

Anxiety and Fear

Trying to Stay Safe

Approach & Avoidance

- Basic survival principle for most forms of life from the most basic to the most complex.
- We move toward those things that are life sustaining and away from those that threaten life.

Attachment

- Attachment schema are a reflection of an implicit memory system dedicated to the regulation of approach-avoidance decisions in relationships.
- The core of the neural circuitry for anxiety, fear, and attachment are the amygdala and the bed nucleus of the stria terminalis

Anxiety

- Nature favors an anxious gene (Beck)
- Species specific fear as a form of genetic memory
- The emotion of fear is a conscious appraisal of our bodily state

Evolutionary Conservation

- Fear circuitry remained at the core of brain functioning as the cortex expanded.
- We can now be afraid of anything we can imagine.
- All anxiety is a fear of death (Tillich/Rank)

The Fast and the Slow Circuits

- The fast circuit goes from the thalamus to the amygdala <50ms.
- The slow circuit goes from the thalamus through the cortex and hippocampus >500ms.

The Fast Circuit

- Species Specific Fears
- Early Learning
- Associative Learning
- Traumatic Learning

The Slow Circuit

- Worry & Concern
- Boogie Men
- Existential Crisis

The Amygdala Loop

- The amygdala consists of a set of nuclei
- The central nucleus, the first to evolve, is the core of the fast circuit

Projections from the Central Nucleus of the Amygdala

- Activation of the central nucleus results in the activation of many other nuclei that trigger the bodily responses of fear and panic

What Doesn't Kill You Makes You Weaker

- The fear response was initially designed for the **rapid** response to a **transient** threat.
- **RAPID** – unconscious-automatic-reflexive
- **TRANSIENT** – quick resolution

Prolonged Stress Response

Results in the activation & dysregulation of:

- ANS (autonomic nervous system)
- HPA (hypothalamic – pituitary – adrenal) Axis
- Vagal System – social engagement & somatic regulation
- Glucocorticoids (stress hormone)

Results of Prolonged Stress Response

- < Neurogenesis
- < Protein Synthesis
- > Neural Death
- < Neural Plasticity
- < BDNF
- < Neural Network Integration
- > Immunosuppression
- < Learning & Memory
- < Adaptive Responses
- < School Success
- < Relationship Success
- < Occupational Success
- > Psychopathology
- > Physical Illness