

Stages of Stress and Psychoimmunology

by Sophia Tutorial



WHAT'S COVERED

This tutorial will cover the stages of stress and their effects on the body. Our discussion breaks down as follows:

1. Stress and Stress Reaction
2. General Adaptation Syndrome

1. Stress and Stress Reaction

Stress is a person's reaction and adaptation to changes within their environment. Humans are creatures of habit, and they prefer a stable environment. They expect certain interactions with their environment. Introducing a **stressor**, or something that disrupts a person's environment, causes a person to react in certain ways.

➞ **EXAMPLE** For instance, moving to a new house is a normal event that you might experience which could cause stress within your life.

Now, stress is a normal reaction, and only causes problems when it is experienced in excess, when combined with other genetic predispositions, or combined with other disorders. Then, stress can have a much larger effect on a person.

How a body reacts to stress is what we call a **stress reaction**. Stress causes the activation of the person's autonomic nervous system, particularly the sympathetic nervous system. This is the part of the nervous system that excites the body and leads to the fight or flight response. It leads to an increase in a person's heart rate, the dilating of pupils, and the release of adrenaline. It stops digestion and relaxes the bladder. The brain also gets excited, particularly the limbic system--the system that bridges the gap between the brain and the body.



TERMS TO KNOW

Stressor

Something or some event that causes stress and disrupts a person's environment

Stress Reaction

How a body reacts to stress

2. General Adaptation Syndrome

A stress reaction is intended as a short-term response to a stressor in the environment. Stress in the long term leads to other bodily reactions that follow a general sort of pattern. This is called **general adaptation syndrome**, and it occurs in three stages:

1. Alarm stage

This is the first stage, and it is the body's initial reaction to the stressor in the short term. While this can help a person if they are in danger, it can also lead to effects like headaches, shortness of breath, and loss of appetite, because digestion halts during this time.

2. Resistance Stage

This is the second stage where, over time, the body begins to adapt to the stress. The body will return to a more normalized state, counteracting the excitatory symptoms that are presenting within the body. The excitatory symptoms will begin to decrease. This level is achieved at a higher expenditure of energy.

3. Exhaustion Stage

This is the final stage where the body's resources are depleted and it is simply worn out from constantly responding to the stress within the environment. The autonomic nervous system reactions begin to reappear, because the body is no longer attempting to be normal. It can't, because it doesn't have the energy for it. A person might start to show all the physical symptoms from the alarm stage again--sweating, increased heart rate, and loss of appetite.

In addition, a person in the exhaustion stage starts to show mental and emotional signs of stress. They might be very irritable, exhibit a lot of anxiety, and show mental fatigue as well. At this point, people in high stress jobs, police officers, social workers, teachers, etc., can also experience what is called **burnout**. This is when the person has physical, mental, and emotional exhaustion as a result of their high stress job and the extended effect that it's having on that person.

A person can start to develop bodily reactions to this extended period of stress--conditions like ulcers, or even diabetes, can result from long-term stress. A person in the exhaustion stage has a higher tendency to become sick. Stress can often affect a person's immune system, and make them more susceptible to illnesses.

Psychoneuroimmunology is the study of the brain and stress, and the effect that stress can have on the body's immune system reaction, in the way that it fights off illnesses.



TERMS TO KNOW

General Adaptation Syndrome

The pattern of stages that a body goes through when it is stressed for longer periods of time

Alarm Stage

The stage where the body initially reacts to a stressor in the short-term and has an excitatory, fight or flight reaction

Resistance Stage

The stage where over time, the excitatory reaction lowers and the body begins to adapt to the stress and to reach a normal-looking state

Exhaustion Stage

The stage when the body's resources are depleted and it is worn out from constantly responding to the stress

Burnout

Physical, mental, and emotional exhaustion as a result of a person's job

Psychoneuroimmunology

The study of how stress can affect immune system and make people more susceptible to illness



SUMMARY

Stress is a person's reaction and adaptation to changes within their environment. This is a normal reaction, and only causes a problem when it lasts for an extended time or when combined with other factors. **Stress reaction** is how a body reacts to stress. Stress causes the activation of a person's autonomic nervous system, which prepares the body for the fight or flight response.

Stress over a long period of time leads to the **general adaptation syndrome**. It occurs in three stages: the alarm stage, the resistance stage, and the exhaustion stage. A person in the exhaustion stage starts to show emotional and mental signs of stress. They can also have bodily reactions to long-term stress, like ulcers. Stress can affect a person's immune system, and make them more susceptible to illnesses, a phenomenon studied under the scope of psychoneuroimmunology.

Good luck!

Source: This work is adapted from Sophia author Erick Taggart.



TERMS TO KNOW

Alarm Stage

The stage where the body initially reacts to a stressor in the short-term and has an excitatory, fight or flight, reaction.

Burnout

Physical, mental, and emotional exhaustion as a result of a person's job.

Exhaustion Stage

The stage when the body's resources are depleted and it is worn out from constantly responding to the stress.

General Adaptation Syndrome

The pattern of stages that a body goes through when it is stressed for longer periods of time.

Psychoneuroimmunology

The study of how stress can affect immune system and make people more susceptible to illness.

Resistance Stage

The stage where over time, the excitatory reaction lowers and the body begins to adapt to the stress and to

reach a normal-looking state.

Stress Reaction

How body reacts to stress.

Stressor

Something or some event that causes stress and disrupts a person's environment