



IS BRAIN TRAINING SOFTWARE DEAD?

Cynthia R. Green, Ph.D.

First Published in the January 2016 TBH Newsletter

Is anything more seductive than the idea of a quick fix that will keep us forever young? Claims that “something” could do just that have been around since time immemorial. Alchemists attempted the Philosopher’s Stone, the Chinese searched for the Lingzhi mushroom, Indians sought the Amrita elixir, and of course Ponce de Leon was certain that the Fountain of Youth could be found in Florida (maybe those snowbirds are on to something). More recently, supplements such as ginkgo biloba and others have seen their “15 minutes” of age-defying fame. And let’s not forget Kevin Trudeau, who in his earliest infomercials touted a “Mega-Memory System” long before multiple convictions of false advertising and fraud led to his conviction and current imprisonment.

Is brain training software just the 2.0 version in this long quest for that “eternal youth” formula?

Since the introduction of digital brain training products about a decade ago, we experts in the field have cautioned against the accompanying hype. One company went so far as to claim that use of their product would result in “Your Brain, 20 Years Younger” (to which I often countered when asked that nothing can make your brain younger, it is as old as you are). While the scientific community offered some context – that there was little evidence these products improve performance in daily activity and no evidence that they reduce dementia risk -- infatuation with brain training software outpaced expectations, attracting significant numbers of investors and consumers alike. Alarmed, leading scientists in the field took action and last year produced a [Consensus Statement](#) regarding the validity of the claimed benefits of online brain training, drawing more attention to the overstatement of those benefits by the companies.

Apparently the FTC took notice. This past month, the agency fired a warning shot across the bow of the digital brain training industry, [announcing that it had charged Lumosity](#) (the largest provider in the space with over 1 million subscribers) and its co-founders with making false and unsubstantiated claims regarding the real-world benefits of their brain training software. Jessica Rich, director of the department’s Bureau of Consumer Protection, stated that “Lumosity preyed on consumers’ fears about age-related cognitive decline, suggesting their games could stave off memory loss, dementia and even Alzheimer’s disease ... (B)ut Lumosity simply did not have the science to back up its ads.” The agency imposed a settlement judgment of \$50 million dollars, suspended due to the company’s financial condition after it pays \$2 million in redress to its customers. In addition, Lumosity’s co-founders have stepped down from day-to-day operations. Even more significantly, FTC Commissioner Julie Brill issued a [Concurring Statement](#) to the Settlement announcement in which she expressed her significant concern “regarding the marketing of brain training programs going forward” and warned that companies in the industry should exercise great care in their advertising claims.



As the science of brain health evolves, so does the risk that consumer product will arise that make claims of benefit but doesn't deliver on the real scientific evidence of what it takes to be brain healthy. Perhaps what is most shameful is that the years touting online training as just the "quick fix" that would keep our brains young has masked the real science of what brain fitness is all about, namely engaging in lifestyle behaviors that have been tied to staying sharp and potentially reducing memory loss. Consumers may see that advice – to exercise, eat healthy, engage in intellectually stimulating and social activities – as "boring" in the face of the fun, cutting edge feel of playing a game on their smartphone. Who wouldn't?

So does the FTC's inquiry effectively kill the online brain training industry?

I would suggest that the answer is no. While the online brain training industry may have gotten off on the wrong side of the science, companies have now aggregated a staggering amount of cognitive performance data, in unprecedented numbers. Several in the industry, Lumosity a significant leader among them, have invested heavily in advancing the brain science, both by funding their own research divisions and through collaborations with scientists in the field. Dr. George Rebok, a noted memory researcher from Johns Hopkins University and co-investigator on the ACTIVE Trial (the largest federally-funded study of cognitive training), expressed his concern that challenges regarding the benefits of digital brain training might impede scientific advancement, [telling NY Times reporter Paula Span that "It would almost chill the whole field if people concluded it was all bogus."](#) As the industry matures, it has the potential to make tremendous contributions to furthering our understanding of cognitive performance and brain fitness.

In addition, digital brain training offers an accessible way to exercise the intellectual skills that decline with age, such as attention, processing speed, cognitive flexibility and memory. Research suggests that we can best keep these abilities buff through activities that challenge them. Recent [findings from the ACTIVE Trial](#) even suggest that cognitive training may indeed lead to slower decline in the performance of everyday activities over the long-term. One of the best ways to provide a "workout" for these cognitive skills is to play a game against the clock, since timed challenges force us to stay focused, work fast and think flexibly. While we can use everything from timed board games to free games on our smartphones to do that, for many folks its just easier – and sometimes more fun – to buy that brain training app. It may not make your brain "younger," but it could keep your skills sharp.

The digital brain training industry may have been dealt a significant blow, but it is not dead. Nor do I think the brain health community would benefit from its demise. Hopefully this decision will move the industry further along to being a mature, responsible partner in advancing the brain science. More importantly, let's pray the media attention will make consumers more aware that the real brain health science lies in how we live, and highlight the steps we can take every day (like those in our [TBH Blueprint](#)) to promote better memory and brain vitality. That is what Total Brain Health has always and will continue to be about.