



# SCIENCE BEHIND *HOW OUR BRAIN REACTS*

1

Fear is a defining emotion that plays a key role in our survival, but how exactly does the brain process it? The experience of fear begins when the brain makes an \_\_\_\_\_ of a potential threat, leading to a chain \_\_\_\_\_ that prepares the body for action. A central part of this process starts in the amygdala, the brain region responsible for detecting fear. The current hypothesis is that the amygdala is the first to respond, even before we consciously recognize danger. Once it detects a threat, the amygdala sends signals that initiate a fear \_\_\_\_\_ throughout the body.

The next stage involves the hypothalamus, which triggers the "fight-or-flight" response. This is where the body's reaction takes shape—releasing stress hormones like adrenaline and cortisol. The \_\_\_\_\_ of this response are clear: increased heart rate, sharper senses, and heightened \_\_\_\_\_, all of which prepare us to either confront the danger or escape it.

2

Meanwhile, the hippocampus plays a role in giving context to the situation. Based on previous experiences, the hippocampus helps explain why we might feel fear in specific circumstances. For example, if you've had a frightening encounter with a similar situation in the past, the hippocampus reinforces the fear response, reminding you of the similar situation in the past that you had experienced. Finally, the prefrontal cortex provides a more rational evaluation of the situation. The prefrontal cortex helps determine whether the fear is justified and offers an explanation as to whether the perceived threat is real or not. If the brain concludes there is no real danger, the prefrontal cortex helps calm the body and the amygdala, reducing the fear response.



3

Understanding how fear is processed offers valuable insight into both the emotional and physiological \_\_\_\_\_ of the powerful emotion that is fear. Through the physiological and chemical processes, we see that fear isn't just an instinctive reaction—fear a complex \_\_\_\_\_ of threats and context, shaped by both our brain's structure and our past experiences.

## 1. NOMINALISATION

- Evaluate:
- React:
- Respond:
- Implicate:
- Alert:



## 2. REFERENCING

- *the hippocampus:*
- *the similar situation in the past that you had experienced:*
- *The prefrontal cortex:*

### Why we can't use referencing on this last paragraph?

"If the brain concludes there is no real danger, the prefrontal cortex helps calm the body and the amygdala, reducing the fear response."

## 3. BOTH:

- Implicate:
- Evaluate:
- *the powerful emotion that is fear:*
- *the physiological and chemical processes:*
- *fear:*

**Read the following statements and decide if they are nominalised sentences or sentences without nominalisation. Rewrite using nominalisation on those who are not nominalised.**

1. *The scientists hypothesize that the results will vary based on conditions.*
2. *The new policy may have implications for various sectors in the economy.*
3. *The team will conduct evaluations of the effectiveness of the new method.*
4. *The environment is constantly changing due to climate factors.*
5. *They will distribute the books to all the students tomorrow.*
6. *The authorisation of the purchase will happen by the end of the day.*
7. *The occurrence of mistakes is common during the first phase of the project.*
8. *The contract will specify all the contractual terms clearly.*

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.