

# VIBE PROJECT

## Virtual Biomedical and STEM/STEAM Education

2021-1-HU01-KA220-HED-000032251



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PÉCSI TUDOMÁNYEGYETEM  
UNIVERSITY OF PÉCS

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Politechnika  
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# STRESS



**negatively  
perceived factor  
or  
situation**

**reaction**



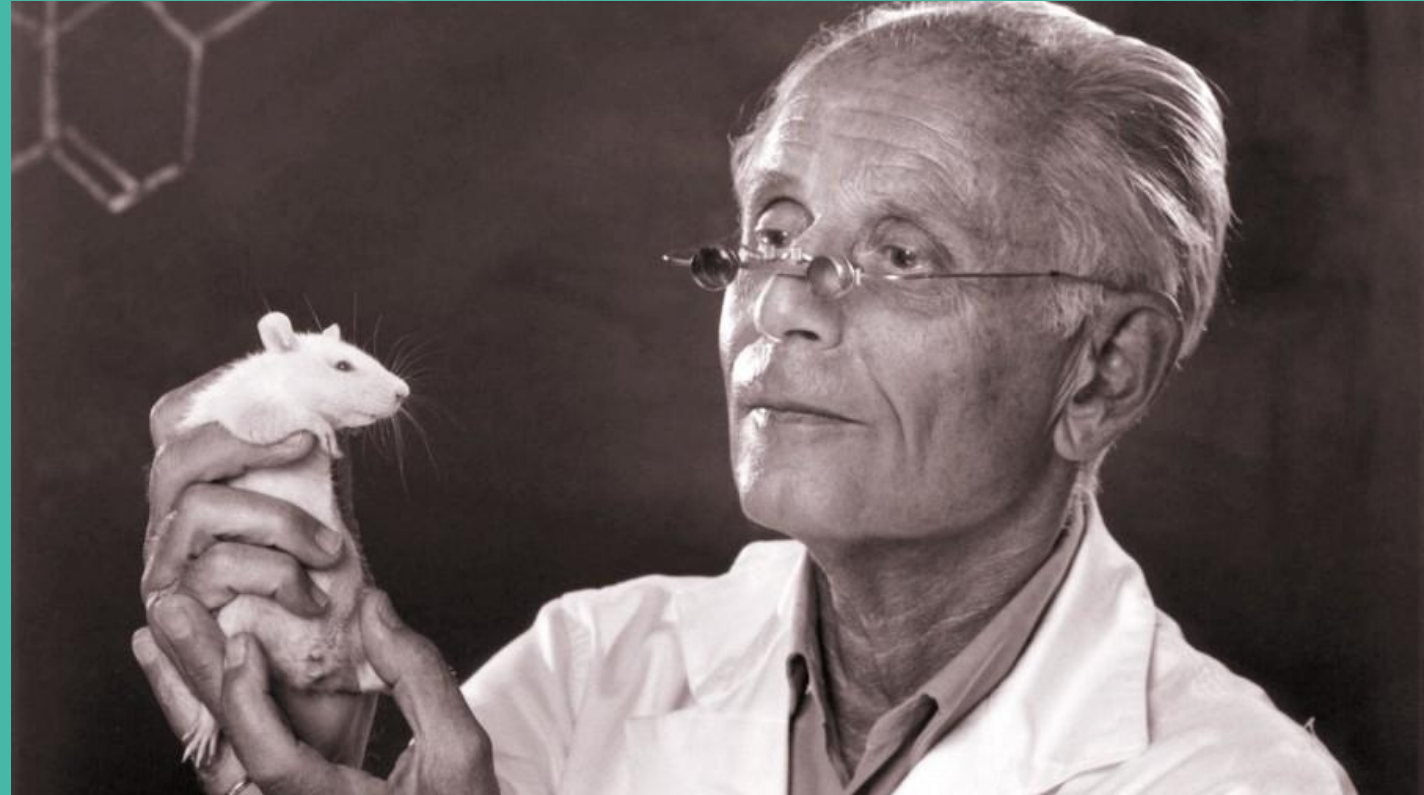
# ➤➤➤ Questions

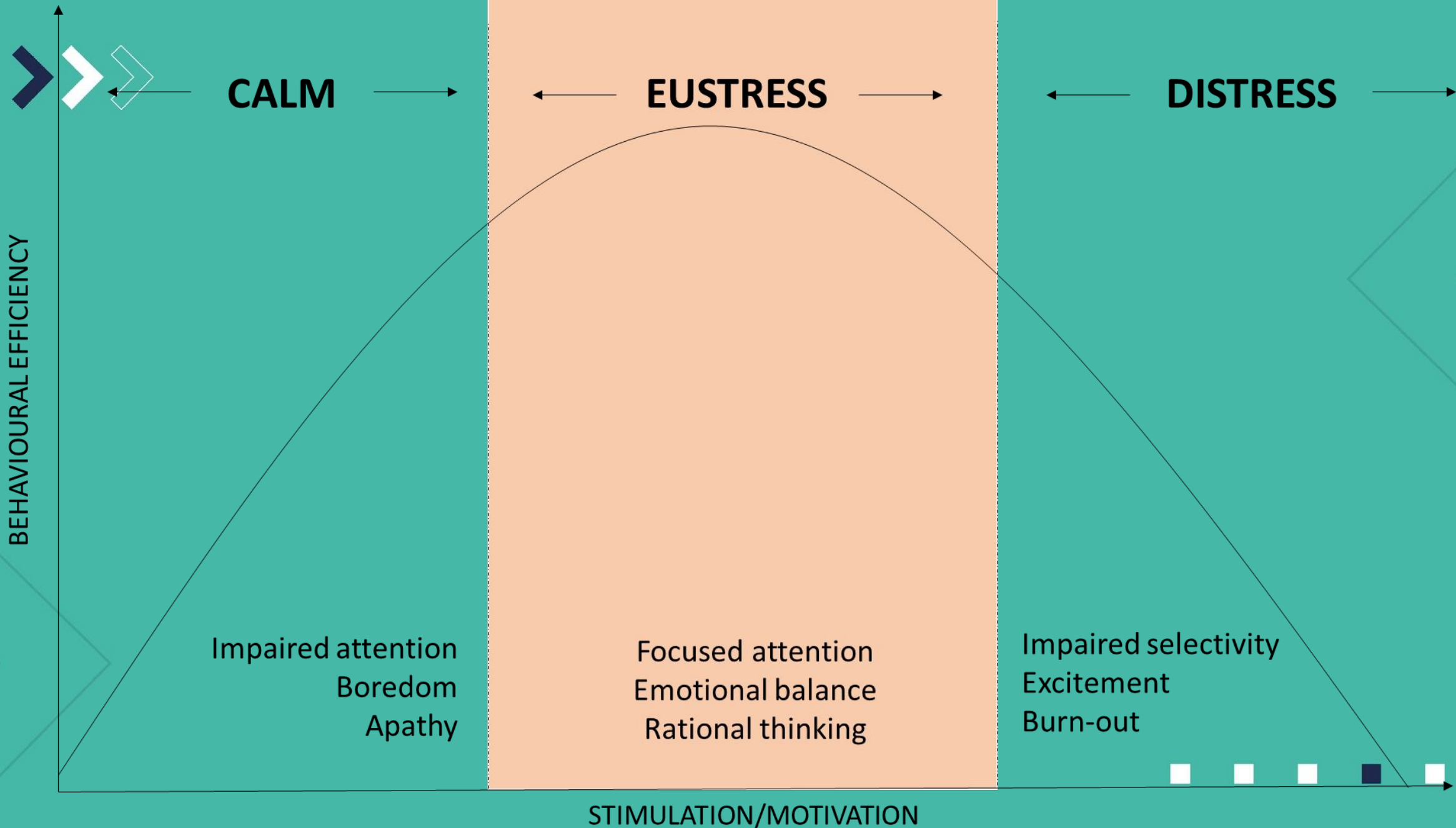
- Why is it difficult to provide a simple explanation for the term “stress”?
- How do psychologists and physiologists differ in their interpretation of stress?
- What examples illustrate the triggers of a stress response?





