

The Story of Stress (Hint: We're Addicted to It)

[Dr. Mercola](#)

"Stress is not a state of mind... it's measurable and dangerous, and humans can't seem to find their off-switch." These words of warning come from renowned author and award-winning neurobiologist Robert Sapolsky in the documentary *Stress: Portrait of a Killer*.¹ The film, jointly produced by National Geographic and Stanford University where Dr. Sapolsky is a professor and scholar, shows just how dangerous prolonged stress can be. As we evolved, the stress response saved our lives by enabling us to run from predators or take down prey. But today, we are turning on the same "life-saving" reaction to cope with \$4 per gallon gasoline, fear of public speaking, difficult bosses, and traffic jams—and have a hard time turning it off. Constantly being in a stress response may have you marinating in corrosive hormones around the clock. This film shows the impact stress has on your body, how it can shrink your brain, add fat to your belly, and even unravel your chromosomes. Understanding how stress works can help you figure out ways to combat it and reduce its negative impacts on your health.

Monkey See, Monkey Do

Dr. Sapolsky has learned a great deal about the human stress response and its effects on your body by studying primates in Africa. Every year, he spends a few weeks in the Kenyan wilderness studying baboon societies that have intraspecies social and psychological tumult that mimics the stress of modern man. He monitors their adrenal hormone levels, namely adrenalin (epinephrine) and glucocorticoids (such as cortisol). The fact that baboons live in communities with

hierarchical structures led Dr. Sapolsky to one of his most profound discoveries: baboon stress is related to hierarchy, or social rank. The higher a baboon's rank, the less stress it experiences. The lower its rank, the higher its stress. More importantly, Dr. Sapolsky discovered that the low ranking "have-nots" of the baboon world experienced higher heart rates and blood pressure than the "haves." Arteries in the "have-not" monkeys filled up with plaque, restricting their blood flow and increasing their heart attack risk. This was the first time stress was scientifically linked to deteriorating health in wild primates. As it turns out, the same is true for other primates—for example, us!

Mortality Rates Follow a Social Gradient

Professor Sir Michael Marmot performed a 40-year long stress study in which he followed 18,000 men occupying various positions with the British Civil Service. His findings paralleled what Sapolsky found for the baboons: the higher your status, the lower your risk for stress-related diseases.² Marmot found that men in the lowest employment grades were much more likely to die prematurely than men in the higher grades—there is in fact a "social gradient" for mortality. Subsequent studies involving women had similar findings. But why would this be—what does your status have to do with your stress?

It's All About Your Locus of Control

Dr. Sapolsky explains how psychological distress may turn on your stress response in this [short video clip](#). If the link does not work for you, you can access it on the [Stanford University](#) website (click on "Related to this Story" in right column, then the tab "More on Stress"). Sapolsky explains how you are more vulnerable to stress if the following factors are true:

- You feel like you have no control

- You're not getting any predictive information (how bad the challenge is going to be, how long it will go on, etc.)
- You feel you have no way out
- You interpret things as getting worse
- You have no "shoulder to cry on" (e.g., lack of social affiliation or support)

Like baboons, people at the top of the social pyramid feel a greater sense of control because they are the ones who call the shots, as well as typically having more social connections and resources at their disposal. This results in less stress, which over the long run translates to lower rates of disease.

Stress is also closely related to the experience of pleasure, related to the binding of [dopamine to pleasure](#) receptors in your brain. The brains of "primate CEOs" light up brightly in PET scans, whereas the brains of subordinate monkeys do not, indicating that life is less pleasurable for the subordinates. Like primates, people of lower socioeconomic status appear to derive less pleasure from their lives. Perhaps this is why laughter therapy is so effective![3](#), [4](#)

Overall, men and women suffer from the same stress-related illnesses, but they differ in the types of situations they experience as most stressful. The genders also experience stress differently. For example, women suffer more stress-induced anxiety and depression than men.[5](#) One thing is known to be true for *both genders*: higher stress equates to a shorter life expectancy.

Are You a Stress Junkie?

The paradox here is that humans have essentially become addicted to stress. There is "good stress" (eustress) and "bad stress" (distress)—meaning, you experience certain stressful experiences as unpleasant and seek to avoid them, but *others* you may actually seek out because they're fun. For

example, snowboarding, skydiving, rollercoasters, and scary movies are experiences that may flip your thrill-switch—and your body responds to those stresses in the same way as if a tiger were chasing you. Your muscles tense, your heart pounds, your respirations increase, and your body stops all of its non-essential processes. This can be pleasantly exhilarating, and for some rather addictive... you might know someone whom you could describe as an “adrenalin junkie.” A thrill is simply the relinquishing of a bit of control in a setting that feels safe. But when you’re in that heightened state of arousal 24/7, stress takes its toll on your body—whether you perceive the stress as “good” or “bad.”

