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## **Stress for Success**

*Psychologists help anxious teens put their worries to good use*

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*Everyone experiences stress — but is it always something that just weighs us down? In this article, Science News for Students explores the ways that stress can be both harmful and helpful in our daily lives. As you read, take note of the different functions of stress. How can we learn to manage our stress, and in some cases, even allow it to help us?*

- [1] A pounding heart. Tense muscles. Sweat-beaded forehead. The sight of a coiled snake or a deep chasm<sup>1</sup> might trigger such stress responses. These physical reactions signal that the body is prepared to deal with a life-threatening situation.



*"Dangerous Risk Adrenaline Suicide by Fear of Falling" by epSos.de is licensed under CC BY 2.0.*

Many people, however, respond this way to things that cannot actually hurt them. Sitting down to take a test, for example, or walking into a party won't kill you. Still, these kinds of situations can trigger a stress response that's every bit as real as those provoked by, say, staring down a lion. What's more, some people can experience such reactions simply by *thinking* about non-threatening events.

The uneasiness we feel when we think about, anticipate or plan for non-threatening events is called *anxiety*. Everyone experiences some anxiety. It's perfectly normal to feel butterflies in your belly before standing up in front of the class. For some people, however, anxiety can become so overwhelming, they start to skip school or stop going out with friends. They even can become physically ill.

The good news: Anxiety experts have a number of techniques to help people control such overwhelming feelings. Even better, new research suggests that viewing stress as beneficial not only can reduce anxious feelings, but also help us to improve our performance on challenging tasks.

### **Why We Worry**

- [5] Anxiety is related to fear. Fear is the emotion we feel when we are faced with something dangerous, whether real or not. Information from any of the five senses — or even just our imagination — can trigger fear, explains Debra Hope. She is a psychologist who specializes in anxiety at the University of Nebraska in Lincoln.

1. **Chasm** (*noun*): a deep crack or gap in the ground

Fear is what kept our ancestors alive when a rustle in the bushes turned out to be a lion. Talk about a useful emotion! Without fear, we wouldn't even be here today. That is because as soon as the brain detects danger, it starts a cascade of chemical reactions, Hope explains. Nerve cells, also known as neurons, start signaling to each other. The brain releases hormones — chemicals that regulate bodily activities. These particular hormones ready the body to either fight or flee. That's the evolutionary purpose of the stress response.

That fight-or-flight response is how the body prepares to deal with the threat at hand. And it triggers some major changes in *physiology*, or how the body functions. For instance, blood is shunted away from the fingers, toes and digestive system. That blood then rushes to large muscles in the arms and legs. There, the blood provides the oxygen and nutrients needed to sustain a fight or to beat a hasty<sup>2</sup> retreat.

Sometimes we don't know if a threat is real. For example, that rustle in the bushes might just be a breeze. Regardless, our bodies don't take chances. It's much more prudent<sup>3</sup> to get ready to confront or to flee a perceived threat than to assume all is well and do nothing. Our ancestors survived precisely because they did react, even when threats sometimes didn't turn out to be real. As a result, evolution has primed<sup>4</sup> us to be hyper-responsive to certain situations. That tendency to react to things means that our bodies are doing their jobs. That's a good thing.

The flip side of the coin, however, is that we can experience fear even when there's nothing to be afraid of. In fact, this often happens *before* a triggering event even occurs. This is called anxiety. Think of fear as a response to something as it is happening. Anxiety, on the other hand, comes with the anticipation of something that may (or may not) happen.

- [10] Whether fearful or anxious, the body responds similarly, explains Hope. We become more alert. Our muscles tense. Our hearts beat faster. In a real life-threatening situation, we would either run away or stand and fight. Anxiety, however, is all about anticipation. There is no actual fight or flight to release us from the strange things happening inside our bodies. So the hormones and brain-signaling compounds (*neurotransmitters*) that our bodies release don't get cleared away.

That ongoing response can lead to lightheadedness, as our brains are denied the oxygen that's been sent to our muscles. These reactions also can lead to a stomachache, as our food sits, undigested, in our bellies. And for some, anxiety can lead to a paralyzing inability to deal with life's stresses.

## Reducing a mountain to a molehill

People suffering from overwhelming feelings of anxiety have what's called an anxiety disorder. This broad term includes seven different types. The three disorders that most often affect kids and teens are separation anxiety, social anxiety and obsessive-compulsive disorder, or OCD.

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2. **Hasty** (*adjective*): quick or hurried
  3. **Prudent** (*adjective*): wise and careful in one's actions
  4. **Prime** (*verb*): to prepare someone to do something

Separation anxiety most commonly occurs in elementary-aged kids. That makes sense. This is when many children first leave behind their parents and head off to school for much of the day. By high school, social anxiety — which centers on being accepted by others — may take over. This can include worries about saying and doing the right things, dressing the right way, or otherwise behaving in an “acceptable” manner.