- János Selye was born in Vienna, Austria-Hungary on January 26, 1907.
- He was a physician and researcher who is considered the founder of modern stress research.
- „*General Adaptation syndrome*”

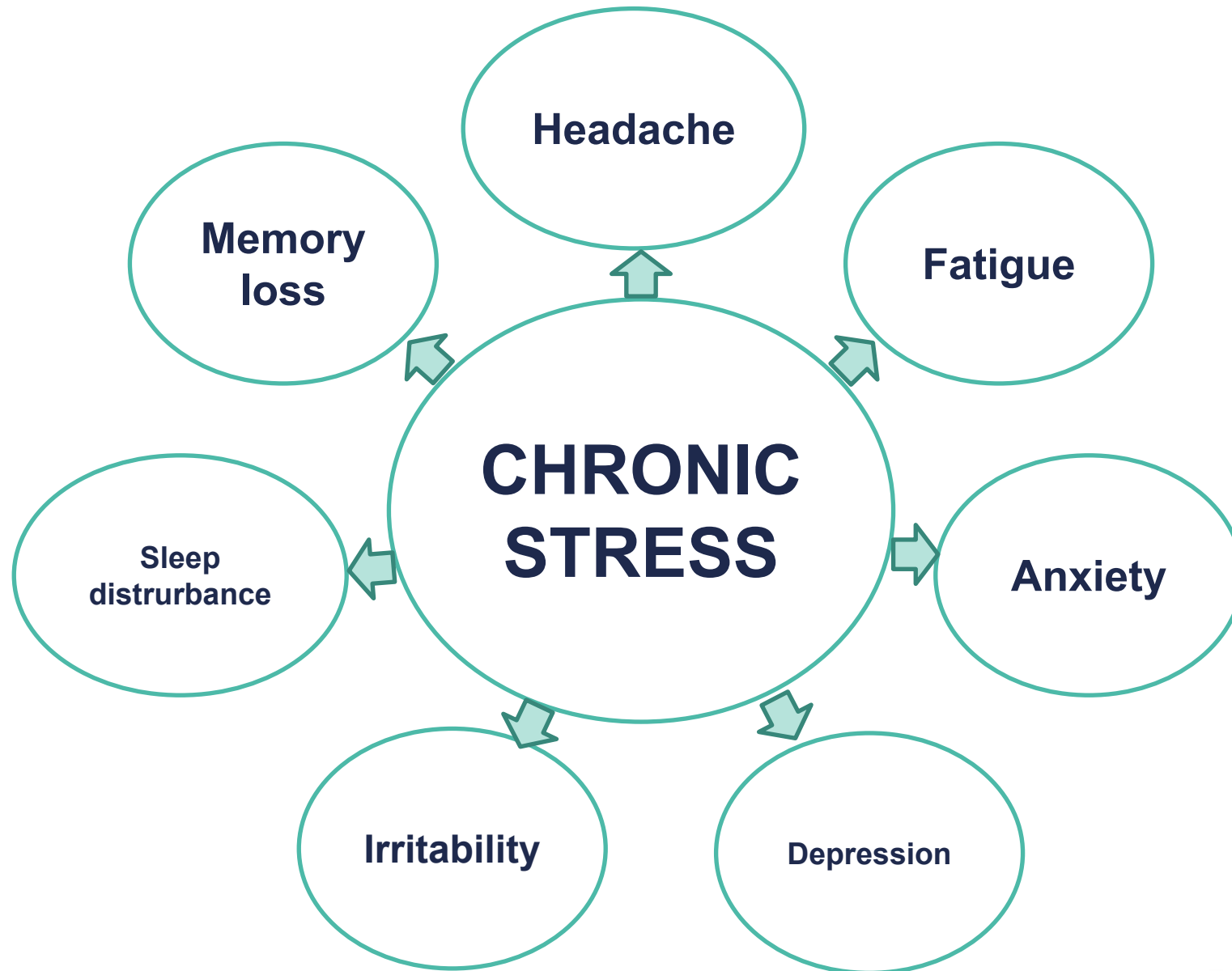




# ➤➤➤ Questions

- How did Selye's research contribute to the understanding and management of stress in modern medicine?
- What were the key findings from Selye's experiments with rats, and why were they significant for stress research?
- What are examples of eustress?







