

Exercise: Improve Your Mood and Help Repair the Effects of Stress

By KARYN HALL, PHD



Emotionally sensitive people are often advised to exercise to calm their anxiety or to help overcome depression. Grandmothers, psychiatrists, friends and even strangers often suggest, "Exercise. You'll feel better."

In our recent survey, 71.4% of the emotionally sensitive have found exercise helpful in managing their mood. Turns out the research, as reported by John Ratey, MD in his book *Spark*, shows exercise has a strong effect on mood as well as other important functions of the brain.

Exercise is effective in treating anxiety and panic. Getting active provides a distraction, reduces muscle tension, builds brain resources (increases and balances serotonin, dopamine and norepinephrine, all important neurotransmitters involved in mood), improves resilience by showing you that you can be effective in controlling anxiety, and breaks the feeling of being trapped and immobilized.

The effects can be equal or even better than medication. The problem is that when people are upset or depressed, they don't want to exercise.

Establishing a regular exercise program, one that you could maintain when your mood was unpleasant, may be part of the answer. Continuing a routine when you are emotionally dysregulated is easier than starting a new activity. Regular exercise would also help prevent relapse.

In addition to helping regulate your mood, exercise offers other advantages that make it well worth the time invested. Only recently are scientists realizing how extensive the effects of exercise truly are.

Exercise improves the ability to learn. When you are working on learning new coping skills, new ways of responding, the ability to take in information is obviously important. Dr. Ratey describes an American high school whose students participated in a physical fitness program. They finished first in the world on science and sixth on an international test to compare science and math abilities. As a whole, US students ranked 18th in science and 19th in math.

Studies have shown that better fitness means improved attention and improved ability to adjust their cognitive performance following a mistake.

How does that happen? Exercise reportedly spurs the development of new nerve cells from stem cells in the hippocampus. Perhaps most importantly, exercise is believed to increase BDNF (brain-derived neurotrophic factor), the master molecule of the learning process. Low levels of BDNF are associated with depression.

Exercise increases cognitive flexibility. Ratey defines cognitive flexibility as being able to shift your thinking and to be creative. Cognitive flexibility would be to apply new strategies to solve problems and use information in creative ways rather than rote memorization of facts. Memorizing coping skills may will not be as helpful as being able to able the information in different situations.

Exercise helps relieve and repair the effects of stress on the body. When stressed, the body releases cortisol. Ratey notes that high levels of cortisol make it difficult for the prefrontal cortex to direct the hippocampus to compare memories, like to determine that a stick is not a snake. Thus when cortisol is high it's difficult to decide what is a threat and what isn't a threat, so just about everything seems scary. You can't think clearly.

In addition, high levels of cortisol kill neurons in the hippocampus (where memories are stored), causing a communication breakdown. This result could partially explain why people get locked into negative thoughts—the hippocampus keeps recycling a negative memory.

Stress overload also creates more connections in the amygdala. The more the amygdala fires the stronger the stress and the sooner the stress becomes generalized, as if everything is a stressor.





Exercise helps prevent the damaging effects of stress and can reverse damage that has been done. Exercise protects neurons against cortisol in the areas that control mood, including the hippocampus and in that way helps prevent relapse and evens out up and down moods.

All with very few side effects.



Reference

Ratey, J.(2008). *Spark*. New York: Little, Brown and Company.

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Karyn Hall, Ph.D. is the owner/director of the Dialectical Behavior Therapy Center in Houston, Texas and a trainer/consultant with Treatment Implementation Collaborative (Ticllc.org).

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Last reviewed: 14 Apr 2012

APA Reference

Hall, K. (2012). Exercise: Improve Your Mood and Help Repair the Effects of Stress. *Psych Central*. Retrieved on September 20, 2012, from <http://blogs.psychcentral.com/emotionally-sensitive/2012/04/exercise-improve-your-mood-and-help-repair-the-effects-of-stress/>

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