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## Pre-Rounds

# Sharpen Your Brain to Improve Performance, Lower Stress

**Nicholas Genes, MD, PhD**

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It's a new year, and many of our readers have no doubt resolved to eat less, read more, plan better, or adopt any of a hundred other well-intentioned practices. But how well we stick to these resolutions depends on how well we can train and reorient our minds.

Building on the latest research in neuroscience and cognition, one company is promoting "brain fitness" -- to keep the mind spry and avoid the ravages of time and stress. At [Sharp Brains](#), entrepreneur Alvaro Fernandez has joined forces with neurologist Elkhonon Goldberg and others to bridge the gap between science and practice. I recently corresponded with Mr. Fernandez about his company's goals and about how to best exercise our minds.

**Dr. Genes: I've read your [background](#) but am still curious about how you got interested in brain fitness and how you teamed up with Prof. Goldberg. Was this an outgrowth of your own experiences or research, or was it something that you thought would be a good business opportunity?**

**Alvaro Fernandez:** Let's just say that I saw a "perfect storm" of my values and passion combined with a business opportunity in an emerging market -- which is what excites me! For years I have defined myself as a "learning microorganism" and have experienced first-hand the value of structured mental exercise (heavy math and econometrics in undergrad, McKinsey training as first job, meditation since Stanford grad days...). This led me to learning about the brain and talking to neuroscientists, just for understanding's sake.

Then, while reading Elkhonon Goldberg's *The Executive Brain* in 2005 (which covers the plasticity of the frontal lobes, the growing number of cognitive training programs used by neuropsychologists to help people with cognitive problems, growing demand given the aging population, and speculation that there may be "brain gyms"), I thought that launching a company to help people navigate the growing field made sense.

In practical terms, after I read Elkhonon's book, I FedExed a letter to his office (the address was on the Internet) in effect saying, "If all of this is true, shouldn't we be doing something to inform the public and medical professionals at large?" And after a series of conversations, we launched the site.

Our company is acting as a bridge between science and practice, especially focused on helping healthy individuals from a prevention and performance point of view, and with a heavy educational component on what the brain is and how it works. These days I speak often at conferences and companies. I frequently say that, first of all, everyone should have at least a basic understanding of the "it" in "use it or lose it".

Sharp Brains hosts [Grand Rounds](#)  
January 15, 2008

**Dr. Genes:** There are already a number of online (and of course, offline) organizers, reminder systems, and productivity boosters. How will brain fitness tips and cognitive training compete with more easily measurable efficiency tools?

**Alvaro Fernandez:** They are complementary. You could also have asked, given that we have cars and bikes to move around, why we should care about our physical fitness. (And perhaps many people think that, and then you have an obesity epidemic...)

The goal of the brain fitness field is to improve, in noninvasive ways, the capacity of our most scarce resource: our brain. For example, memory training could help with multitasking; speed-of-processing training to make faster, better decisions; cognitive simulations to be a better surgeon; and so on. You are asking about tools. We are talking about capacities, so one can be more effective at decision-making and self-regulation using those tools.

The part that is getting the most press these days is linked to healthy aging, and since the publication of the last [ACTIVE results](#) in *JAMA*, there's been a lot of interest in how to slow cognitive decline. But there are many more angles, and we are working with large companies interested in learning about how all of this may affect their corporate training and wellness initiatives.

**Dr. Genes:** Your site's mission -- to be a trusted resource for cognitive and emotional training -- used to be something that families, schools, and relationships fulfilled. Has life become too complex for these institutions, or have their roles eroded?

**Alvaro Fernandez:** Well, the environment is completely different. The lifespan today is more than double what it was 200 years ago, and those institutions were mostly designed to help younger people, so we need something different to enable lifelong brain performance and health. There is science today on adult neurogenesis and neuroplasticity that directly contradicts what was the medical and scientific consensus until 10 years ago...and which professionals trained beforehand probably still believe, and which families, schools, and relationships...don't know what to do with. To give you a sense, Cold Spring Harbor Laboratory just published a 673-page, 30-chapter, monograph titled *Adult Neurogenesis*. It's very basic science, but there are more and more implications and specific applications.

Think of the physical fitness industry. It mostly didn't exist 50 years ago. Look at it now. Our bet is that it will take science-based brain fitness less than 50 years to develop...In fact, the new information, tools, and assessments don't need to replace existing institutions but provide additional tools for them. We are just witnessing the beginning of something very interesting, in our very biased perception.

**Dr. Genes:** Your [interview series](#) is very impressive. How have you been able to approach these established researchers? Are they skeptical about speaking with a blogger?

**Alvaro Fernandez:** I have been pretty lucky. And being affiliated with Dr. Goldberg (a disciple of Alexander Luria) has also helped. I, with a couple of collaborators, am always looking for new literature, and when we find good papers or books on how brain health or cognitive abilities may be improved, we contact the authors.

Why do they reply? First, we have found that scientists in this area feel that their research is not well understood and they want to increase awareness. Second, we do our best to transmit their voices as accurately as possible. One of the first interviews was with [Daniel Gopher](#) on cognitive training for "basketball game intelligence." Prof. Gopher is a very well-respected scientist in the cognitive training field, and we had a very in-depth conversation to which subsequent researchers have referred. Scientists approve the interview notes before I publish them and can ask for any edits: I want to make sure that the notes reflect their research and thoughts and serve an educational purpose.

We were gladly surprised when, out of the blue, *Scientific American Mind* featured our blog in their June/July edition. Right now, a good number of scientists contact us via the Web site. What we lack is time to interview scientists and review good books and papers -- so if there are any willing guest bloggers reading this interview, we're all ears!

**Dr. Genes:** What are some of the blog entries that really seemed to help your readers, or something you wrote that provoked controversy? What are some posts you can point to for busy doctors and students, especially those who feel that their brains are already plenty fit?

**Alvaro Fernandez:** Many of our popular posts come from the Neuroscience Interview Series, such as the one with

Judith Beck ([Train Your Brain to Think Like a Thin Person](#)) and Yaakov Stern's message to [Build Your Cognitive Reserve](#).

A more "fun" post, which was very well received, was [Ten Habits of Highly Effective Brains](#), especially the message "Don't outsource your brain."

But people, especially teachers, really seem to love cognitive brain teasers (and use them with their classes), so we will be offering more, like these [experiments on attention](#) and [the Stroop Test](#). The most controversial posts are, funnily enough, some of the brain teasers, like [this one](#).

For busy doctors and students, I'd recommend learning about the neurobiology of stress...Some tips and activities are provided in [this post](#).

**Dr. Genes: Join the team at Sharp Brains when they host [Grand Rounds](#), where the best writing from the online medical world is on display. Read what doctors, nurses, patients, students, healthcare professionals, and researchers have to say about their fields, current events, and more.**

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Disclosure: Nicholas Genes, MD, PhD, has disclosed no relevant financial relationships.

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