**Hypothalamus**

activates

**Sympathetic Nervous System**

triggers

**Adrenal Medulla**

releases

**Adrenalin and Noradrenaline**

facilitates

**The Fight or Flight Response**



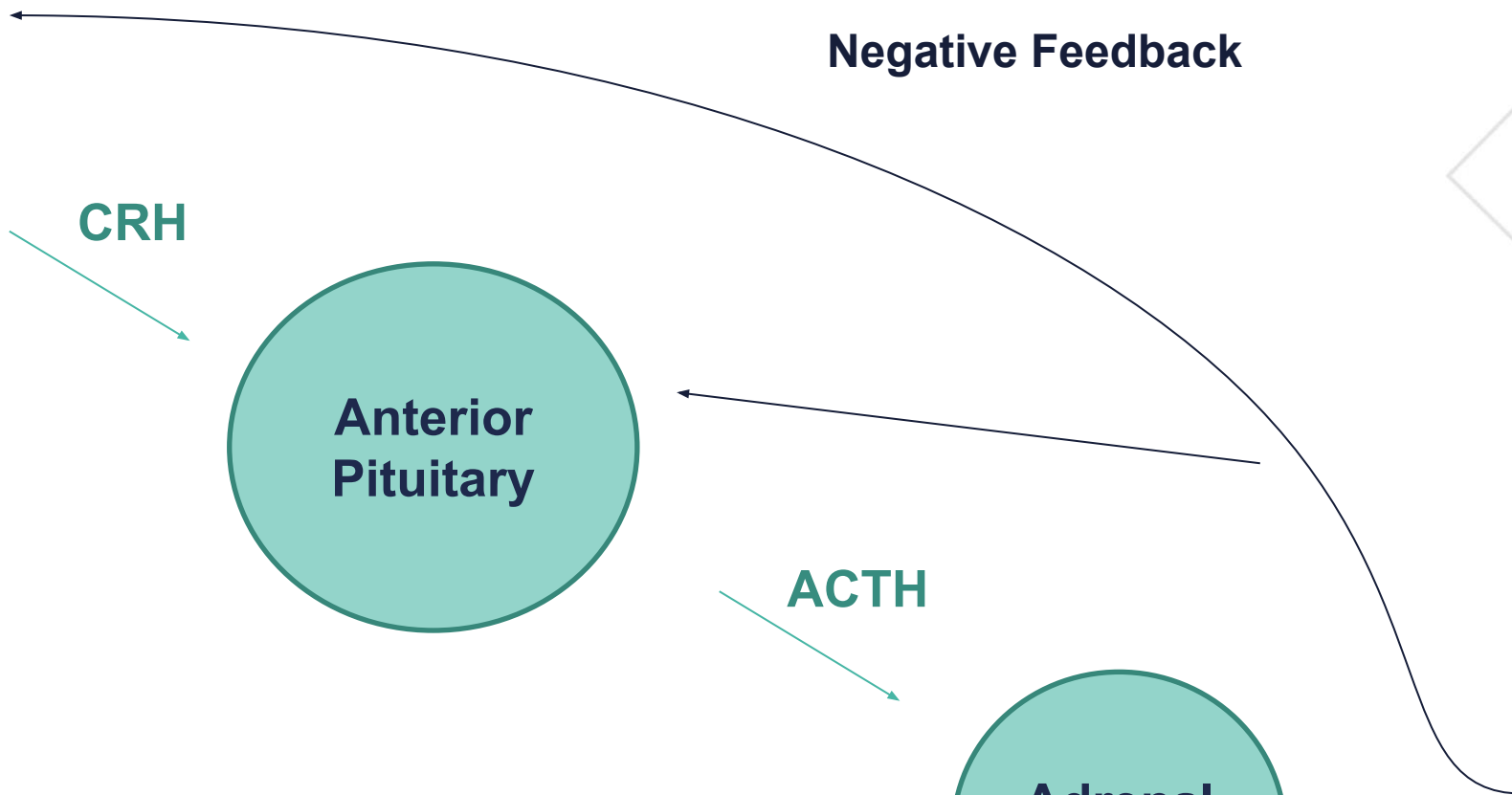
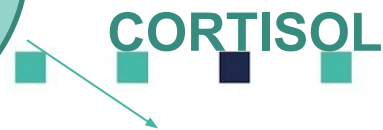
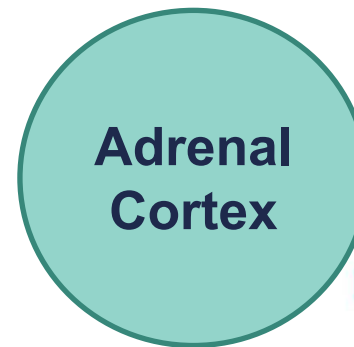
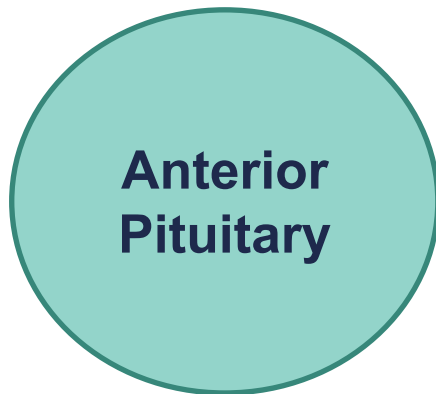
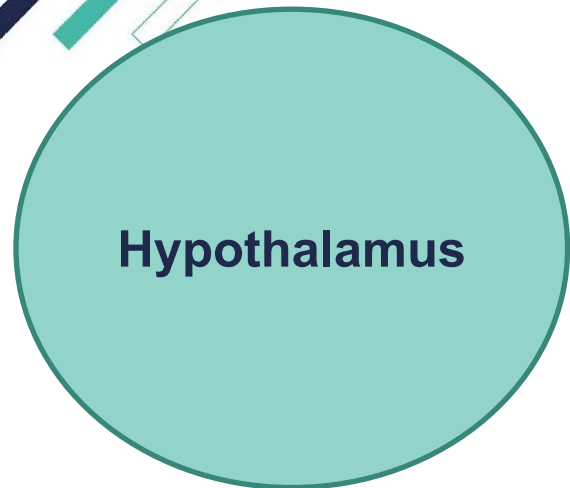




