



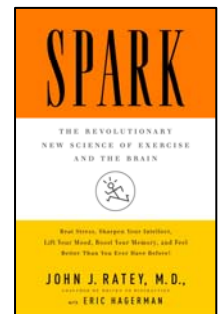
Beverly H. Rohman



The Impact of Exercise on Learning and Mental Health

Did you know that you can beat stress, lift your mood, fight memory loss, sharpen your intellect and function better than ever simply by elevating your heart rate and breaking a sweat? So describes a book on exercise that is receiving rave reviews and sending shock waves throughout the medical and academic communities. There is “inspiring science connecting exercise and the brain...,” says Dr. John Ratey, a clinical associate professor of psychiatry at Harvard Medical School, and author of the newly published revolutionary book, *Spark* (January 2008, Little, Brown and Company). In this groundbreaking and fascinating account, Dr. Ratey provides the latest clinical information and scientific research that is being done worldwide that “...explains the science of how exercise cues the building blocks of learning in the brain; how it affects mood, anxiety, and attention; how it guards against stress and reverses some of the effects of aging in the brain; and how it can help stave off the sometimes tumultuous effects of hormonal changes.”

The obvious connections between exercise and physical appearance --- tighter abs, greater endurance, stronger muscles, and weight loss, to name a few --- have been long acknowledged and accepted. The fact that exercise sparks new brain-cell growth, that it has a positive impact on depression and that a rigorous fitness program in a high school gym class in Naperville, Illinois, transformed the student body of 19,000 students to become some of the fittest in the nation and to test first in the world in science have met with little attention. Now, major studies outlined by Dr. Ratey show the reality of “the mind-body connection and new research to prove that exercise is truly the best defense against everything from mood disorders to ADHD to addiction to menopause to Alzheimer’s.” In easy to understand examples and case studies, Dr. Ratey explains that the brain works just as muscles do ---- growing with use and withering with inactivity. It is the *use it or lose it* concept explored, explained and convincingly stated that helps us to truly understand the power and importance exercise plays in our daily lives. Whether a student or adult, engaging in some form of aerobic exercise every day gets “the heart and lungs pumping and can mean the difference between a calm, focused mind and harried, inattentive self.”



Dr. Ratey explains how “exercise improves learning on three levels: first, it optimizes your mind-set to improve alertness, attention and motivation; second, it prepares and encourages nerve cells to bind to one another....; third, it spurs the development of new nerve cells.” Literally, aerobic exercise physically remodels our brains for peak performance. He says “to keep our brains at peak performance our bodies need to work hard.” He suggests that it is best to “either choose a sport that simultaneously taxes the cardiovascular system and the brain (like tennis or racquetball) or do a ten-minute aerobic warm-up before something non-aerobic and skill based (rock climbing or balance drills). While aerobic exercise elevates neurotransmitters, creates new blood vessels that pipe in growth factors and spawns new cells, complex activities put all that material to use by strengthening and expanding networks.”

The overall impact of exercise on the brain and the heart is explained as the following:

- 1. It strengthens the cardiovascular system.**
- 2. It regulates fuel.**
- 3. It reduces obesity.**
- 4. It elevates your stress threshold.**
- 5. It lifts your mood.**
- 6. It boosts the immune system.**
- 7. It fortifies your bones.**
- 8. It boosts motivation.**
- 9. It fosters neuroplasticity.**

From the Naperville study that sparked the idea for this great work, Dr. Ratey’s findings and examples give us a sound explanation of how exercise and healthy diet improve memory and learning. *Spark* is the first book to explore comprehensively the connection between exercise and the brain. “It will forever change the way you think about exercise---or, for that matter, simply the way you think.”

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an ADD Coach and Learning Consultant.*

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