

## **The SharpBrains Guide to Brain Fitness: How to Optimize Brain Health and Performance at Any Age** Alvaro Fernandez , Dr. Elkhonon Goldberg

There are so many gems in this book, but I thought I'd highlight ten that particularly caught my attention:

- 1) Our brain's functions improve drastically throughout childhood and adolescence, following a predictable developmental progression.
- 2) Education and lifestyle matter just as much as genetics in the developmental trajectory of our mental functions across the lifespan.
- 3) There is no general brain training solution for everyone: each of us encounter different cognitive demands and have different starting points in our developmental progression.
- 4) Aerobic exercise can substantially improve executive functioning, increasing various neurotransmitters, nerve growth factors, and the formation of new blood vessels (angiogenesis).
- 5) Diet can improve cognitive functioning, although overall diet is important. While there is no magic nutritional supplement, recent research suggests that omega-3 fatty acids is associated with decreased risk of cognitive decline in adulthood (but no association has been found with risk of developing Alzheimer's disease).
- 6) The key for optimal brain functioning is to learn how to manage stress and build up the capacity for resilience. As Dr. Brett Steenbarger notes, "think of life as a gymnasium and the obstacles we encounter as the weights we must lift to get stronger. When you view challenges as resources toward development and not as unfortunate obstacles to be avoided, you'll be well along the path toward brain fitness."
- 7) It's possible to prevent cognitive decline and symptoms of Alzheimer's disease in later life by building up your "cognitive reserve." In one recent study, greater participation in intellectually stimulating activities, especially in early and middle life, was associated with lower accumulation of beta-amyloid peptide in the brain (beta-amyloid is elevated in patients with Alzheimer's disease). Older participants who engaged in the most stimulating intellectual activities showed levels of protein accumulation similar to the levels seen in the brains of much younger participants.
- 8) Social interactions, particularly those that are complex and cognitively demanding, can improve executive functioning, build cognitive reserve, and lower stress levels that can impact on brain functioning.
- 9) The key to long-term mental growth is continual novelty, challenge, and variety. According to Dr. Larry McCleary, "All types [of brain stimulation] count including schoolwork, occupational endeavors, leisure activities and formal brain training."
- 10) Cross-training- involving a combination of meditation, biofeedback, cognitive therapy, and cognitive training- can enhance targeted brain functions and build upon the healthy foundation laid by proper physical exercise, proper diet, stress regulation, and social engagement. [Here's a great excerpt from the book](#), which includes a suggestion of five conditions that need to be met for brain training to be likely to translate into meaningful real world improvements.