# Questions

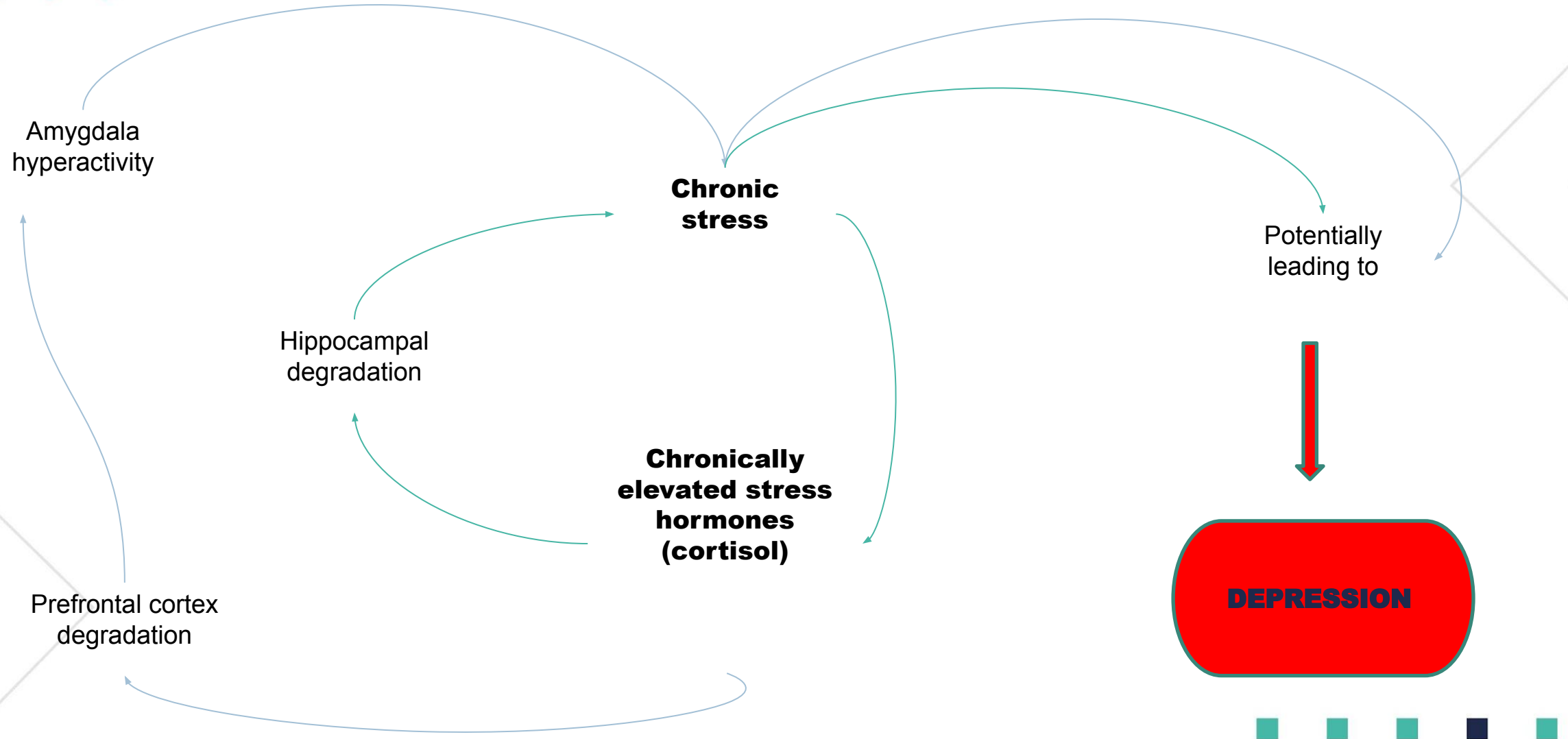
- What are the potential effects of chronic stress?
- What physiological changes are caused by the stress hormones, adrenaline, noradrenaline, and cortisol?
- Why is it important for the body to suppress non-essential functions, like digestion and reproduction, during the stress response?







# HPA Axis dysfunction

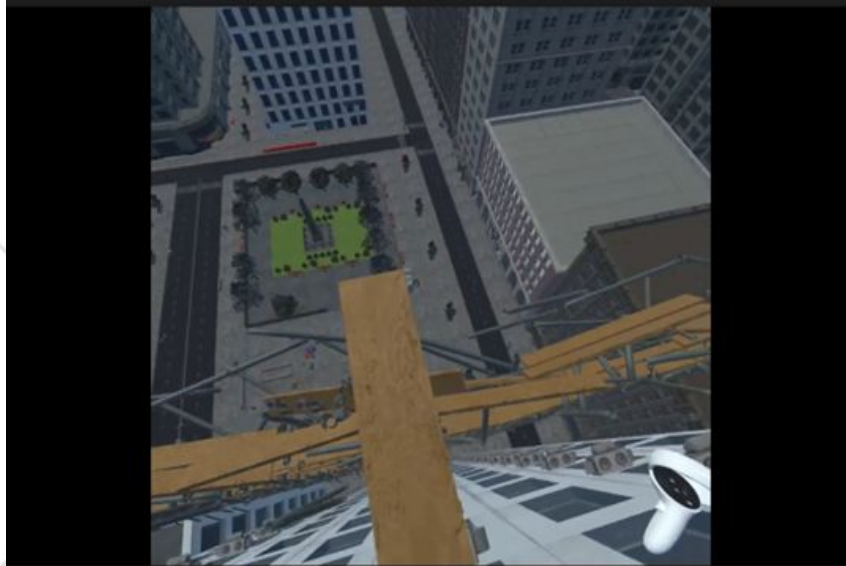
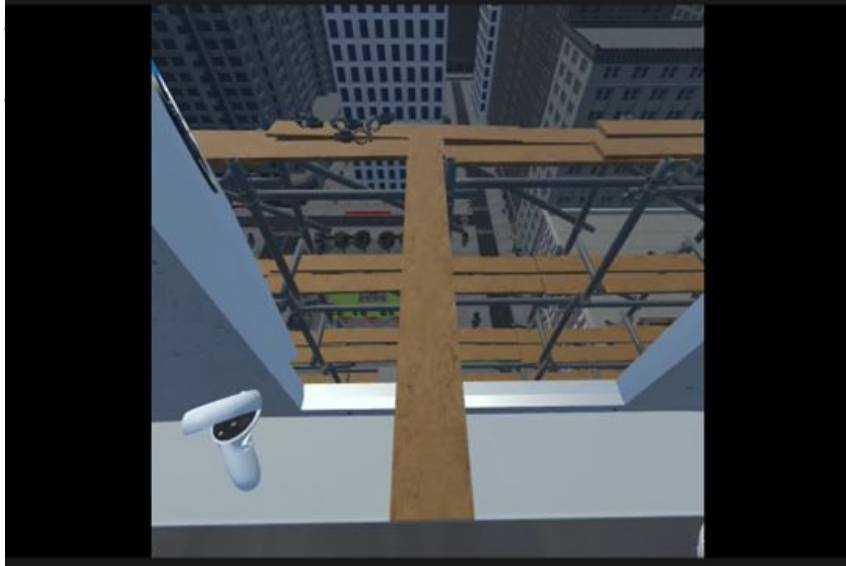




