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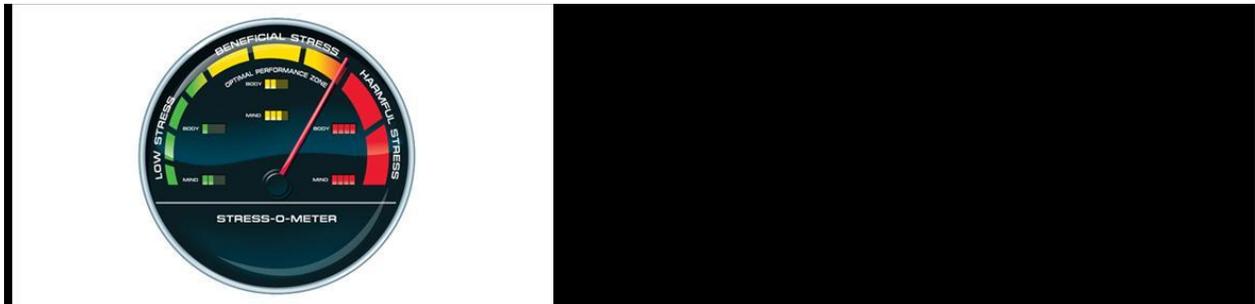
## WHEN STRESS IS GOOD FOR YOU

IT'S DISPARAGED AS DANGEROUS, BUT HEALTHY LEVELS OF STRESS CAN PUMP UP BOTH MIND AND BODY

By SUE SHELLENBARGER



Stress: It can propel you into "the zone," spurring peak performance and well-being. Too much of it, though, strains your heart, robs you of memory and mental clarity and raises your risk of chronic disease.



A little stress is helpful for peak performance, but too much can literally shut down the brain. Sue Shellenbarger on Lunch Break looks at how you stay in the good stress zone and tell if you're tipping into bad.

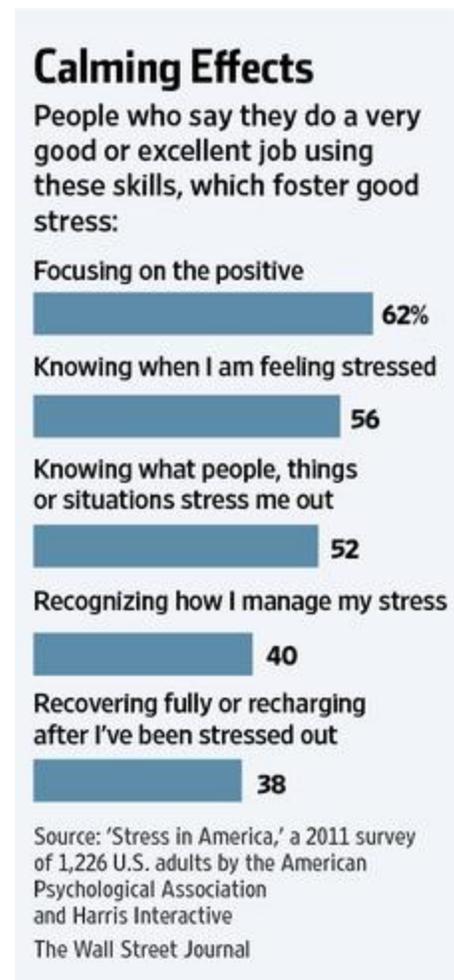
How do you get the benefits—and avoid the harmful effects?

By learning to identify and manage individual reactions to stress, people can develop healthier outlooks as well as improve performance on cognitive tests, at work and in athletics, researchers and psychologists say.

The body has a standard reaction when it faces a task where performance really matters to goals or well-being: The sympathetic nervous system and the hypothalamus, pituitary and adrenal glands pump stress hormones, adrenaline and cortisol, into the bloodstream. Heartbeat and breathing speed up, and muscles tense.

What happens next is what divides healthy stress from harmful stress. People experiencing beneficial or "adaptive" stress feel pumped. The blood vessels dilate, increasing blood flow to help the brain, muscles and limbs meet a challenge, similar to the effects of aerobic exercise, according to research by Wendy Mendes, an associate professor in the department of psychiatry at the University of California, San Francisco, and others.

The body tends to respond differently under harmful or threatening stress. The blood vessels constrict, and "you may feel a little dizzy as your blood pressure rises," says Christopher Edwards, director of the behavioral chronic pain management program at Duke University Medical Center. Symptoms are often like those you feel in a fit of anger. You may speak more loudly or experience lapses in judgment or logic, he says. Hands and feet may grow cold as blood rushes to the body's core. Research shows the heart often beats erratically, spiking again and again like a seismograph during an earthquake.



