

Stress ..useful or harmful

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Introduction

- ▶ Stress is your body's way of responding to any kind of demand or threat. When you sense danger—whether it's real or imagined—the body's defenses kick into high gear in a rapid, automatic process known as the “fight-or-flight” reaction or the “stress response.”
- ▶ The stress response is the body's way of protecting you. When working properly, it helps you stay focused, energetic, and alert. In emergency situations, stress can save your life—giving you extra strength to defend yourself, for example, or spurring you to slam on the brakes to avoid a car accident.
- ▶ Stress can also help you rise to meet challenges. It's what keeps you on your toes during a presentation at work, sharpens your concentration when you're attempting the game-winning free throw, or drives you to study for an exam when you'd rather be watching TV. But beyond a certain point, stress stops being helpful and starts causing major damage to your health, mood, productivity, relationships, and your quality of life.
- ▶ If you frequently find yourself feeling frazzled and overwhelmed, it's time to take action to bring your nervous system back into balance. You can protect yourself—and improve how you think and feel—by learning how to recognize the signs and symptoms of chronic stress and taking steps to reduce its harmful effects.

The effect of chronic stress

- ▶ Your nervous system isn't very good at distinguishing between emotional and physical threats. If you're super stressed over an argument with a friend, a work deadline, or a mountain of bills, your body can react just as strongly as if you're facing a true life-or-death situation. And the more your emergency stress system is activated, the easier it becomes to trigger, making it harder to shut off.
- ▶ If you tend to get stressed out frequently,
- ▶ like many of us in today's demanding world, your body may exist in a heightened state of stress most of the time. And that can lead to serious health problems. Chronic stress disrupts nearly every system in your body. It can suppress your immune system, upset your digestive and reproductive systems, increase the risk of heart attack and stroke, and speed up the aging process. It can even rewire the brain, leaving you more vulnerable to anxiety, depression, and other mental health problems.

Cause of stress

- ▶ The situations and pressures that cause stress are known as stressors. We usually think of stressors as being negative, such as an exhausting work schedule or a rocky relationship. However, anything that puts high demands on you can be stressful. This includes positive events such as getting married, buying a house, going to college, or receiving a promotion.
- ▶ Of course, not all stress is caused by external factors. Stress can also be internal or self-generated, when you worry excessively about something that may or may not happen, or have irrational, pessimistic thoughts about life.
- ▶ Finally, what causes stress depends, at least in part, on your perception of it. Something that's stressful to you may not faze someone else; they may even enjoy it. While some of us are terrified of getting up in front of people to perform or speak, for example, others live for the spotlight. Where one person thrives under pressure and performs best in the face of a tight deadline, another will shut down when work demands escalate. And while you may enjoy helping to care for your elderly parents, your siblings may find the demands of caretaking overwhelming and stressful.

- ▶ Here are five interesting facts about stress that might surprise you.
- ▶ **1. Stress is good**
- ▶ Stress is actually useful. Without stress, we would not be here to talk about stress. If our hunter-gatherer ancestors did not experience some stress when that lion was roaming around their **sleeping** quarters, or when those red berries looked good but also emitted a strange odor, they would have been eaten or poisoned. Hence, our ancestors experienced stress and used it to their advantage so that they could procreate, allowing us to have this discussion today.

- ▶ Even in modern society, stress is useful. If college students didn't experience any stress over tests, they probably wouldn't study or show up for class. If workers didn't experience stress about project deadlines, they might end up getting fired.
- ▶ So, stress keeps us accountable for our actions. It motivates us and inspires us to be better citizens.
- ▶ **Stress is bad**
- ▶ Unfortunately, there are equally as many reasons why stress is bad. Whereas mild stressors—such as what to get your spouse for his or her birthday—are motivating, major stressors can be debilitating. For instance, caring for a loved one who has a **chronic illness** is a serious stressor. Chronic or major stressors are extremely taxing on the brain and the body, possibly leading to **depression** and other mental health consequences, as well as physical health issues.

▶ **. Stress is contagious**

- ▶ Stress is intimately tied to our social world. Social stress, such as feelings of loneliness or isolation, takes a toll on the brain and body. These forms of stress can lead to depression, anxiety and heart disease.
- ▶ But stress does not have to affect us directly to change our brains. Stress can also be contagious. Many of the sources of stress in our daily lives may not be ours directly, but rather those of our loved ones, such as health problems affecting a loved one, family responsibilities, and relationship issues. These stressors also have mental and physical health consequences—for our loved ones and for us.

▶ **5. Stress is about perception**

- ▶ So this brings us back to the original question. What exactly is stress?
- ▶ Stress is a perceived disconnect between a situation and our resources to deal with the situation. In other words, stress is a (real or imagined) threat that taxes our resources. The operative word here is perceived. Stress does not always arise from an actual threat; but if we perceive it to be a threat, then it's a threat.
- ▶ Consider a ride on a roller coaster, for example. For one person, this is a fun and fantastic thrill. For another person, it's a scary and stress-inducing event.
- ▶ If we perceive something as **stressful**, our brains release **hormones** into the blood. These hormones change our behavior, mental experience, and physical functioning. If the threat is real, such as a lion that is about to eat us, these hormones will help save our lives, for instance by helping to deliver necessary oxygen to our legs so we can run.