OCD is a two-part behavior. Obsessions are unwanted thoughts that keep coming back. Compulsions are actions performed over and over to try to make those obsessive thoughts go away. Someone who washes his hands for five minutes after touching anything that might have germs would have OCD. This condition tends to first emerge around age 9 (although it may not appear until closer to 19).

- [15] If you see yourself in this story, take heart: 10 to 12 percent of all kids experience anxiety disorders, says Lynn Miller. She is a psychologist specializing in anxiety disorders at Canada’s University of British Columbia, in Vancouver. If that percentage comes as a surprise, that’s probably because kids with anxiety disorders tend to be people-pleasers, Miller says. They also don’t willingly share their worries with others. The good news: Those kids often have above-average intelligence. They anticipate the future and work hard toward goals. They also tap into their natural tendency to scan the environment and search for danger, Miller explains. That is what causes them to make mountains out of molehills.

Miller works with kids of all ages to help them deal with overwhelming feelings of anxiety. She teaches those children how to deal with such feelings. Even if you don’t suffer from an anxiety disorder, keep reading. We all can benefit from a bit more calm in our lives, Miller says.

She recommends starting by breathing deeply and relaxing your muscles, group by group. Deep breathing restores oxygen to the brain. This allows the brain to clear the neurotransmitters that were released when the body turned on its stress response. That lets you think clearly again. At the same time, focusing on relaxation helps unclench muscles poised to fight or flee. This can prevent muscle cramps, headaches and even stomachaches.

Now figure out what triggered your uneasiness in the first place. Once you’ve identified its source, you can work on changing negative thoughts into more productive ones. Thinking it will be okay if an assignment isn’t done perfectly, for example, can help overcome fears of not doing well enough (which might otherwise lead to doing nothing at all).

Miller also recommends facing fears in small doses. Someone afraid of public speaking, for example, should prepare for a class presentation by first practicing in front of a mirror. Then in front of the family pet. Then a trusted family member, and so on. By gradually increasing our exposure to a situation that sparks anxiety, we can train our brains to recognize the situation as non-threatening.

- [20] Finally, know when triggers are most likely to pop up. For many students, Sunday night is tough, with a whole new week of school to face the next morning. During such times, it is particularly important to use breathing and relaxation techniques, Miller says.

## **Mental turnabout**

Coping techniques can help overcome the anxiety created by a stressful situation. What’s more: Changing how we look at stress might actually help our bodies, minds and behavior.

Alia Crum is a psychologist at Stanford University in Palo Alto, Calif. Stress is typically viewed as unhealthy, she says. That's because we have been taught that stress causes all kinds of physical problems, ranging from high blood pressure to depression.<sup>5</sup>

But stress isn't necessarily bad, Crum says. In fact, the stress response comes with some benefits. It allows us to ignore distractions so that we can focus on the task at hand. We even can exhibit greater-than-normal strength. The physiological response to a life-threatening situation has allowed people to lift cars in order to free people trapped underneath.

Crum's research suggests that our bodies respond to stressful situations the way we expect them to. If we think stress is bad, we suffer. If we think stress can be a good thing — that it can actually enhance, or improve, our performance — we tend to rise to the challenge. In other words, what Crum calls *mindset* — our belief about a situation — matters.

[25] To find out how mindset influences stress levels, Crum studied a group of college students. She started by having them answer a questionnaire to determine their stress mindset early in the class. The questions asked if they believed stress should be avoided. Or whether they felt stress helped them learn.

On a later date, the students swiped the insides of their mouths with cotton swabs to collect saliva. Saliva contains a stress hormone called *cortisol*. This hormone floods the body when the fight-or-flight response kicks in. The swabs allowed Crum to measure each student's level of stress.

Then came the stressor: Students were asked to prepare a presentation. The class was told that five people would be selected to give their presentations to the rest of the class. Because many people find public speaking extremely stressful, this triggered a stress response in the students. During the class, students again swabbed their mouths to collect cortisol. They also were asked whether they would want feedback on their performance, should they be among the five chosen to present.

In the end, students who had a stress-is-enhancing mindset (based on the results of the questionnaire they had answered earlier) showed a shift in cortisol levels. Cortisol went up in students who didn't have much to begin with. It went down in students who had a lot. Both changes put the students at a "peak" level of stress, explains Crum. That is, the students were stressed enough to help them perform better, but not so much that it put them into fight-or-flight mode. Students who had a stress-is-debilitating<sup>6</sup> mindset did not experience such cortisol changes. The stress-is-enhancing students also were most likely to ask for feedback — a behavior that further improves performance.

How can people shift into a stress-is-enhancing mindset? Start by recognizing that stress can be useful. "We only stress about what we care about," Crum says. She points out that achieving goals necessarily involves stressful moments. If we know that stress is coming, then we can see it for what it is: part of the process of growth and accomplishment.

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5. Depression is a mental illness characterized by persistent sadness, apathy, and a number of other symptoms. When someone develops depression, these symptoms can last for years and often harm the individual's ability to perform daily tasks, such as sleeping, eating, pursuing hobbies, and interacting with others.

6. **Debilitate** (*verb*): to weaken or make feeble