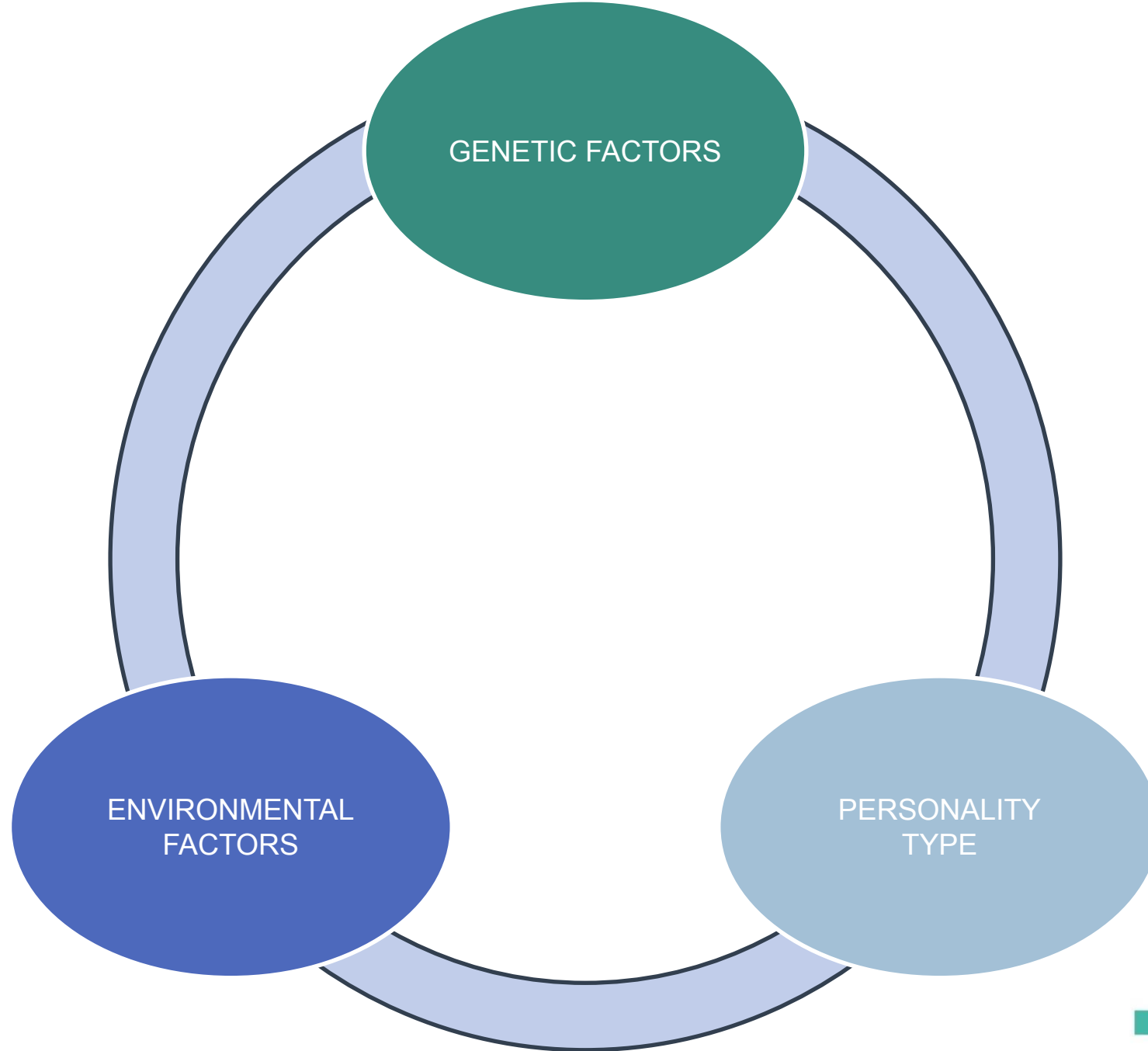
# Questions

- What does a 'negative feedback loop' mean?
- What are the results of increased cortisol level?







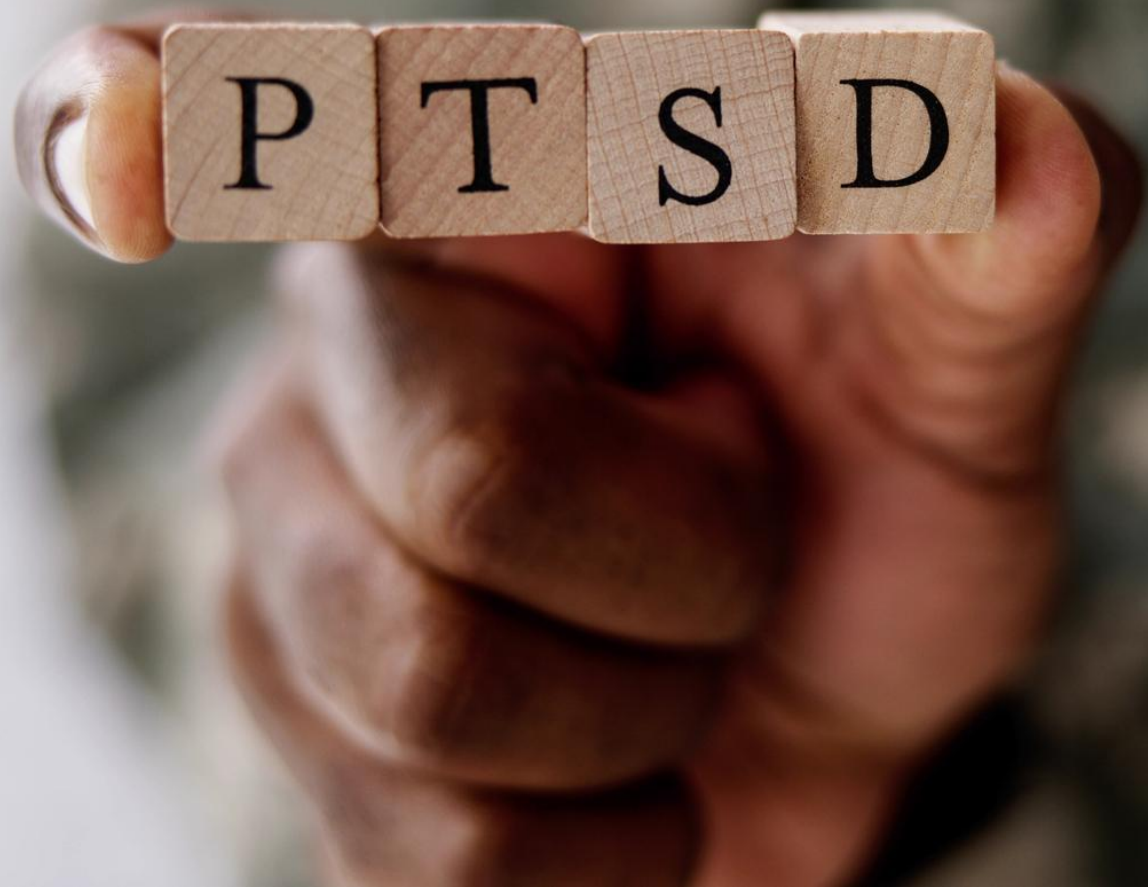




- How do genetic factors influence an individual's vulnerability to stress?
- What role do neurotransmitters play in an individual's response to stress, and how can genetics impact them?
- How do environmental factors interact with genetic predispositions in shaping stress responses?