Benefit of stress

According to experts, stress is a burst of energy that basically advises you on what to do. In small doses, stress has many advantages. For instance, stress can help you meet daily challenges and motivates you to reach your goals. In fact, stress can help you accomplish tasks more efficiently. It can even boost memory.

Stress is also a vital warning system, producing the fight-or-flight response. When the brain perceives some kind of stress, it starts flooding the body with chemicals like epinephrine,

- ▶ This creates a variety of reactions such as an increase in blood pressure and heart rate. Plus, the senses suddenly have a laser-like focus so you can avoid physically stressful situations — such as jumping away from a moving car — and be safe.
- ▶ In addition, there are various health benefits with a little bit of stress. Researchers believe that some stress can help to fortify the immune system. For instance, stress can improve how your heart works and protect your body from infection. In one study, individuals who experienced moderate levels of stress before surgery were able to recover faster than individuals who had low or high levels.

Side effects of stress

- ▶ Stress is key for survival, but too much stress can be detrimental. Emotional stress that stays around for weeks or months can weaken the immune system and cause high blood pressure, fatigue, depression, anxiety and even heart disease. In particular, too much epinephrine can be harmful to your heart. It can change the arteries and how their cells are able to regenerate.

Signals of Too Much Stress

- ▶ It may be tough to tell when you're experiencing good or bad stress, but there are important ways that your body lets you know that you're struggling with too much stress. Watch out for the following warning signs:
- ▶
 - Inability to concentrate or complete tasks
 - Get sick more often with colds
 - Body aches
 - Other illnesses like autoimmune diseases flare up
 - Headaches
 - Irritability
 - Trouble falling sleeping or staying awake
 - Changes in appetite
 - More angry or anxious than usual

- ▶ The human body is designed to experience stress and react to it. Stress can be positive, keeping us alert, motivated, and ready to avoid danger. Stress becomes negative when a person faces continuous challenges without relief or relaxation between stressors. As a result, the person becomes overworked, and stress-related tension builds. The body's autonomic nervous system has a built-in stress response that causes physiological changes to allow the body to combat stressful situations. This stress response, also known as the "fight or flight response", is activated in case of an emergency. However, this response can become chronically activated during prolonged periods of stress. Prolonged activation of the stress response causes wear and tear on the body – both physical and emotional.

- ▶ Stress that continues without relief can lead to a condition called distress – a negative stress reaction. Distress can disturb the body's internal balance or equilibrium, leading to physical symptoms such as headaches, an upset stomach, elevated blood pressure, chest pain, sexual dysfunction, and problems sleeping. Emotional problems can also result from distress. These problems include depression, panic attacks, or other forms of anxiety and worry. Research suggests that stress also can bring on or worsen certain symptoms or diseases. Stress is linked to 6 of the leading causes of death: heart disease, cancer, lung ailments, accidents, cirrhosis of the liver, and suicide.
- ▶ Stress also becomes harmful when people engage in the compulsive use of substances or behaviors to try to relieve their stress. These substances or behaviors include food, alcohol, tobacco, drugs, gambling, sex, shopping, and the Internet. Rather than relieving the stress and returning the body to a relaxed state, these substances and compulsive behaviors tend to keep the body in a stressed state and cause more problems. The distressed person becomes trapped in a vicious circle.

- ▶ Individuals vary widely in how they respond to stress. The same stressor may be manageable for one person and overwhelming for another, depending in part on perception. People who feel resilient and confident that they can manage stress are much less likely to be overwhelmed by it—and more likely to have a healthy response—than people who think of stress as bad. Another factor is control. Stress is much less likely to be harmful if people have some control over the situation. A tight deadline is stressful but manageable if you have the ability to meet it. If not, if you feel helpless, the stress is more likely to be harmful. Early life experiences also shape how people respond to stress. If you have a lot of stress in your early life, you may be more vulnerable to the harmful effects of stress. Research by Rachel Yehuda, a scientist at the Icahn School of Medicine at Mount Sinai and the James J. Peters Veterans Affairs Medical Center in New York, has shown that Holocaust survivors have increased levels of stress hormones. Her most recent research shows that even offspring of Holocaust survivors have higher stress hormone levels.

- ▶ Chronic stress can constrict blood vessels and increase the risk of cardiovascular disease. Research shows that too much stress can suppress the immune system. Ours and other research has shown that chronic stress also reduces fertility in animals. In female mice, for instance, stress lowers libido, reduces fertility, and increases the risk of miscarriage. We also know that extreme stress can lead to post traumatic stress disorder, which is an area I'm very interested in. As I've said, it's important to remember threats. But it's also important to be able to forget them as new experiences come along. Let's say a man with a long white beard frightens you as a child. It's healthy to begin to forget that memory as you come to see that men with long white beards aren't inherently dangerous. The problem with post traumatic stress disorder is that people can't forget. They can't let traumatic memories go. The question is why. And we don't have an answer yet

GOOD vs. BAD
STRESS





- ▶ Thanks
- ▶ Submitted to
- ▶ Prof. Anna zhukova