

Well-Being

## Reduce Stress By Changing How You Think

Meghan Casserly, 07.07.10, 5:00 PM ET

"Most folks are about as happy as they make up their minds to be," Abraham Lincoln once famously said. And now it turns out that his statement was more than just a folksy quip. New research in neuroscience and psychology shows that we may be more in control of our emotions and anxiety levels than we think. And for the more than 75% of Americans who suffer from stress-related conditions, according to the American Psychiatric Association, these findings may give them new help for managing stress.

Stress comes from the way we think and react to outside stimulus, so people with anxious tendencies will react in a more fearful way than their calmer counterparts. "The reaction to stress stimuli comes from a part of the brain in the prefrontal cortex that is primitive--it's a fight or flight reaction," says Don Goewey, author of *Mystic Cool*, a self-help book about stress management. Your brain can't tell the difference between real and perceived danger, so stress levels jump when an individual faces a real physical threat or a perceived threat, such as being called into a supervisor's office.

In most animals, a serious threat causes a fight-or-flight reaction, but once the danger has passed, the brain circuitry stops flaring and they return to a state of rest. Unfortunately for us, humans perceive threats of varying intensities from so many different parts of our lives--being late to work, traffic, bills--that our brains can become over stimulated by the stress cycle. For many of us, this means living in a constant state of high alert, or a state of fear.

Here's how the science works: Our brains sense fear in a part of our brain called the amygdala. In response to fear or stress, the hypothalamus in the brain secretes corticotropin-releasing factor (CRF), which results in the pituitary gland releasing another hormone, adrenocorticotrophic hormone (ACTH) activates the adrenal glands that releases the stress hormone cortisol. This hormonal feedback loop is referred to as the hypothalamic-pituitary-adrenal) axis (HPA). It is, essentially, the cycle of panic.

Dr. Robert Sapolsky of Stanford University and Dr. Robert Davidson of The University of Wisconsin-Madison are some of the neuroscientists researching stress management, and they contend that people can retrain their brains to combat stress.

The ability for the brain to create new pathways is called neuroplasticity. The brain consists of nerve cells (neurons) and glial cells that are interconnected, and when these connections are changed, either by adding or removing these connections or by adding new cells, new information is stored in the brain.

"When you learn someone's name to the point of remembering it, you've experienced a neuroplastic event," says Sapolsky.

Until recently, neuroplasticity was thought to occur only during childhood and adolescence but new research has [shown that adult brains](#) are capable of creating new connections and forming new neurons, and perhaps even into old age.

So what does plasticity have to do with managing stress? Sapolsky and others contend that learning new responses to old behaviors can rewire your brain to invoke a calmer response. For instance, says Sapolsky, let's say an individual goes to a therapist to work out some long-standing issues such as trauma or abuse. As the patient comes to grips with the issue, they start to feel better because during this process, new neural connections are being made. And those new pathways can trigger the brain to release more dopamine, a neurotransmitter involved with feelings of pleasure.

But if you can't afford therapy, there are some things you can do on your own to help retrain your brain. Meditation, visualization exercises and self-hypnosis are intended to train attention for the sake of providing insight and clarity--and calm. Sapolsky recommends meditation. "Find a form of meditation that makes you feel more centered in a way that stays with you throughout the day," he says, "and you've strengthened the prefrontal region of the cortex whose job is to tone down the amygdala." The amygdala, Sapolsky explains, is the part of the brain that decides if we should get angry or anxious, and the prefrontal cortex is the part that makes you stop, think and find solutions.

Alvaro Fernandez, a cofounder of Sharp Brains, an independent research firm that specializes in brain health, says that rewiring the brain can be effective both long-term and to immediately calm feelings of stress, but the brain has to be rewired by employing two methods: "One, to ignore the distractors (stressor) and two, to identify and control the feelings when they arise." Distractions are easily avoided if you know what they are. If, for example, your stress trigger is traffic or a crowded subway car, you can take proactive steps to ignore them through meditation, deep breathing or other calming steps that can slow the heart rate and keep breathing regulated until the stressor passes.

Goewey recommends another exercise for dealing with stress on a case-by-case basis. He calls it the "clear button." If you feel yourself reacting to stress--whether you've been yelled at by a supervisor or you're about to walk into an annual review--Goewey suggests holding up your left hand in front of your face. Next, visualize a button in the center of your palm, and imagine that this button will put the fear and the stress center of your brain (the amygdala) on pause.

Press the button with your right hand and hold it while you count slowly to three while breathing deeply. With each number visualize a color: 1, red; 2, green; 3, blue, and on the final exhale, let go of the button and make a decision to let the stress go.

"Each step in the exercise chain is a distraction from the primitive, fearful thought center," Goewey explains. "When you have removed the stress, you are able to see positive solutions to the problems at hand, and without [going into] a panic mode."

By employing some of these strategies, individuals can not only reduce the stress in their lives but can also turn once-frightening events into positive endings. It could turn out that being chastised by a supervisor might give you a chance to evaluate your own performance and step it up a notch so the next annual review might yield a raise or a promotion.