Motivation and Emotion

Drives

- **motivation**--a specific need, desire or want that prompts goal-directed behavior
- **drives**--goal-directed tendencies based on a change in an organism's biological state
  - for example, you are deprived of nutrition and you will become hungry. Hunger then is a primary drive
- **primary drives**--unlearned, innate drives
- **secondary drives**--learned and acquired through experience.

- research has been conducted to determine what are our most important primary drives
- rats were placed in a box and given access to a second box via an electrified grid
- results from this study indicate that the following are to top five motivators (or the top five things that would cause rats to go from box A to box B):
  1. 
  2. 
  3. 
  4. 
  5.

Instincts

- drives are different from **instincts** in that instincts are unchanging sequences of behavior that are species-specific
  - for example, salmon swim up river to spawn, a behavior not seen in other species

Biological Bases

- the **septum** is the primary pleasure center in the brain
  - mild stimulation induces pleasure and sexual arousal
  - it also acts to inhibit aggression
  - if the septal area is damaged, aggressive behavior occurs--this is called **septal rage**

- **drive reduction theory**--biological needs motive our behavior
- **homeostasis**--a state of balance in the body; being out of homeostasis creates a need necessitating a drive

- the **arousal theory** states that there is an optimal level of arousal for a given task
  - low levels of arousal are needed for hard tasks that require concentration and focus
  - moderate levels are needed for moderately difficult tasks
  - high levels are needed for tasks that require endurance and persistence

- the **opponent-process theory** of motivation states that for each motivating drive there is also a disincentive to that drive
  - once an individual is satiated for a particular drive, there is an opposite or opponent drive to avoid fulfilling that drive (e.g. once you've eaten you are no longer hungry and stop searching for food)
  - in addictive behaviors, once the addictive behavior is performed and lessens in intensity, there is a rebound effect where the opponent drive remains active
  - more and more of the addictive substance is then needed to achieve the desired result, thereby leading to addiction
• the main drives are hunger, thirst and sex--these are all connected to the functioning of the hypothalamus
• the hypothalamus regulates temperature, metabolism and water balance
• it also has a role in arousal, aggressive behavior and sexual behavior

**Biological Bases: Hunger**
• the *lateral hypothalamus* (LH) involves the hunger center
• the LH tells the organism when to begin eating and drinking
  – damage to the LH can cause *aphagia*--a refusal to eat or drink voluntarily to the point the organism must be force-fed through tubes
• the LH also plays a role in rage and fighting

• the *ventromedial hypothalamus* (VMH) involves the satiety center
• the VMH tells the individual when he or she has eaten enough
  – brain lesions in the VMH typically lead to overeating and obesity--this is called *hyperphagia*

• the *glucostatic hypothesis* asserts that hunger is tied to glucose levels in the body
  – glucose levels do appear to influence the immediate perception of hunger and feelings of satiation
• the *lipostatic hypothesis* asserts that hunger is tied to fat levels in the body
  – fat levels do appear to be involved with general eating patterns
• there is general agreement that *both* glucose and fat levels influence hunger

• *set-point theory*--the theory that the hypothalamus wants to maintain a certain body weight
  – will trigger eating and lower metabolic rate when we drop below that weight
  – will trigger cessation of eating and elevate metabolic rate when we hit the set point

**Eating Disorders**
• The three most common eating disorders are:
  – *bulimia*--eating large amounts of food (*binging*) and then getting rid of the food through excessive exercise, use of laxatives or vomiting (*purging*)
  – *anorexia nervosa*--individuals who starve themselves to the point their body weight drops below 85% of normal; mostly women
  – *obesity*--individuals who are severely overweight; typically these individuals have unhealthy eating habits

**Thirst**
• *osmoregulation*--a condition in which *osmoreceptors* in the hypothalamus determine the water level in the body
  – if the water levels are too low, osmoreceptors release an *antidiuretic hormone* to compensate for the level
• *volumetric sensors* in the hypothalamus measure water levels at the extracellular level
  – if the water levels are too low, the hormone *angiotensin* is released that causes the individual to feel thirsty, thereby leading to drinking behavior

**Pain**
• the *gate theory of pain* states that a special gating mechanism found in the spinal cord can turn pain signals on and off
• this affects whether the individual feels pain or not because if blocks the perception of pain from the brain
Stimulus Motives

- *stimulus motives* are unlearned motives that prompt us to explore or change the world around us
- they come in several types:
  - *exploration or curiosity* are directed at finding out about the world around us
  - *manipulation or contact* involves touching or handling an object before we are satisfied

Harlow Studies

- the classic study on the need for contact was conducted by Harry Harlow
- newborn baby monkeys were separated at birth and provide with two surrogate mothers
  - one made of cloth
  - the other made of wire but equipped with a nursing bottle
  - both were warmed by a light bulb
- Harlow discovered that the baby monkeys preferred the cloth surrogate over the wire surrogate that fed them
- this illustrates the importance of affection, cuddling and closeness

