UNIT 6.1 — emotions —

stress, illness, and health

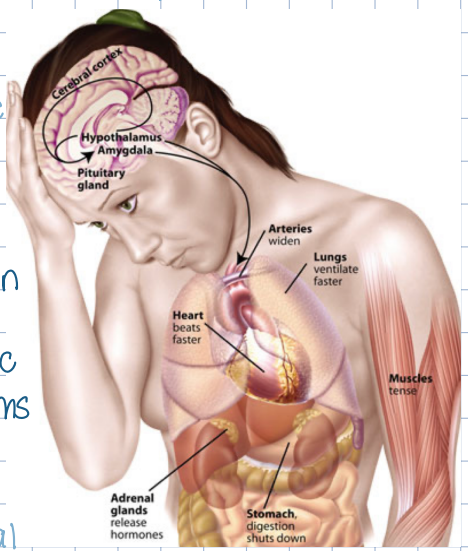
→ Stress

psychological states cause physical illness; any circumstance (real or perceived) that threatens a person's well-being

↳ when we feel severe stress, our ability to cope w/ it is impaired

• the stress response system

- cannon (1929) proposed that the stress response (fast) was a fight-or-flight response marked by the outpouring of epinephrine and norepinephrine from the adrenal glands [in the endocrine system], increasing heart + respiration rates, mobilizing sugar + fat, and dulling pain.



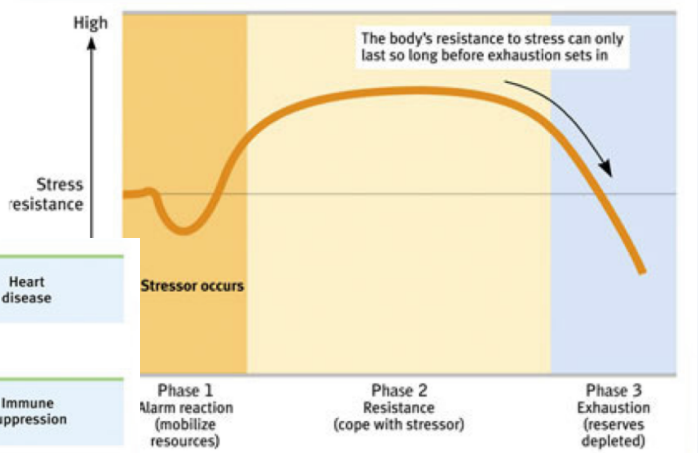
• behavioral medicine

- integrates behavioral knowledge w/ medical knowledge
  ↳ mind + body interact; everything psychological is simultaneously physiological

- <u>stress can be adaptive</u>: in a fearful/stressful situation we can run away and save our lives
- <u>stress can be maladaptive</u>: if it is prolonged (chronic stress) it increases our risk of illness + health problems

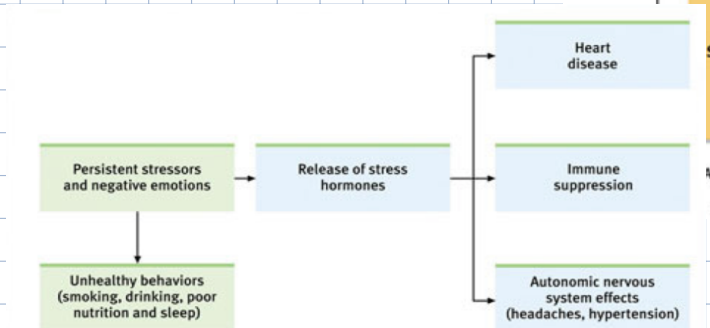
• general adaptive syndrome

- according to selye (1936), a stress response to any kind of stimulation is similar. The stressed individual goes thru 3 phases:
  * phase 1: alarm reaction (mobilize resources)
  * phase 2: resistance (cope w/ stressor)
  * phase 3: exhaustion (reserves depleted) → body's resistance to stress can only last so long before exhaustion sets in



• catharsis hypothesis

- venting anger through action/fantasy achieves an emotional release (catharsis)
- expressing anger breeds more anger + thru reinforcement → habit-forming



→ social-cognitive theories on personality

- internal locus on control
- external locus on control
- external locus of control can lead to a learned state of learned helplessness
  - ↳ unable to avoid repeated adverse events an animal or human learns helplessness

• personal control

- whether we control the environment or the environment controls us
  - ↳ ... refers to the perception that chance / outside forces beyond our fate
  - ↳ ... refers to the perception that we can control our fate

→ theories of emotion; what is an emotion?

