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Brain Games Get Long-Deserved Scrutiny

by [JOHN SWARTZBERG, M.D.](#)

If, as we've said many times, the marketing of dietary supplements is something [like the Wild West](#), then the billion-dollar brain training industry has been moving into similar territory.

That's the impression I get from the growing stream of ads and websites hyping the marvels of computer-based cognitive programs and brain games for anxiously aging baby boomers and their parents. I certainly understand the attraction of promises of faster thinking, rejuvenated memory, and sharper focus—all for just a few hundred dollars or perhaps \$12 a month, auto-billed—especially when I misplace my car keys (again!) or forget a password I use every day.

But many of the ads make me cringe, especially because I know that the research about brain training programs [has been underwhelming](#) for the most part. So I was happy to hear a few months ago that 70 leading cognitive psychologists and neuroscientists issued a [consensus report](#) expressing skepticism about brain training and how it's being marketed. Their key points:

- Many claims are “exaggerated and misleading” and exploit the anxiety of healthy older adults worried about memory loss. There's no convincing evidence that any brain training programs will improve general cognitive abilities or help prevent or treat dementia, including [Alzheimer's disease](#).

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- The companies often boast that their programs are designed by famous scientists and supported by solid research, but most of the studies they cite are small, short, and poorly designed, and many are conducted by researchers with financial interests in the products. The findings are often only tangentially related to the advertised claims. What's more, it's unclear whether any improvements in skills practiced in brain games would persist until even the next day or carry over to other cognitive tasks and daily living.
- The best brain-health advice, based largely on observational findings, is to lead a physically active, intellectually challenging, and socially engaged life, the authors wisely concluded. In particular, much research shows that physical exercise is a moderately effective way to maintain and even improve brain fitness (though even this is far from certain—a recent [Cochrane review](#) of 12 clinical trials actually found no convincing evidence that aerobic exercise improves mental function in cognitively healthy older people). As the report pointed out, "If an hour spent doing solo software drills is an hour not spent hiking, learning Italian, making a new recipe, or playing with your grandchildren, it may not be worth it."

Not surprisingly, the brain training industry strongly disputed the conclusions of this report, stating that many of the studies in the field have been rigorous and support the benefits of their programs. And another large group of experts (some with ties to the industry) issued a rebuttal in support of cognitive training. I find their interpretation of the research less than persuasive.

The good news is that scientists now know that the brain remains malleable, even in old age. That is, stimulating activities like learning a new skill or taking classes can strengthen neural connections and produce other positive changes in the brain. While it's certainly premature to rule out the possibility that some sort of cognitive training will boost aging brains, more and better research will be needed to prove it. For now, the marketing of most of these programs is way out in front of the science.

Update: In January 2016 the creators and marketers of one widely advertised brain training program, [Lumosity](#), agreed to pay \$2 million to settle charges made by the Federal Trade Commission that they deceived consumers with unsubstantiated claims about improving performance of everyday tasks and delaying age-related cognitive decline and dementia. Most of the fine will be used to provide refunds to consumers; people will also be notified that they can cancel their monthly subscription to the program.

Also see [11 Best Bets for Brain Health](#).

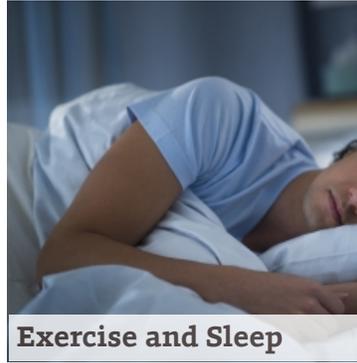
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