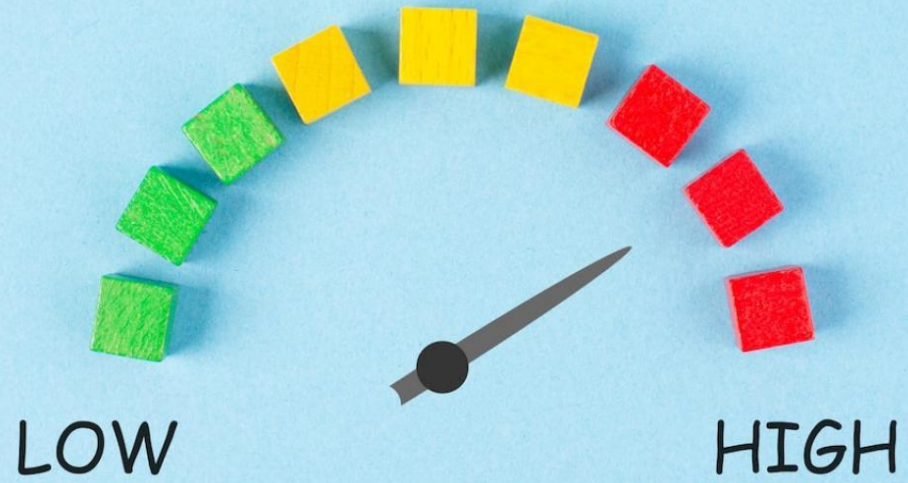
PTSD

# Questions

- How does PTSD affect the daily life of those who experience it, and what are some common behaviors or feelings associated with it?
- What neurobiological changes have been observed in the brains of individuals with PTSD, and what roles do key brain regions play in these changes?
- What factors influence whether someone develops PTSD after experiencing trauma, and how might these factors interplay with the brain's response to trauma?



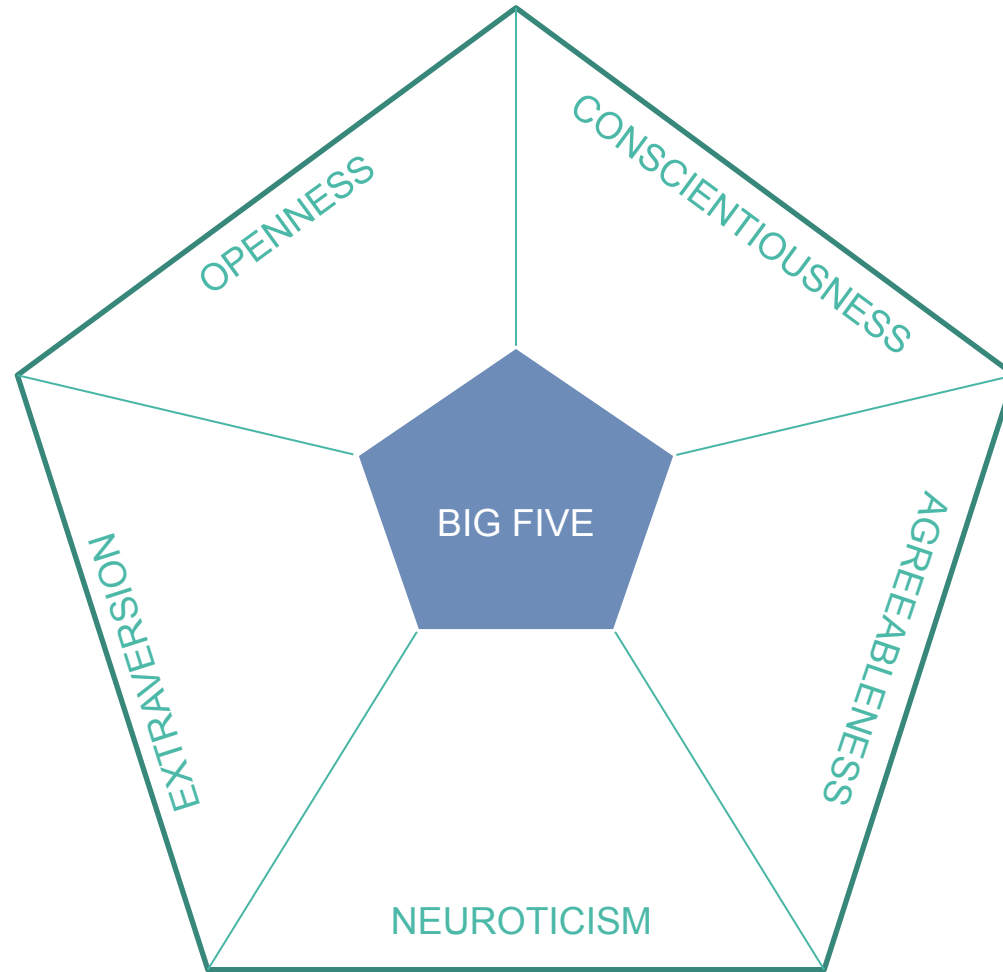
# STRESS





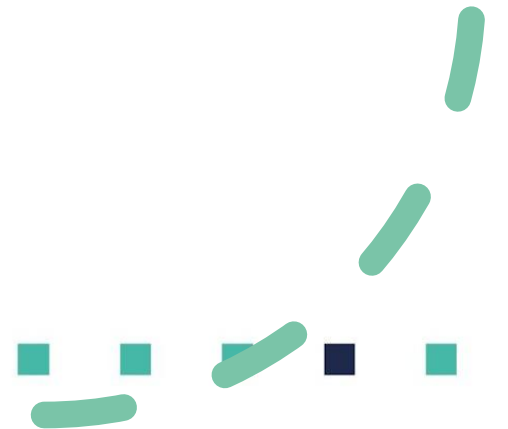
- What role do social relationships play in enhancing an individual's ability to manage stress effectively?
- How can living in an unstable or unsafe environment affect an individual's ability to cope with stress?
- What are some effective coping mechanisms that individuals can use to manage stress, and why are they important?





# Catastrophizing

- high levels of anxiety
- persistent feelings of depression
- overthinking





# Questions

- What are the key characteristics of catastrophizing, and how does it typically manifest in individuals' thought processes?
- What factors contribute to the development of catastrophizing, and why might it become a habitual pattern for some people?
- What strategies can be effective in managing and overcoming catastrophizing, and how do they work to change thought patterns?





# COPING MECHANISMS

**Appraisal-focused**

**Problem-focused**

**Emotion-focused**







**DISTANCING**

**CONFRONTATION**

**SEEKING SUPPORT**

**SELF-CONTROLLING**

**ACCEPTING  
RESPONSIBILITY**

**PROBLEM SOLVING**

**POSITIVE REAPPRAISAL**

**ESCAPE/AVOIDANCE**





# Questions

- What are the different classifications of coping mechanisms and how do they generally function?
- What are the potential downsides of coping mechanisms like confrontive coping and escape/avoidance?





