AP Psychology Simple Studies Review

****Graphics are from Crash Course! We do not claim ownership of any images in this study guide.*

Chapter 2: Research Methods

Terminology

- **Hypothesis**: expresses a relationship between two variables
- **Variables**
    - The **independent variable** is intentionally changed
    - The **dependent variable** depends on the independent variable (what is being studied)
- **Theory**: aims to explain some phenomenon, allows researchers to generate testable hypotheses with the hope of collecting data that support the theory
- **Operational Definitions:** explanations of how variables will be measured
- **Validity and Reliability**
    - **Validity**: accurately measures what the researcher set out to measure
    - **Reliability**: it can be replicated and is consistent
        - **Split-half reliability:** dividing the test in 2 should yield 2 equal scores
        - **Test-retest reliability**: same test, 2 occasions, same score
- **Participants (Subjects)**: the individuals on which the research will be conducted
- **Sampling**: the process by which participants are selected
- **Sample**: the group of participants selected to be in the study
- **Population**: anyone or anything that could possibly be selected in the sample
- **Random Selection**: every member of the population has an equal chance of being selected
    - Increases the likelihood of a *representative* sample, but does not guarantee it
    - Allows researchers to *generalize* about their results
- **Stratified Sampling**: allows a researcher to ensure that the sample represents the population on some criteria (ex. race)
    - Sample size uses proportions equal to that of the population
- **Hindsight Bias**: Upon hearing research findings, the tendency to believe that you knew it all along
- **Applied Research**: Has clear, practical applications

- **Basic Research**: explores questions that are of interest to psychologists, not intended to have immediate real world applications

Experimental Method

- **Experiment**: the *only way* to show a **cause-effect relationship**/preferred research method
  - Laboratory Experiments: experiments in a lab allow *lots of control*
  - Field Experiments: experiments out in the real world, *more realistic but less control*
- **Confounding Variables**: any difference between the experimental and control conditions that could affect the dependent variable (other than the independent variable)
- **Assignment**: the process by which participants are put into the experimental or control group
  - **Random Assignment:** each participant has an equal chance of being placed into any group, limiting the effect of participant-relevant confounding principles
- **Experimenter Bias**: the unconscious tendency for research members to treat members of the experimental and control groups differently to increase the chance of confirming the hypothesis
- **Double-Blind Procedure**: neither the participants nor the researcher are able to affect the outcome of the research
  - Eliminates both experimenter and subject bias
- **Single-Blind Procedure:** only the subjects don't know to which group they've been assigned
  - Minimizes demand characteristics and participant bias
    - **Demand characteristics:** cues about the purpose of a study that affect the participants' responses
  - **Response/participant bias**
    - the tendency for subjects to behave in certain ways
    - **Leading question (framing):** specific wording that leads to bias
    - **Social desirability bias**: the tendency to try to give politically correct answers

- **Experimental Group**: gets the treatment operationalized in the independent variable
- **Control Group**: does not get the independent variable
    - Without it, knowing the effects of the experimental treatment is impossible
    - Establishes a baseline
- **Hawthorne Effect:** selecting a group of people on whom to experiment affects the performance of that group, regardless of what is done to them
- **Placebo Effect:** subjects' own beliefs of cause can manifest themselves even in the absence of treatment
- **Counterbalancing**: using participants as their own control group
    - To eliminate order effects, have half do one order, the other half the other, then switch

Correlational Method

- **Correlations**: express a *relationship* between two variables
    - **Positive**: the presence/increase of one predicts the presence/increase of the other
    - **Negative**: the presence/increase of one predicts the absence/decrease of the other
    - Does *not* imply causation!
- **Problems**
    - Cause and effect cannot be determined
    - The assignment of the independent variable is predetermined
    - Controls all other aspects of the research process
- **Correlation Coefficient:** Ranges from -1 to +1 and describes the strength/direction of a relationship
    - -1 = perfect negative correlation
    - +1 = perfect positive correlation
    - 0 = weakest possible correlation
- **Survey Method:** asking people to fill out surveys
    - Investigates relationships, but not causation
    - No independent or dependent variables
    - Participant-relevant confounding variables can't be controlled for
    - Leads to voluntary response bias and/or nonresponse bias

Naturalistic Observation

- **Naturalistic Observation:** observing participants in their natural habitats without interacting with them
    - Positives: gets a *realistic* and rich picture of the participants' behavior
    - Negatives: Control is sacrificed

Case Studies

- **Case Study:** used to get a full, detailed picture of one participant or a small group of participants
    - Positives: unique situations, foundational to later studies
    - Negatives: findings can't be generalized to a larger population

APA Ethical Guidelines

- **Institutional Review Board (IRB):** any type of academic research must first propose the study to this ethics board
    - **Animal research:**
        - They must have a clear scientific purpose (research must answer a specific and important scientific question, animals must be the best way to answer it)
        - Must care for and house animals in a humane way
        - Must acquire animal subjects legally
        - Must design experimental procedures that employ the least amount of suffering feasible
    - **Human Research**
        - No coercion (participation must be voluntary)
        - Informed consent (participants must know that they are involved in research and give consent, little to no deception)
        - Anonymity/confidentiality (identity and actions of participants can't be revealed, can't identify participants as the source of any of the data)
        - Risk (participants can't be placed at significant mental/physical risk)