Stress Takes a Toll on Your Brain and Adds Inches to Your Waistline

Science has established that stress can lead to cardiovascular disease, but did you know that it can also lead to weight gain—*of the worst kind*? Stress-induced weight gain typically involves an increase in belly fat, which is the most dangerous fat for your body to accumulate, and increases your cardiovascular risk. Stress alters the way fat is deposited because of the specific hormones and other chemicals your body produces when you’re stressed. Prolonged stress can also damage your brain cells and make you lose the capacity to remember things. The brain cells of stressed rats are dramatically smaller, especially in the area of their hippocampus, which is the seat of learning and memory. Stress disrupts your neuroendocrine and immune systems and appears to trigger a degenerative process in your brain that can result in Alzheimer’s disease. Stress can also accelerate aging by shortening your telomeres, the protective genetic structures that regulate how your cells age. In the words of Dr. Lissa Rankin, author of *Mind Over Medicine*:[6](#)

“Our bodies know how to fix broken proteins, kill cancer cells, retard aging, and fight infection. They even know how to heal ulcers, make skin lesions disappear and knit together

broken bones! But here's the kicker—those natural self-repair mechanisms don't work if you're stressed!"

According to Dr. Sapolsky, the following are the most common health conditions that are caused by or worsened by stress:

Cardiovascular disease	Hypertension	Depression
Anxiety	Sexual dysfunction	Infertility and irregular cycles
Frequent colds	Insomnia and fatigue	Trouble concentrating
Memory loss	Appetite changes	Digestive problems and dysbiosis

The Dutch Famine Study

The Dutch Famine Birth Cohort Study (Hungerwinter Study) shows that stress in utero might be followed by a lifetime of poor health. Survivors of the Dutch famine are now in their 60s, and those conceived during the famine have higher rates of cardiovascular disease and diabetes and are in poorer overall health than those conceived after the famine ended. Researchers postulate that stress hormones in the blood of those pregnant women triggered changes in their babies' developing nervous systems as they battled against starvation. Decades later, their bodies still "remember" this prenatal stress.[7](#)

The Dutch Famine Study is not the only scientific research to show that your mental and physical health can be permanently affected by childhood stress and trauma. The [Adverse Childhood Experiences \(ACE\) study](#) is an ongoing research project that analyzes the relationship between stressful childhood experiences and health outcomes later in life. There is a *very strong correlation* between childhood stress and many diseases, including cancer, depression, and heart disease.[8](#)

Cortisol Can Be an Important Health Challenge

The stress hormone cortisol, released by your adrenal glands as part of the “fight-or-flight” response, is the master hormone that regulates many aspects of your body’s stress response. However, cortisol levels are typically elevated across the board in today’s culture, to the detriment of mental and physical health. The impact stress is having on society as a whole is so profound that *Psychology Today* calls cortisol “Public Enemy Number One:”[9](#)

“The ripple effect of a fearful, isolated and stressed out society increases cortisol levels across the board for Americans of all ages. This creates a public health crisis and a huge drain on our economy.”

For example, elevated cortisol levels are a potential trigger for mental illness and reduced resilience, especially among adolescents. Evidence of the societal affects of unmanaged stress is disturbingly evident on the evening news, with seemingly ever-increasing episodes of bullying, suicides, and mass shootings, which are unfortunate, albeit extreme examples of what happens when people cannot cope. When you have effective stress reduction tools, you and your children are mentally and physically healthier, more resilient and less likely to be depressed, sick, or violent.

Is It Time to Send Yourself to Cortisol Rehab?

Sapolsky’s baboons prove that stress is not inevitable. You can [change your environment](#) and your responses. And as you learn how to effectively decrease your stress level, your cortisol will stabilize, your blood pressure will drop, and your health will improve in just about every way. It’s important to realize that stress management isn’t something you save up to do on the weekend—it needs to be done on a daily basis, because that’s how often stress rears its ugly head. There are many different stress reduction techniques,

and what works for you may not work for another.

One may enjoy meditating, but another may feel calmer by cleaning house! Stress management is a highly individual thing, and the last thing you want to do is be stressed by your supposedly stress-busting activity. You'll have to find what works best for you. Of course, making good [food choices](#) will support your overall health and increase your resiliency.

[Keep reading for effective stress management tools](#)