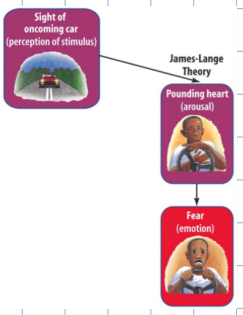
- would you like never to be sad again?
- do we smile b/c we're happy, or are we happy b/c we smile?
- defined: pos/neg feelings aroused by stimuli in the environment
- function: enrich life, increase readiness for fight / flight
- emotions are a mix of:
  1.) physiological activation,
  2.) expressive behaviors, and
  3.) conscious experience

• commonsense view

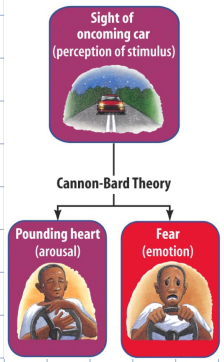
- when you become happy, your heart starts beating faster
- first comes conscious awareness, then comes physiological activity

emotion theorists

- James-Lange: states that psychological arousal precedes (comes b4) and causes the sensation of emotion
  - ↳ William James + Carl Lange proposed this idea which directly opposed the common-sense view
  - ↳ simple terms: we feel emotion b/c of biological changes caused by stress
    - → the body changes and our mind recognizes the feeling



- Cannon-Bard: states that physiological arousal + emotional feelings occur simultaneously
  - ↳ Walter Cannon & Phillip Bard questioned the James-Lange theory
    - → how can that (J+L theory) be true if similar physiological changes correspond w/ drastically different emotional states
  - ↳ they believed it was the thalamus that helped this happen



- Schacter-Singer: states that emotion begins w/ an undifferentiated arousal that we interpret into an emotion dependent on the perceived context
  - ↳ Stanley Schacter suggested our physiology & cognition = emotions
  - ↳ felt that they happen at the same time but people who are already physiologically aroused experience more intense emotions than unaroused ppl when both groups are exposed to the same stimuli
  - ↳ Mis-attribution of Arousal Studies (Dutton & Aron, 1974) supports
  - ↳ biology & cognition interact w/ each other to increase the experience

Schacter & Singer's Research:

(1) participants given an injection of epinephrine (adrenaline), told that they were given "Suproxin" for their eyesight

- typically BP & HR increase, BF increases, while muscle and cerebral flow increase, blood sugar and lactic acid concentration increases, and respiration rate increases slightly, shortly after injection of

adrenaline

(2) Schacter & Singer then manipulated the participants, giving them cues, which placed them on 1 of 3 groups:

- epinephrine informed
- epinephrine misinformed
- epinephrine ignorant

• Facial-Feedback Hypothesis: focuses on expressive component of emotions → sensory input is routed to subcortical area of the brain that activates facial movements, which then initiate & intensify emotions

