BrainTrain Bugle

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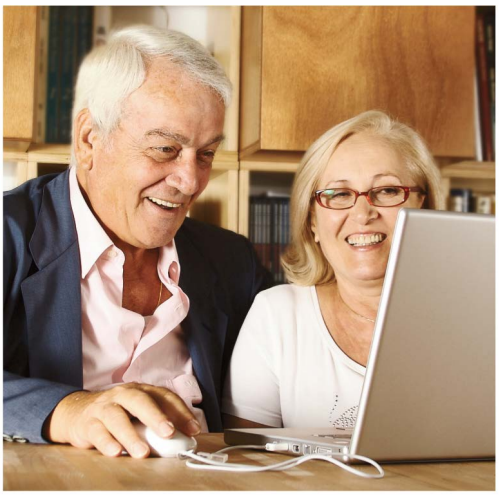
Brain Training Leads to Hippocampus Growth!



A carefully planned, targeted 12-week brain fitness program using the Captain's Log MindPower Builder for 127 elderly patients with Mild Cognitive Impairment (MCI) resulted in a significant "high impact" improvement in their cognitive abilities (Fotuhi, et al., 2016). All patients in the study completed a neurocognitive test battery that assessed 10 areas of cognitive functioning. The study found that **84% of these patients improved their functioning in three or more cognitive domains.** Pre and post MRIs completed for 17 of the participants found that **71% of the MRI scanned patients did not show the typical hippocampal atrophy seen for MCI and 53% were found to have an increase of at least 1% in the size of the hippocampus following the treatment program!**

Participants in this brain fitness program completed a total of 24 hours of personalized brain training using the Captain's Log MindPower Builder. The program, which targeted attention, working memory, executive functioning and mental processing speed, was customized to address each patient's specific clinical concerns and cognitive impairments. In addition, patients received an hour of counseling therapy, which addressed sleep, diet, exercise, and stress management and focused on maintaining the patients' motivation and commitment by keeping them reminded of their own personal goals. Participants also received two hours per week of personalized neurofeedback training to address any existing issues with attention, anxiety, or insomnia. The total treatment time completed by each individual was 60 hours.

What can we surmise from this study? Researchers felt that it was important to take into account the clients' own goals and to enhance their motivation, incorporating life strategy interventions via a personal brain coach. The researchers noted that patients who were younger and less impaired made the greatest gains. They theorized that these better functioning patients initially had a greater "brain reserve" and were thus able to benefit more from the training which supports the value of early intervention once MCI is diagnosed. The researchers also concluded that the multi-faceted interventions used (cognitive training, neurofeedback, and counseling) were the key reasons for the observed increases discovered by pre and post MRIs in the hippocampus neuronal network. The success of this combined brain training approach replicates the significant changes in cognitive functioning reported by Tinius and Tinius (2000), who combined the Captain's Log MindPower Builder and neurofeedback to help individuals with mTBI and ADHD. In this model, the game-like exercises in the cognitive training push individuals to exercise their brain by performing demanding mental tasks, while neurofeedback helps them to learn to foster the mental state that promotes sustained attention, focus and active mentation.

Further study is needed to determine the relative importance of each of the various components of this holistic brain fitness program. Also, it is not known what impact these interventions may have long-term in avoiding or delaying actual dementia. But this research does reinforce other studies showing that brain fitness activities may help stave off cognitive decline, and it sets the stage for initiating larger controlled randomized clinical trials to evaluate the possibility that we can slow age-related cognitive decline or even prevent dementia.

Check out more about this and other cognitive training research at http://www.braintrain.com/cognitive-training-research/

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