



#1hit

06 Jul 2011

I haven't had time to study this man's proposition that exercise and coordinated movement are fundamental to getting the symptoms of add / adhd under control, but I watched his video on youtube, which can be found if you type in "John ratey authors" (some of the slides are dumb but its solid research), and many of his points seem compelling.

According to his research, the motor cortex and the area of the brain that commands executive function are closely intertwined, and that improving coordination and rhythm through practice and exercise results in astonishing improvements in symptoms and attentiveness.

He makes the point that evolutionarily, people had to spend long amounts of time on the plains and in forests, running after prey, defending themselves, etc, and those who were the strongest and smartest were the ones who survived, so when they are doing all this "exercise", their bodies support them in their endeavors by pumping out endorphins and balancing neurotransmitters so that they have motivation, optimism, etc, while they're chasing prey.

There's a lot more, but for brevity's sake, I was wondering, has anyone else here heard of these findings? Are there any exercises to supplement an exercise routine that aid in fine tuning coordination, which I have none of? What are your thoughts on this topic?

Edited by #1hit, 06 July 2011 - 12:49 PM.



jlspartz

06 Jul 2011

#1hit, on 06 July 2011 - 12:48 PM, said:

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Exercise and being active is very well proven - increasing brain derived neurotrophic factor which leads to growth of new neurons and protection of existing neurons that produce neurotransmitters - raising levels of dopamine, norepinephrine and serotonin base levels by 20 percent from exercising 1/2 hour 3 times a week. The whole hunter/gatherer thing is bunk - but it's general concept is correct - humans are meant to be active.

I searched for hours previously to find any scientific data on motor coordination increasing executive functioning or dopamine binding potential and could not find anything. Maybe someone else knows of a study. But, my hunch is that it is true - through it's a very long complex route to prove. Working memory training is known to increase D1 binding in the prefrontal cortex (which heightens some attention in executive functioning), and the D1 receptors in the PFC are connected to the D2 receptors in the hippocampus (upregulating one triggers the other) - one of the problematic receptor types in ADHD. Now, while doing working memory training your left brain hemisphere remembers the right side of the screen and your right brain hemisphere remembers the left side of the screen, and coordinates the whole picture between the two, producing that effect on your mind while it tries to adapt. While learning physical juggling, your brain does the same thing with coordinating the movements of your arms and depth perception, and after having learned it a week or two later, while juggling your brain is putting out alpha waves, which regulates/normalizes the other wave frequencies - reducing theta waves which are an issue in inattention. Therefore, I make the educated guess that motor coordination would improve executive functioning.



kazlady

20 Dec 2011

I can't speak to the scientific data side of things, but I can speak from personal experience. I have a very severe case of ADHD, less than 1% of people suffer with it as bad as I do. I am currently working on an undergrad degree in music and another in education. I found out about my ADHD 3 years ago. 8 years into a 4 year degree. Until the diagnosis, my GPA was regularly below 2.0 even though my IQ is extremely high. This year, my learning strategist had me try anything I could think of when trying to write papers to get the words from inside my head to the paper. One of the things I tried was dictating to my iPad while walking on a treadmill. I was flabbergasted by the result. I had been struggling to write a 10 page analysis of a string quartet, a topic which usually excited me but I couldn't find the right words and so wasn't writing any words. I set the treadmill to a quick walk. Not enough to make me lose my breath but faster than normal. Within 45 minutes I had 5 pages dictated. I pulled out another paper I needed to write and did the same thing (after taking a short break to let my legs rest). In less than an hour I got the first chapter of the book I had to read and the 4 page book report done. The theories I have read all say something about activity that requires both sides of your body opening up the pathways between the hemispheres and therefore making it easier to use both sides at once, but I don't know how it applied. All I know is I have a much better chance of losing the 50 pounds I have been trying to lose for 6 years now that I am going to do all of my assignments on the treadmill.

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