**No Proof That 'Brain Training' Games Work, Some Experts Say**

**by Bahar Gholipour**

***Many "brain-training" games may be marketed as a way to boost people's alertness and intelligence, but scientists are now warning that such claims are not based on actual science.***

***Sixty-nine scientists from around the world issued a statement this week, saying that there's no compelling scientific evidence supporting the claims that playing brain games may actually help people enhance their mental powers or overcome the effects of aging on the brain.***

**Bahar, if people learn skills when they play certain brain games (say for instance, algebra) how could that *not* improve one's mental powers?**

**Before the game they did not know algebra, while after the game, they now know some algebra. To say that there has been no change in their mental powers is to either ignore reality, or requires a very strange redefinition of the term "mental powers."**

***The scientists didn't indicate which brain-training products are making misleading claims and which aren't. But the brain fitness business has been booming in recent years, forecasted to reach $6 billion in 2020, according to a market research group Sharp Brains.***

***The most well-known is the website Lumosity, which has more than 60 million subscribers in 180 countries, according to the company. California-based Happy Neuron has nearly 11 million users and offers brain training programs to stimulate the main five cognitive functions, including memory, attention, language, and logical thinking. Rosetta Stone's Fit Brains offers games, designed by neuroscientists to help train crucial brain skills, the company says.***

***Some companies take their focus a step further from working on basic mental functions — The British Cogmed says that it develops brain-training programs to help children with attention and learning problems, and the Israeli Neuronix says it aims to improve mental function in people with mild to moderate Alzheimer's disease.***

***The scientists involved in issuing the new statement said they take issue with companies that "assure consumers that claims and promises are based on solid scientific evidence," because the scientific literature does not support these claims.***

***"It is customary for advertising to highlight the benefits and overstate potential advantages of their products," Laura Carstensen, the director of the Center for Longevity at Stanford University, said in a statement. "But in the case of brain games, companies also assert that the products are based on solid scientific evidence developed by cognitive scientists and neuroscientists, so we felt compelled to issue a statement directly to the public."***

***Some "brain-training" products with misleading claims may especially exploit the anxieties some older people regarding age-related cognitive decline, the scientists said. Some brain games even claim to help prevent Alzheimer's disease, they said.***

***However, "no studies have demonstrated that playing brain games cures or prevents Alzheimer’s disease or other forms of dementia," the scientists wrote.***

***Although some studies have found that playing brainy games seems to improve people's thinking skills,***

**Bahar, that implies that some studies did not show that playing brainy games improved people's thinking skills. How is that even possible?**

**if people learn skills when they play certain brainy games (again, using algebra as an example) how could that *not* improve one's thinking skills?**

**I'm not referring to general thinking skills, I am referring specifically to algebraic thinking skills (but that would apply to any subject). Did the scientists mean that promoters are claiming to improve unrelated thinking skills?**

**I ask because it would be nearly impossible to play a brainy game of algebra, learning and practicing algebra as you play, without improving your thinking skills in algebra.**

***the studies have generally looked at people's scores on tests given in a lab setting. The problem with that is that findings in the lab do not necessarily translate to complex, real-life mental skills, the scientists said.***

**Bahar, did the scientists say what the difference was between skills tested in the lab and "complex, real-life mental skills?" Why can't the lab test for complex skills? Why can't they test for real-life mental skills?**

**Adding and subtracting are real-life mental skills. Why can't they test those?**

**And what does it mean to say that the findings don't "translate?"**

**If I learn geometry in a brainy game, why wouldn't that be translatable in real-life? Do they have an example of a skill learned in a brainy game that can't translate into real-life skills?**

***Moreover, it is unclear how long such improvements may last.***

**Bahar, I thought scientists were disputing that there even *were* improvements?**

**But that last statement implies that there were.**

**So if there are improvements, the next step would be to test to see how long they last. But using exercise as an analogy, workouts only give benefits for a short period of time unless one makes it a lifestyle. Why would scientists, or anyone, expect it to be different for the brain?**

***"Do not expect that cognitively challenging activities will work like one-shot treatments or vaccines; there is little evidence that you can do something once (or even for a concentrated period) and be inoculated against the effects of aging in an enduring way. In all likelihood, gains won't last long after you stop the challenge," the researchers said.***

**Bahar, that is the same for muscles. Have you seen recent pictures of Arnold Schwarzenegger?**

***Still, it is true that the human brain can change and improve, even in old age, the scientists said. Any new experience that requires mental effort can produce changes in the brain; however, not every change is significant enough to help with the brain's general health, they said.***

**Bahar, if the brain improves, as scientists stated, why is that not considered as contributing to the brain's general health? And how are they defining "general health?"**

***The jury is still out on the best way to sharpen mental abilities, but playing brain games is likely not as effective as learning a new language***

**Bahar, learning a new language will exercise one's memory. If I learned every language on Earth, I would learn over 6,000 ways to say "bathroom." Speaking for myself, there are simply too many exciting things to learn in this world, to waste my time learning 6,000 ways of saying "bathroom."**

**Learning a new language could very easily be incorporated into a brain game. What are the scientists claiming is the difference between learning a new language and learning something different, say, astronomy?**

***or a new instrument, or exercising, the researchers said.***

**Bahar, I understand the value of exercise in keeping our brains (a physical organ) healthy. However, all the pushups in the world won't teach me anything new. While exercise will increase the flow of blood and oxygen to my brain and help keep it physically healthy, the mental skills you referred to earlier can only be gained from study.**

**By the way:**

[**http://theskepticarena.com/scienceMedicine.aspx#gerontology**](http://theskepticarena.com/scienceMedicine.aspx%23gerontology)

**(scroll down until you see Arnold)**