RELAXATION RESPONSE	STRESS RESPONSE
Heart rate slows	Heart rate increases
Parasympathetic nervous system is triggered (part of the nervous system that helps the body rest and relax)	Sympathetic nervous system is triggered (part of the nervous system that helps to cope with stress)
Blood is directed away from major muscle groups and back into the gut	Blood is directed away from the gut and into major muscle groups
Digestion improves	Digestion does not work as well
Sleep improves	Trouble sleeping
More calm, focused personality	Irritability
Sense of wellbeing increases	Sense of wellbeing decreases





Hold for 4 counts



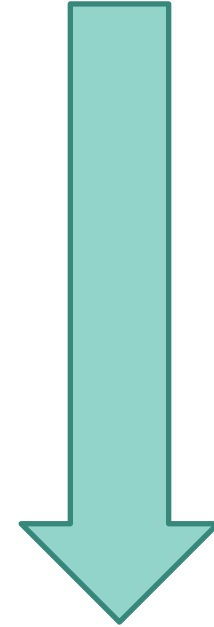
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BOX  
BREATHING

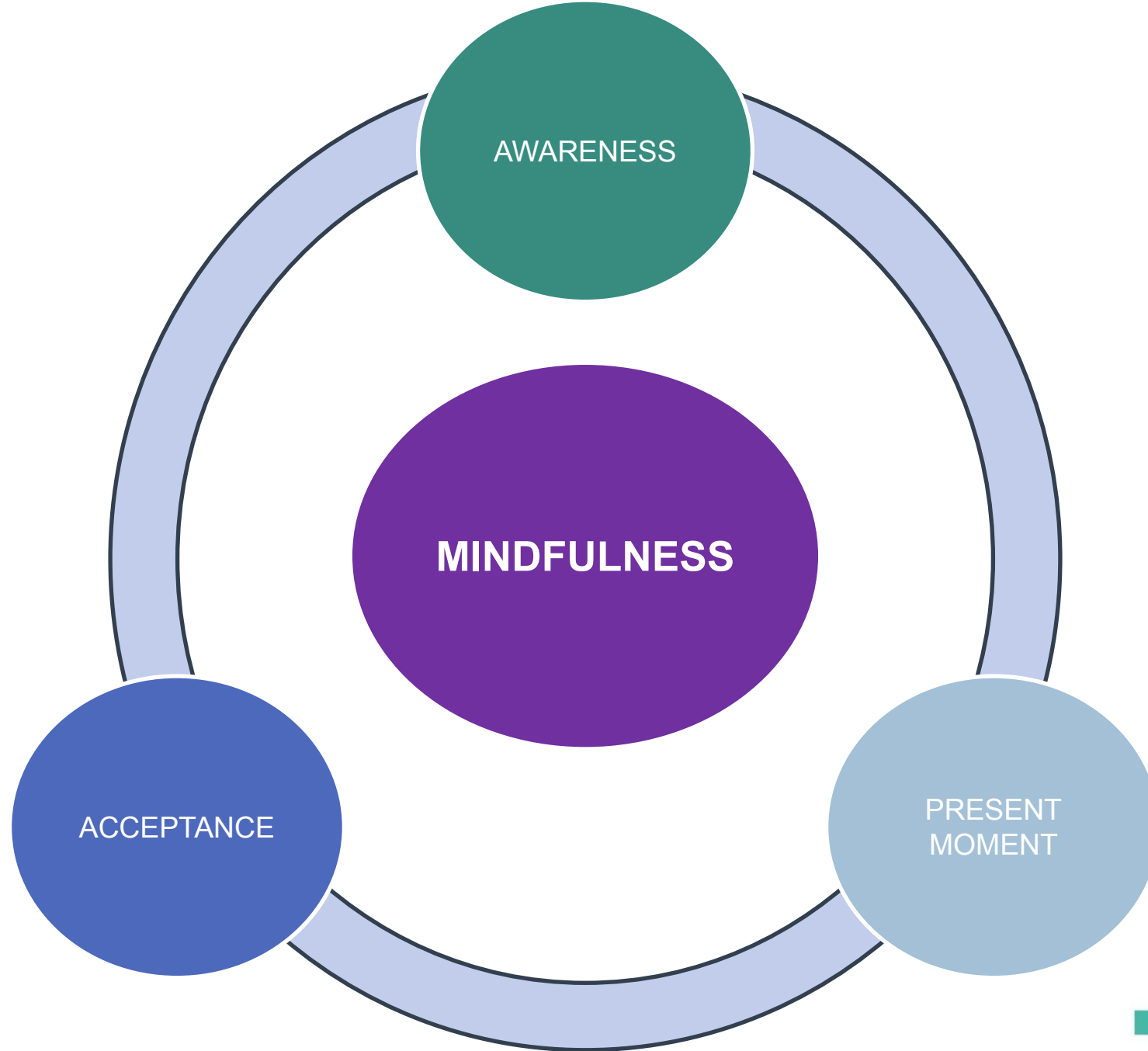


