JOHNS HOPKINS
BLOOMBERG
SCHOOL of PUBLIC HEALTH

Section C

Emotions

Emotions are the Currency of Human Relations

- The regions of the brain that control social behaviors and emotions are closely related

Emotions

- Mental states that attribute value to events and are often accompanied by psychological changes
  - Stress hormones
  - Pro-social hormones

Adolescents Experience More Stress

- Adolescents experience more stress than adults or children
  - Exacerbated by phase delay in sleep onset
  - More external stressors
  - Higher basal cortisol

Autonomic Nervous System (ANS)

- Emotions influence physiological response through autonomic nervous system (ANS)
  - **Sympathetic servous system:** fight or flight
  - **Parasympathetic nervous system:** rest, relaxation, recovery, lower heart and respiratory rate

Facial Expressions Convey Emotions to Self and Others

- Recognition of faces and emotions is slow to emerge
  - Regresses in early adolescence

- Certain areas of the brain selectively recognize specific emotions
  - Amygdalia: fear, anger, other negative emotions
    - Contains receptors for “emotions”
  - Hormones: cortisol, estrogen, testosterone, and oxytocin
    - Also linked to puberty

Prefrontal Cortex

- The **prefrontal cortex** integrates cognitive with emotional information
  - Inhibition of emotional response critical for cognitive and social functioning
  - Initially bottom-up (affective) and subsequently top-down (cognitive) functioning
    - Bottom-up functioning maybe driven by puberty and hormonal influence on amygdalia

Hot vs. Cold Cognition

- Stressful and emotional conditions stimulate the amygdala for rapid and instinctive behavioral responses (hot cognition)

- Hot cognition attenuates logical thinking and executive control (cold cognition)