FIGHT OR FLIGHT

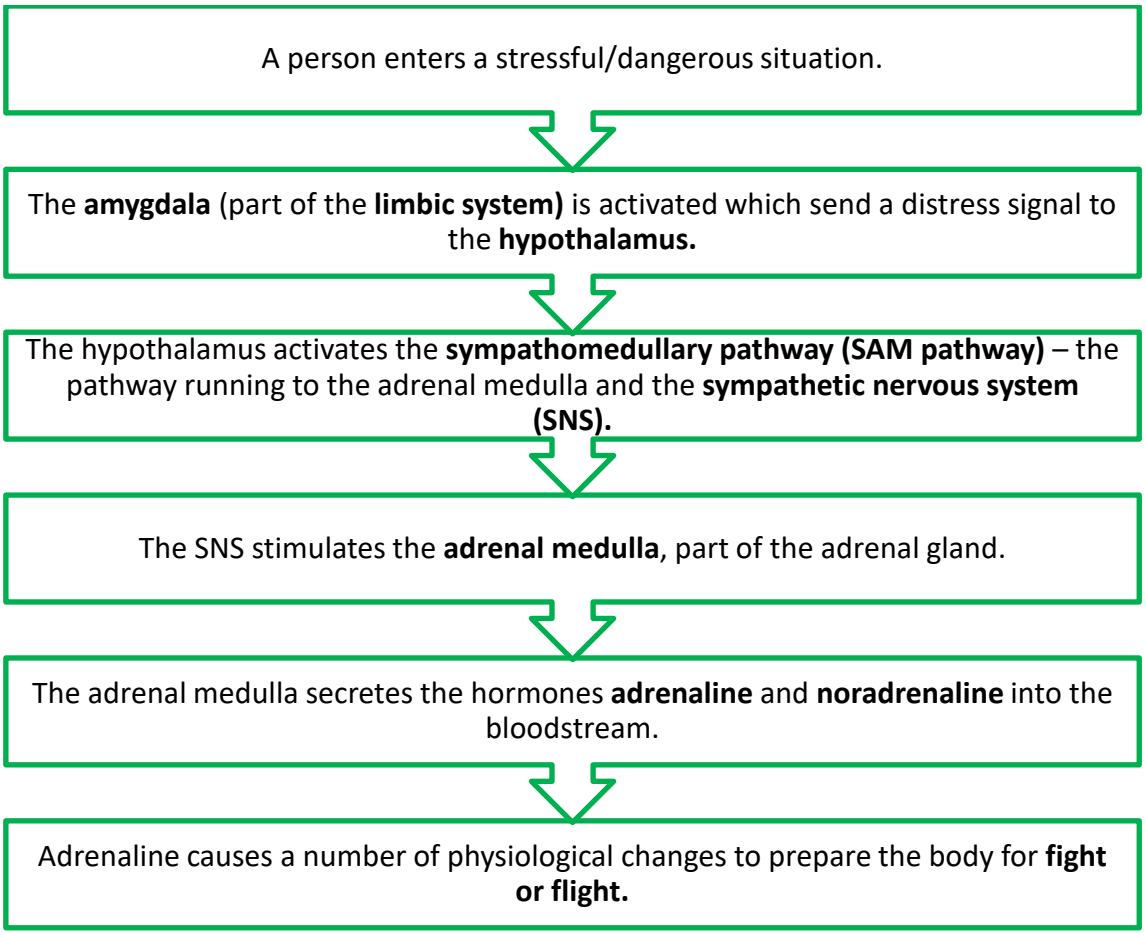
Topic: The fight or flight response, including the role of adrenaline.

WHAT YOU NEED TO KNOW
1. Outline and evaluate the fight or flight response, including the role of adrenaline.

The 'Fight or Flight' Response

When someone enters a potentially stressful situation, the **amygdala** (part of the **limbic system)** is activated. The amygdala responds to sensory input (what we see, hear, smell, etc.) and connects sensory input with emotions associated with the fight or flight response (e.g. fear and anger).