Learned Motives

- there are a variety of learned motives that also direct our behavior:
  - *aggression*—behavior aimed at harming others; this can be seen in road rage behaviors
  - *frustration-aggression theory*—unique to western cultures, states that when our goals are blocked, we become frustrated; when we become too frustrated, we become aggressive
  - *achievement*—the need to excel and to overcome obstacles; frequently seen in high school students!
  - *power*—the need to win recognition or to influence or control other people; people who always must be in charge of groups or decisions would illustrate this power motive
  - *affiliation*—the need to be with others; formed groups such as clubs are unnecessary, just merely being with others, like in a shopping mall

Kurt Lewin

- Kurt Lewin believed that we *approach* experiences that produce a positive affect (or emotion) and *avoid* experiences that produce a negative affect
- when situations are similar to experiences in the past, they produce a positive affect (emotion) and when they’re different, they produce a negative affect

David McClellan

- David McClelland proposed an *Achievement Motive (nAch)* or need for achievement
- individuals with a high nAch will seek situations that validate their positive affect through effective and successful problem solving
  - they seek moderate risk, individual responsibility and feedback on their accomplishments
- individuals with a low nAch will avoid these situations and perform less well

Abraham Maslow

- Abraham Maslow also believed in our self-actualizing tendency by satisfying certain needs he arranged these in a hierarchical structure
  - the lower level needs represent our survival needs
  - the upper level needs our growth or meta-needs
- Maslow represented this *hierarchy of needs* in a pyramid, using the concept that the lower needs had to be met to form the foundation on which to build the higher level needs
• most of our time is spent toward the lower level needs
• the number of people who are self-actualized is relatively small.
• higher level needs are more difficult to measure because of the subtlety of their nature

• individuals who exhibit primarily lower (deficiency-oriented) needs are typically:
  – self-centered
  – reject their own impulses
  – seek goals common to others
  – look for short-term gratification
  – view others in terms of how they can be used to satisfy their own needs
  – behave on the basis of external cues

• individuals who exhibit primarily higher (growth-oriented) needs:
  – are typically more concerned with the world at large and other people
  – accept their impulses
  – attain unique and individual goals
  – look for long-term gratification
  – accept others for who they are
  – behave based on internal cues

Yerkes-Dodson Law
• the *Yerkes-Dodson Law* states that there are times when we can try too hard
• technically, our motivation to perform outweighs our ability to perform
• motivation and performance reach an optimal point and then performance starts to decline
Yerkes-Dodson Law Diagram (from lecture PowerPoint)

Stress

• the impact of life changes and emergency situations relates to our stress level
• stress can be both positive and negative
• it provokes different reactions in individuals
• stress can be produced by change, hassles, pressure, frustration and conflict
• stressors are defined as things causing stress whereas stress reactions relate to environmental situations
• the Holmes-Rahe Social Readjustment Scale measures life-changing units (LCUs)
• the total number of life events producing stress over a 12-month period is added up
• while this tells the amount of stress an individual has encountered, it does not indicate the effectiveness in coping with that stress

• there are two basic types of stressors:
  – transient stressors--stress that occurs once and does not recur
  – chronic stressors--stress that is steady and ongoing
• stress activates the sympathetic nervous system that increases heart rate, respiration and blood pressure
  – for transient stressors this gives the individual what they need to deal with the stressor
  – for chronic stressors, however, the individual can become mentally and emotionally taxed with depleted physiological reserves

Coping with Stress

• there are two basic strategies for coping with stress.
• direct coping involves confrontation, compromise and withdrawal
  – these are actions people take to change an uncomfortable situation.
• defensive coping involves the use of defense mechanisms such as rationalization, denial and procrastination
  – these are ways people convince themselves that they are not really threatened or do not really want something they cannot get

Hans Selye

• Hans Selye proposed that our body adapts to stress in three phases
• he called this the General Adaptation Syndrome (GAS)
  – Stage 1 is alarm reaction in which the sympathetic nervous system is activated and the physiological changes listed above occur
  – Stage 2 is resistance in which the body reacts to the perceived stress through an outpouring of hormones
  – Stage 3 is exhaustion during which the body has exhausted its efforts to fight stress and is more prone to illness
AP Check

**AP students in psychology should be able to do the following:**

- Identify and apply basic motivational concepts to understand the behavior of humans and other animals (e.g. instincts, incentives, *intrinsic versus extrinsic motivation* [ch. 8 p. 335]).
- Discuss the biological underpinnings of motivation, including needs, drives, and homeostasis.
- Compare and contrast motivational theories (e.g. drive reduction theory, arousal theory, general adaptation theory), *including the strengths and weaknesses of each*.
- Describe classic research findings in specific motivation systems (e.g. eating, sex [pp. 481-493], social [pp. 495-498]).
- Discuss theories of stress and the effects of stress on psychological and physical well-being.
- Identify key contributors in the psychology of motivation (*Alfred Kinsey* [p. 481], Abraham Maslow, Hans Selye).