Another hallmark: "Can you turn it off? Or are you a prisoner of your mind?" says Martin Rossman, an author on healing and stress and a clinical instructor at the University of California, San Francisco, Medical School. People under harmful stress lose the ability to re-engage the parasympathetic nervous system, which drives the body's day-to-day natural functions, including digestion and sleep. While individuals vary in how long they can tolerate chronic stress, research shows it sharply increases the risk of insomnia, chronic disease and early death.

Home builder Carl Weissensee used to be "addicted to stress," he says. Managing thousands of details and multiple risks for each of the multimillion-dollar houses he builds, he spent years rushing around with "one foot off the ground 20 hours a day, running the same scenarios through my mind time and time again, and being unable to put it aside," says Mr. Weissensee, 58, of Mill Valley, Calif.

In an important marker of harmful stress levels, his agitation disrupted his life. "I would sleep four to six hours a night, and even that wasn't good sleep." His wife complained, and his young daughter painted a small rock for him with the words, "You work too much."

A heart attack, followed by problems with cardiac arrhythmia, forced him to find the line between good stress and bad. "I don't believe it's possible to do a good job without a certain amount of stress. It's necessary to get things done," he says.

He has brought it down to a healthy level by using relaxation techniques, including deep breathing and guided imagery—lying still and imagining stressful tasks turning out well. After seeing Dr. Rossman, reading his book and doing one of his relaxation CDs daily, Mr. Weissensee learned to acknowledge his worries instead of recycling them in his head, then practice "skipping over" them and telling himself that "everything works out in the end," he says. He has managed to stabilize his heart condition without large doses of medication.

#### Falling Levels

People who say their stress level is an 8, 9 or 10 on a 10-point scale, where 1 is 'little or no stress' and 10 is 'a great deal of stress.'

2007	32%
2008	30
2009	24
2010	24
2011	22

Source: American Psychological Association and Harris Interactive

"By practicing over and over, I seem to be changing the path my thoughts take from, 'I'm doomed,' to, 'Things will be OK,' " he says. "My goal is to worry just enough to do my job well."

That kind of positive attitude tends to produce good stress, based on research by Dr. Mendes and others. In a study of 50 college students, some were coached to believe that feeling nervous or excited before a presentation could improve performance. A control group didn't receive the coaching. When the students were asked to make a speech about themselves while receiving critical feedback, those who received the coaching showed a healthier physiological response, leading to increased dilation of the arteries and smaller rises in blood pressure than the control group.

In a similar study, students who received the same coaching before taking graduate-school entrance exams posted higher scores on a mock test in the lab and also on the actual exam three months later, compared with controls, according to a study co-authored by Dr. Mendes and published last year in the *Journal of Experimental Social Psychology*. They also posted higher levels of salivary amylase, a protein marker for adrenaline that is linked to episodes of beneficial stress.

People react differently to everyday stress. At-home or mobile biofeedback devices can detect spikes in the heart rate. Hand-held thermometers also can be used to note when the temperature of one's hands falls below 95 degrees, says Kenneth Pelletier, a clinical professor of medicine at both the University of Arizona School of Medicine and the University of California School of Medicine, San Francisco.

Toronto psychologist Kate Hays tells patients to imagine a stress scale "ranging from 1, where you're practically asleep, to 10, where you're climbing off the ceiling." Then, she asks them to recall a past peak performance and figure out where their stress at that moment would have ranked. Many people say 4 to 6, but responses range from 2 to 8, says Dr. Hays, who specializes in sports and performance psychology. That becomes their personal stress-management target.

For most people, hitting that target requires new skills. With practice, though, they can learn to relax completely in a few seconds, says Dr. Pelletier.

In addition to thinking positively about stressors, deep abdominal breathing and training in meditation and mindfulness, or regulating one's own mental and physical states, help moderate stress.

All have been shown in research to help heal such chronic problems as heart disease, according to a 2010 research review co-authored by Bonnie Horigan, director of public education for the Bravewell Collaborative, Minneapolis, a nonprofit that advocates integrating health and medical care. When [Ford Motor Co. F -1.24%](#) tested various ways of helping employees with chronic back pain several years ago, corporate medical director Walter Talamonti says, training in reducing harmful stress to healthy levels was linked to reductions in employees' pain and medication use.

Dr. Edwards is seeing 15% to 20% annual increases in patients at his pain clinic seeking biofeedback and other help with stress and stress-related ailments. As many as 35% of them actually want to generate more good stress; many are referred by counselors, parents or coaches.

Many workplace wellness programs have also begun coaching people to hit "the optimal performance zone"—with enough stress "to be stimulating, to focus you, to challenge you" without taking a physical toll, says Dr. Pelletier.

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