

Individual Differences in Stress Responses: Vulnerable vs. Resilient

Stress-Vulnerable

- Hyperactive/sustained HPA axis
- High anxiety-like behavior
- Passive coping
- Impaired resilience
- Higher risk for stress-related disorders

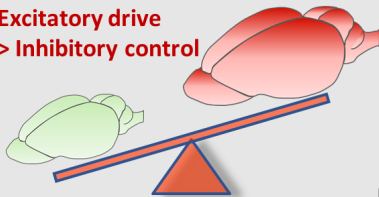
Stress-Resilient

- Controlled HPA axis
- Lower anxiety-like behavior
- Active coping
- Resilience & recovery
- Protection from stress-related disorders

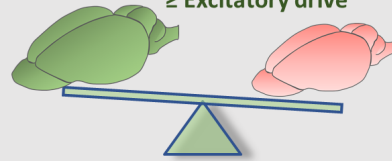
STRESSOR



Excitatory drive
> Inhibitory control



Inhibitory control
≥ Excitatory drive

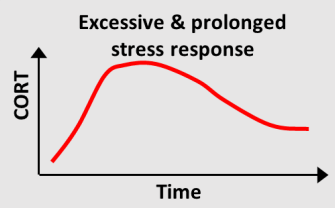


Determinants

- Neuropeptide signaling (VIP, PACAP, SP, ...)
- Genetic & epigenetic factors
- Early life experiences
- Neuroplasticity of stress circuits
- Sex, age, previous stress, personality, social status

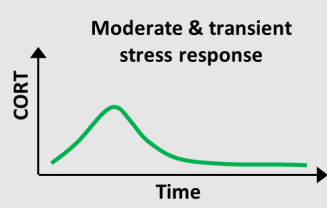
Impaired inhibitory control
Exaggerated stress response

→ **Maladaptive response**

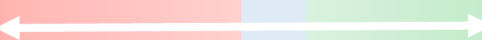


Effective inhibitory control
Balanced excitatory drive

→ **Adaptive response**



Vulnerability



Resilience

Individual differences in the balance of stress-excitatory and stress-inhibitory brain mechanisms shape vulnerability or resilience and determine long-term mental health outcomes.

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