Hold for 4 counts



Hold for 4 counts



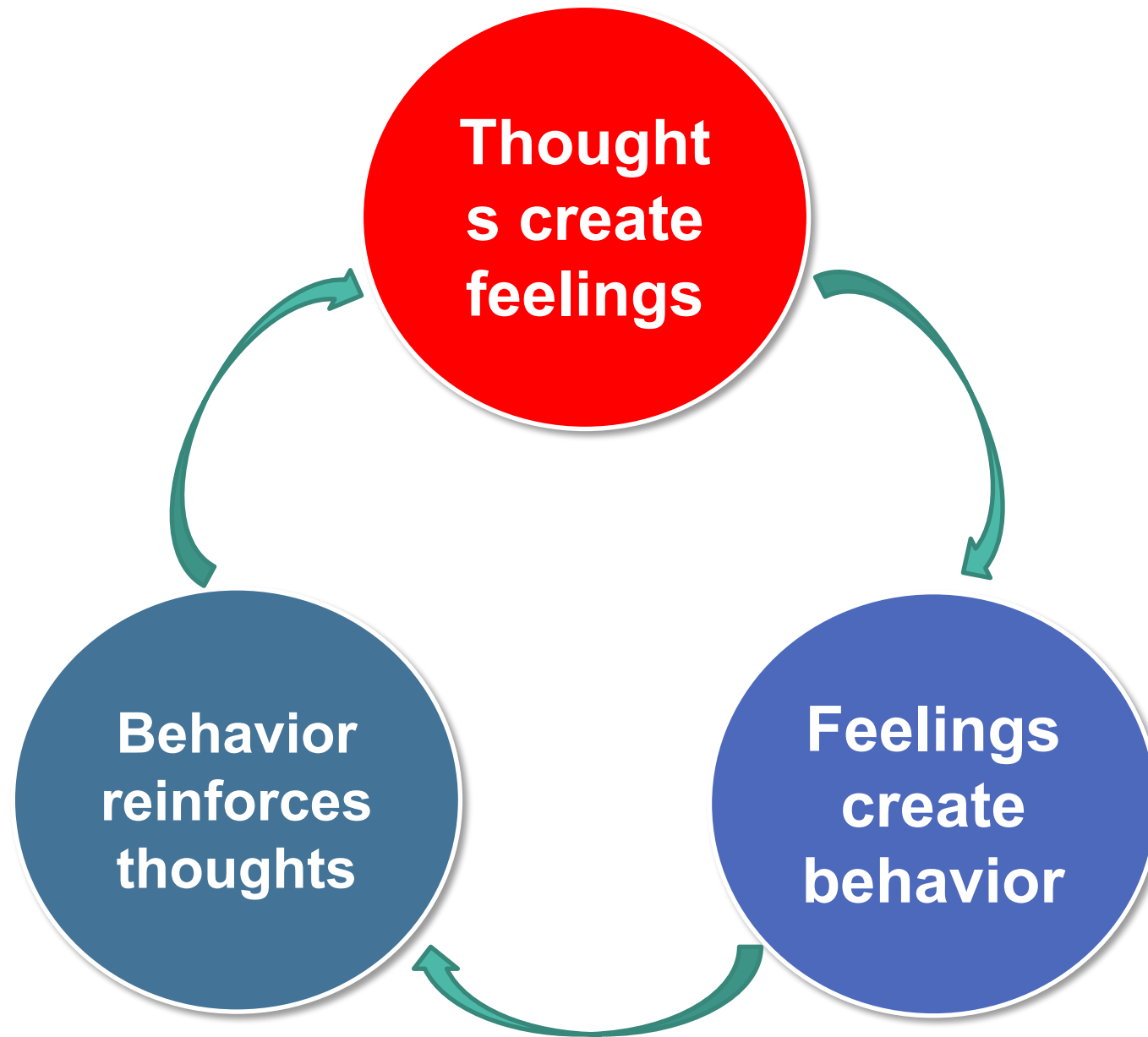


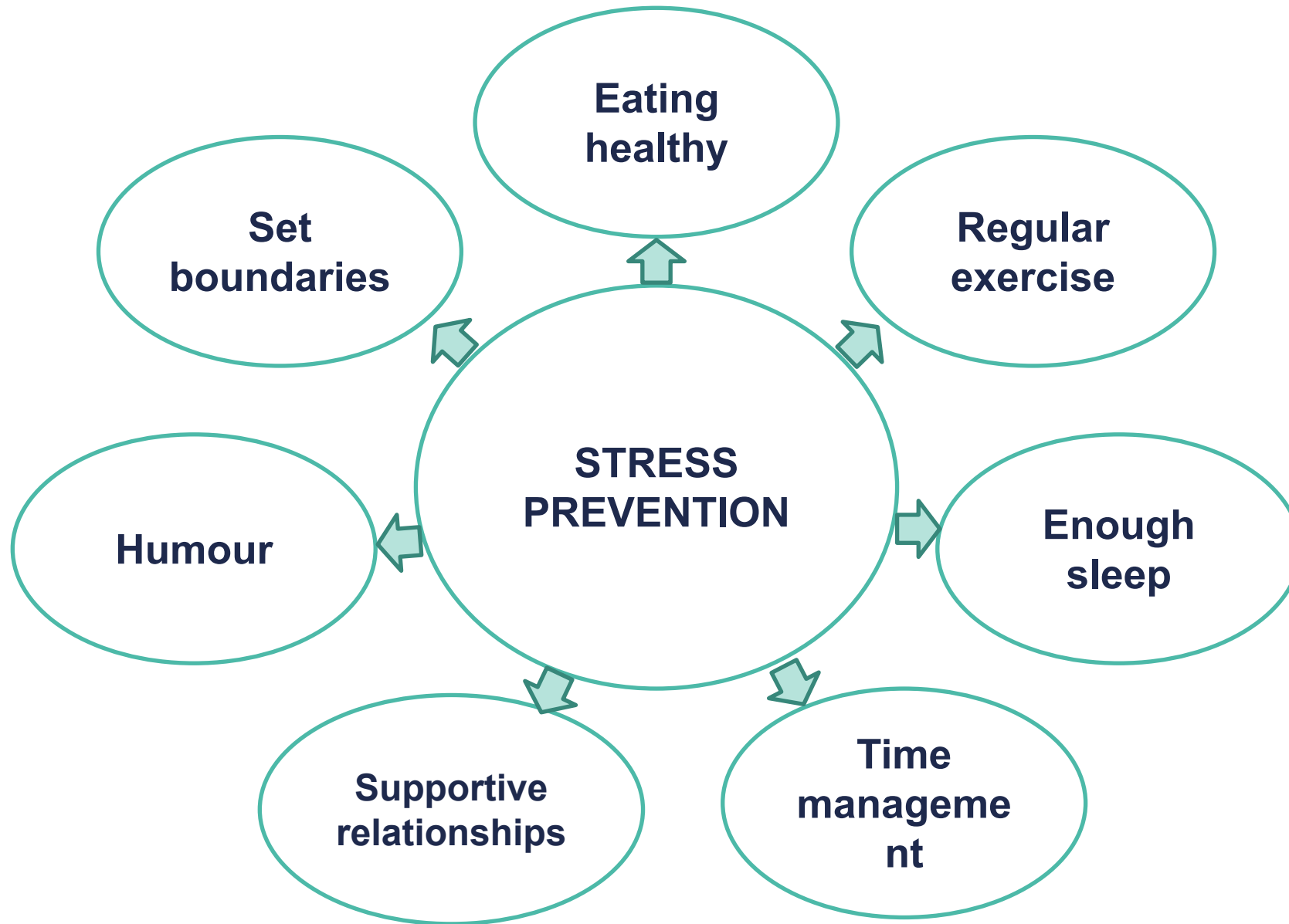


# Questions

- What is mindfulness meditation and how does it work?
- What are the main benefits of practicing mindfulness regularly?
- How does mindfulness promote self-compassion and emotional resilience?
- What are some alternative relaxation techniques for people who struggle with traditional mindfulness meditation?









# ➤➤➤ Questions

- What is cognitive restructuring and how does it help with stress management?
- How does cognitive restructuring build emotional resilience?
- How can maintaining a healthy lifestyle help with stress management?
- Why is setting boundaries important for stress prevention, and how can it be practiced?