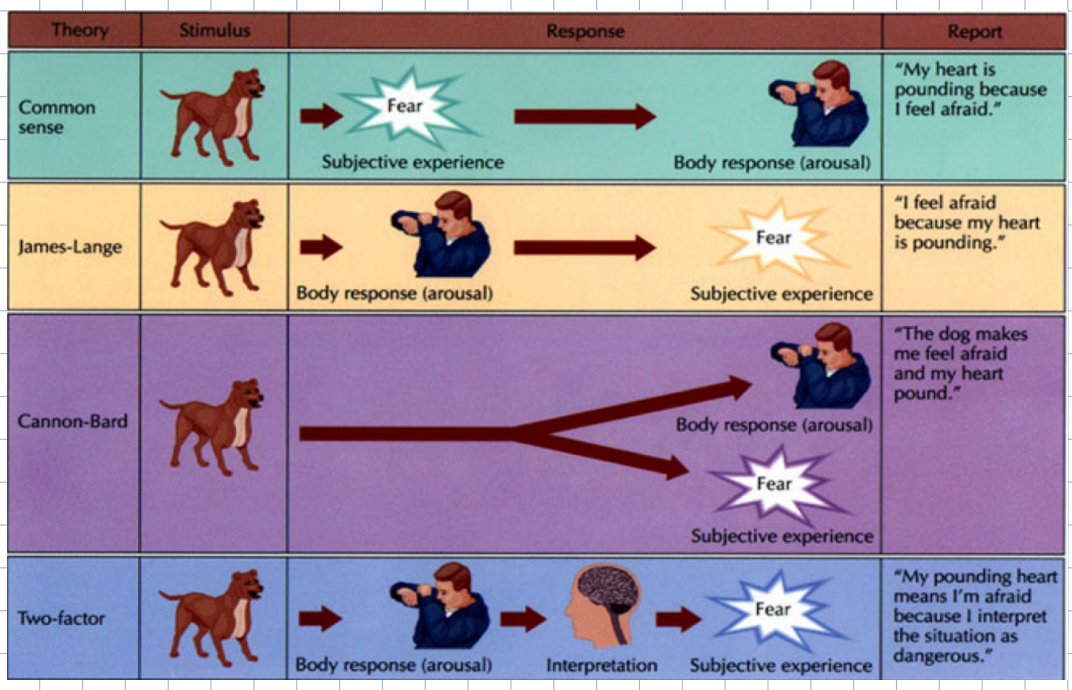
→ Mis-attribution of Arousal Studies (Dutton & Aron, 1974)

(1) male participants walk across 2 diff. style bridges: one bridge was a scary (arousing) suspension bridge, the other was safe & more stable

(2) at the end of each bridge an attractive experimenter met the participants. She gave the participants a survey to fill out & a # to call for further questions

(3) the idea of the study was to find which group of males were more likely to call the female experimenter

↳ the results found that the men who walked across the scary bridge were most likely to call the woman, asking for a date. This was most likely due to the arousal they felt from walking across the bridge.



→ embodied emotion

• emotions involve bodily responses

↳ noticeable: butterflies in stomach

difficult to discern: neurons activated in brain

→ physical components of emotion

• Autonomic Nervous System Activation

↳ some differences in activation are noted w/ specific emotions:

→ [ex] fear shows lower blood pressure & anger shows increases cardiovascular changes

→ mindfulness meditation training shifts frontal lobe activity toward a left-sided asymmetry, which increases energy & boosts immune function

↳ polygraph: an electronic device that measures physiological activation that some believe are related to deception

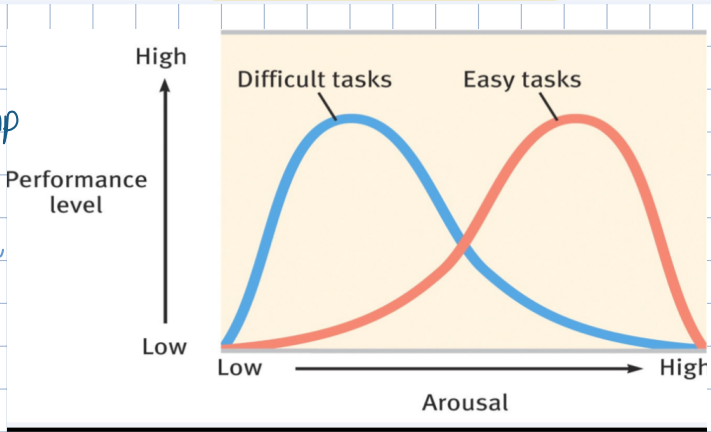
- during an emotional experience, our ANS mobilizes energy in the body that arouses us, resulting in reduced immune system functioning
- arousal & performance
  ↳ arousal in short spurts is adaptive. We perform better under moderate arousal, but optimal performance varies w/ task difficulty

