areas they're not so good at. Also people often start these things but don't take them through to the full course," Valenzuela says.

The amount of training needed and the timing of the interventions are also still not clearly understood, and more research is needed.

Keeping your brain healthy

But there are many other ways we can keep our brains healthy and reduce our risk of dementia.

Researchers are now looking at the more general concept of 'cognitive lifestyle', Valenzuela says.

"It's not about just training for a certain amount of minutes or hours per week, but it's about how active you are, how much learning you are doing in your day-to-day life, whether you are meeting new people. It's that whole social and mental engagement that is really important," he says.

"We know that if you're not cognitively engaged then that's a big risk factor for dementia."

How to keep your brain active and healthy depends on your age.

When you are of working age, you need to pay attention to your physical risk factors, particularly high blood pressure, because heart health is linked to brain health, Valenzuela says.

Once you retire, it's essential to stay mentally, physically and socially active.

There are a variety of hobbies and pursuits that target mental, physical and social stimulation, these include:

- dancing
- tai chi or yoga
- joining a social club or volunteering
- learning a new language
- learning a musical instrument
- travelling
- playing bridge, chess and other strategic games.

Associate Professor Michael Valenzuela is leader of the Regenerative Neuroscience Group at the Brain and Mind Research Institute, University of Sydney. He spoke to Jenny Pogson.