

Understanding the fight-flight response

Feeling afraid is part of the experience of being human. It occurs in response to danger and is a survival instinct. For example, if a ferocious animal confronted us it is likely that we would respond with fear. This response is important because it initiates a series of physical and behavioural changes that protect us. In this example, when confronted by an animal, the feeling of fear would probably lead us to either run for our lives or become sufficiently 'pumped up' to physically defend ourselves. Feeling anxious is very similar to feeling fear - the main difference is that anxiety occurs in the absence of real danger. You may feel that you are in danger but in reality may not be. For example, if you were walking down a poorly lit alley in the city, you might feel anxious because of some potential future danger – which may or may not exist.

Fight-flight response

When a person is in danger, or believes that they are in danger, a number of changes occur in their bodies. This response is called the flight or fight response. The main purpose of the flight or fight response is to protect you. It is therefore important to remember that the experience of anxiety is not in itself, harmful. When a person's flight or fight response is activated, three major systems are affected. These are the physical, cognitive and behavioural systems.

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Physical system

Our whole physical system undergoes some major, temporary changes designed to enhance our ability to either run away, or stand and be ready to fight. The brain sends a message to our *autonomic nervous system* which has two sections: the sympathetic branch and the parasympathetic branch. The sympathetic branch is the part that activates the various areas of the body to be ready for action. When the sympathetic branch is activated, it includes all areas of the body, and therefore, the person experiences physical changes from head to toe. To get things moving, the sympathetic nervous system releases two chemicals from the adrenal glands on the kidneys. These chemicals are called adrenalin and noradrenalin and are basically messengers that serve to maintain the physical changes for a sufficient amount of time.

1. An increase in **heart rate and the strength of heartbeat**. An increase in heart rate enables blood to be pumped around the body faster, so that oxygen gets delivered more promptly to the various tissues of the body and waste products can be efficiently eliminated.
2. A **change in blood flow** - away from places where it is not needed (such as skin, fingers and toes) towards the places it is likely to be needed (large organs and muscles). This is very useful because if we were attacked and cut in some way we would be less likely to bleed to death, as the blood will be with the vital

organs. This physical change results in the skin looking pale and feeling cold, and also in the experience of cold, numb and tingling fingers and toes.

3. Changes to the **speed and depth of breathing**. This is very important, as it provides the muscles with the extra amount of oxygen required to prepare for action. The feelings produced by this increase in breathing can include breathlessness, choking or smothering feelings, tightness and pain in the chest, and sighing and yawning. One of the main side effects of this increase in breathing is that the blood supply to the head is actually decreased. This is not dangerous but can produce a collection of unpleasant symptoms, including: dizziness, light-headedness, blurred vision, confusion, feelings of unreality and hot flushes.
4. An **increase in sweating** causes the body to become more slippery, making it harder for a predator to grab, and also cooling the body and thus preventing it from overheating.
5. The **pupils widen** to let in more light, which may result in the experience of blurred vision, spots before the eyes, or just a sense that the light is too bright. This change enables the person to more effectively use their sight to identify any hidden dangers such as something lurking in the shadows.
6. Decreased **activity of the digestive system** allows more energy to be diverted to systems more immediately related to fight or flight. The range of effects you might notice as a result of this body change are a decrease in salivation, resulting in a dry mouth and decreased activity in the digestive system, often producing feelings of nausea, a heavy stomach or even constipation.
7. Many **muscle groups tense up** in preparation for fight/flight and this results in subjective feelings of tension, sometimes resulting in aches and pains and trembling and shaking. The whole physical process is a comprehensive one that often leaves the individual feeling quite exhausted.

Behavioural system

The two main behaviours associated with fear and anxiety are to either fight or flee. Therefore, the overwhelming urges associated with this response are those of aggression and a desire to escape, wherever you are. Often this is not possible (due to social constraints) and so people often express the urges through behaviours such as foot tapping, pacing or snapping at people.

Cognitive system

As the main objective of the fight/flight response is to alert the person to the possible existence of danger, one major cognitive change is that the individual begins to shift their attention to the surroundings to search for potential threat. This accounts for the difficulty in concentrating that people who are anxious experience. This is a normal and important part of the fight/flight response as its purpose is to stop you from attending to your ongoing chores and to permit you to scan your surroundings for possible danger. Sometimes an obvious threat cannot be found. Unfortunately, most of us cannot accept not having an explanation for something and end up searching within themselves for an explanation. This often results in people thinking that there is something wrong with them - they must be going crazy or dying.

Restoration of the systems

Once the immediate danger has abated, the body begins a process of restoration back to a more relaxed state. This is once again controlled by the autonomic nervous system. This time it instructs the parasympathetic branch to begin the process of counteracting the sympathetic branch. As a result, the heart rate begins to slow, breathing rate slows, the body's temperature begins to lower and the muscles begin to relax.

Part of the process of restoration is that the systems **do not return to normal straight away**. Some arousal continues and this is for a very good reason. If a wild animal confronted us it would be foolish to relax and be off guard as soon as the animal began to back off. The chances of danger continuing in such a case causes the body to remain prepared for the need to once again face danger. Therefore, some residual effects of the fight/flight response remain for some time and only gradually taper off. This can leave the individual feeling 'keyed up' for some time afterwards. This helps to understand why it is that people can feel anxious for ongoing periods of time when no obvious stressor is present.