Autonomic Nervous System Controls Physiological Arousal

Sympathetic division (arousing)		Parasympathetic division (calming)
Pupils dilate	EYES	Pupils contract
Decreases	SALIVATION	Increases
Perspires	SKIN	Dries
Increases	RESPIRATION	Decreases
Accelerates	HEART	Slows
Inhibits	DIGESTION	Activates
Secrete stress hormones	ADRENAL GLANDS	Decrease secretion of stress hormones

→ physiological similarities & differences

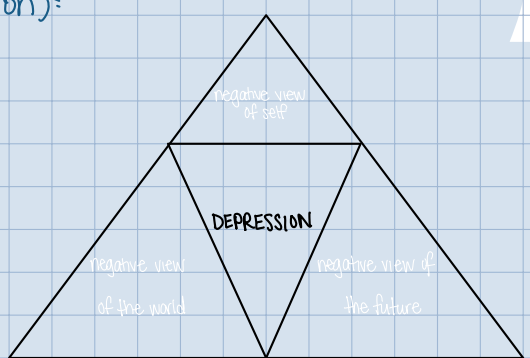
- physiological responses related to the emotions of fear, anger, love, and boredom are very similar
- physical responses, like finger temp and movement of facial muscles, change during fear, rage, + joy
  ↳ the amygdala shows differences in activation during the emotions of anger/rage. Activity of the left hemisphere (happy) is different from the right (depressed) for emotions



→ cognition and emotion

- what is the connection between how we think (cognition) and how we feel (emotion)?
- can we change our emotions by changing our thinking?

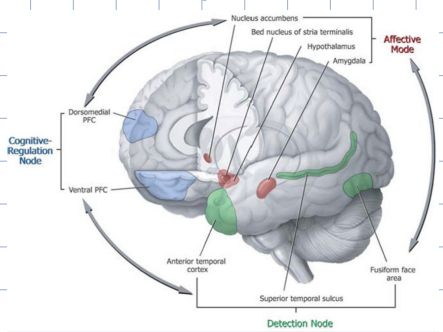
Beck's Model of Depression (1979)
"The Cognitive Triad"

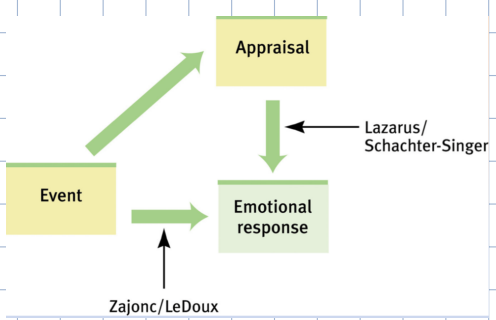


- cognition can define emotion
  ↳ an arousal response to one event spills over into our response to the next event (i.e. arousal from a soccer match can fuel anger, which may lead to rioting)
- cognition does not always precede emotion
  ↳ a subliminally presented happy face can encourage subjects to drink more than when presented w/ an angry face; emotions are felt directly through the amygdala or thru the cortex for analysis

→ two routes to emotion

- Zajonc and LeDoux emphasize that some emotions are immediate, w/o conscious appraisal
- Lazarus, Schacter, and Singer emphasize that appraisal also determines emotions





→ the expression of emotions

- facial expression: facial expressions of various basic emotions are universal (anger, disgust, happiness, fear, surprise, sadness)
- body language / movements / gestures (i.e. thumbs up = ok)
- tone of voice / rate of speech
  - ↳ pitch of voice increases when experienced emotion increases

- detecting emotion
  - → most of us are good at deciphering emotions thru nonverbal communication
  - → hard-to-control facial muscles reveal signs of emotions you are trying to conceal

- Paul Ekman's basic emotions

- experiencing emotion
  - → facial feedback hypothesis: states that feedback from facial muscles affects our experienced emotion
  - → gender differences:
    - women report experiencing more emotion than men
    - women are more comfortable experiencing emotion than men
  - → Izard (1977) isolated 10 emotions; most of them are present in infancy, except for contempt, shame, & guilt

→ positive psych

- attempts to foster human fulfillment, and seeks positive subjective well-being, positive character, and positive social groups