If the situation is deemed as stressful/dangerous, the amygdala sends a distress signal to the **hypothalamus**, which communicates with the body through the **sympathetic nervous system**. If the situation requires a short-term response the **sympathomedullary pathway (SAM pathway)** is activated, triggering the fight or flight response.



Exam Hint: Adrenaline causes a number of physiological changes (e.g. increased heart rate); however, it is important that you understand why these changes occur in relation to the fight or flight response.

PHYSIOLOGICAL CHANGE	REASON
Increased heart rate	To increase blood flow to organs and increase the movement of adrenaline around the body.
Increased breathing rate	To increase oxygen intake.
Pupil dilation	To increase light entry into the eye and enhance vision (especially in the dark).
Sweat production	To regulate temperature.
Reduction of non-essential functions (e.g. digestive system, urination, salivation)	To increase energy for other essential functions.

Following the fight or flight response, the **parasympathetic nervous system** is activated to return the body back to its 'normal' resting state. Consequently, the parasympathetic nervous system slows down our heart rate and breathing rate and reduces our blood pressure. Furthermore, any functions that were previously slowed down are started again (e.g. digestion).

Evaluation

- When faced with a dangerous situation our reaction is not limited to the fight or flight response; some psychologists suggest that humans engage in an initial 'freeze' response. **Gray (1988)** suggests that the first response to danger is to avoid confrontation altogether, which is demonstrated by a freeze response. During the freeze response animals and humans are hyper-vigilant, while they appraise the situation to decide the best course of action for that particular threat.

- The fight or flight response is typically a male response to danger and more recent research suggests that females adopt a **'tend and befriend'** response in stressful/dangerous situations. According to **Taylor et al. (2000),** women are more likely to protect their offspring (tend) and form alliances with other women (befriend), rather than fight an adversary or flee. Furthermore, the fight or flight response may be counterintuitive for women, as running (flight) might be seen as a sign of weakness and put their offspring at risk of danger.

Exam Hint: It is possible to incorporate knowledge of the issues and debates in psychology into your evaluation. For example, the above point is linked to the 'Gender Bias' topic and therefore you could explore the ideas of androcentrism and beta bias within this evaluation point.

- Early research into the fight or flight response was typically conducted on males (**androcentrism)** and consequently, researchers assumed that the findings could be generalised to females. This highlights a **beta bias** within this area of psychology as psychologists assumed that females responded in the same way as males, until Taylor provided evidence of a tend and befriend response.

- While the fight or flight response may have been a useful survival mechanism for our ancestors, who faced genuinely life-threatening situations (e.g. from predators), modern day life rarely requires such an intense biological response. Furthermore, the stressors of modern day life can repeatedly activate the fight or flight response, which can have a negative consequence on our health. For example, humans who face a lot of stress and continually activate the sympathetic nervous system, continually increase their blood pressure which can cause damage to their blood vessels and heart disease. This suggests that the fight or flight response is a maladaptive response in modern-day life.

Possible Exam Questions

1. Which of the following responses is not caused by the activation of the sympathetic nervous system?
    a. Pupil dilation
    b. Sweat production
    c. Decreased digestion
    d. Increased salivation

2. Outline the function of adrenaline in the fight-or-flight response. (4 marks)

3. Lynn's husband John works night shifts and she hates being at home alone. One night she is suddenly woken by a crashing sound coming from the kitchen. With her heart racing, she slowly walks into the kitchen, trembling and sweating with fear. She turns on the light to see that her cat has knocked a plate off the kitchen worktop. She picks up the cat and within minutes she is feeling much more relaxed.

    Outline the fight or flight response, referring to the changes that occurred in Lynn in the first minute and the changes that occurred after a few minutes. (4 marks)

4. Outline and evaluate the fight or flight response. (12/16 marks)