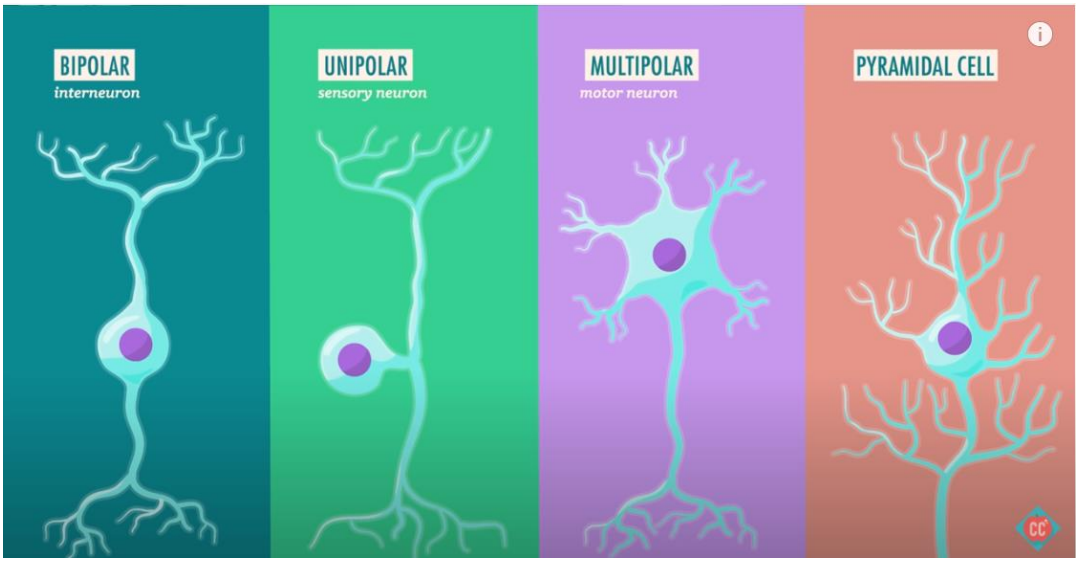
- Debriefing procedures (participants must be told the purpose of the study and provided with ways to contact the researchers about study results)

Chapter 3: The Biology of Psychology

Neuroanatomy

- **Parts of the Neuron:**
  - **Dendrites**: root-like parts of the cell that stretch out from the cell body, they grow to make synaptic connections with other neurons, *receives* messages from other cells to soma
  - **Cell body (soma):** contains the nucleus and other parts of the cell necessary for its life
  - **Axon**: wire like structure ending in the terminal buttons that extend from the cell body, sends electrical impulses *out* of the cell body
  - **Myelin sheath**: a fatty covering around the axon of some neurons that speeds neural impulses
  - **Terminal buttons**: end buttons, terminal branches of axon, synaptic knobs; branched end of the axon; contains neurotransmitters
  - **Neurotransmitters**: chemicals contained in terminal buttons that enable neurons to communicate
  - **Synapse**: the space between the terminal buttons of one neuron and the dendrites of the next neuron

- **Synaptic Cleft**- the space between neurons at a nerve synapse across which a



nerve impulse is transmitted by a neurotransmitter

Neurons Firing

- **Resting State**: neuron has negative charge with positive ions surrounding the cell
- **Steps**:
  - Neuron is stimulated, releases neurotransmitters
  - Neurotransmitters bind to receptor sites on the dendrites of the receiving neuron
  - If the threshold is reached, the cell membrane of the receiving neuron becomes permeable
  - positive ions rush in
  - **Action Potential:** the membrane potential of a specific cell location rapidly rises and falls
  - Axons release neurotransmitters to another neuron
- **All-or-None Principle**: the neuron will fire completely or not at all
- **Neurotransmitters**:
  - **Acetylcholine**: motor movement and memory
    - too little → leads to **Alzheimer's**
    - too much → decreased heart rate
  - **Dopamine**: motor movement and alertness

        - too little → **Parkinson's disease**
        - too much → **schizophrenia**
    - **Endorphins**: pain control, released during exercise, can be addictive
        - too little → **OCD**
        - too much → on edge
    - **Serotonin**: happiness/mood, sleep
        - too little → **clinical depression**
        - too much→ decreased motor skills, seizures
    - **GABA**: inhibitory, calms you down
        - too little → seizures, anxiety
        - too much → depression, insomnia, seizures

Nervous System

- **Afferent Neurons (Sensory Neurons):** take information from the senses to the brain
- **Interneurons**: send information to elsewhere in the brain or to efferent neurons
- **Efferent (Motor) Neurons:** take information from the brain to the rest of the body
- **Central Nervous System (CNS):** consists of the brain and the spinal cord (which is just a bundle of nerves), the body's command center
- **Peripheral Nervous System (PNS):** all nerves not encased in bone, collects info to send to SNA
    - **Somatic**: controls voluntary muscle movements
    - **Autonomic**: controls involuntary muscle movements
        - controls responses to stress
        - sympathetic arouses
        - parasympathetic calms
- **Ways to Study the Brain**
    - **Lesions**: the removal or destruction of part of the brain and studying the effects
    - **Electroencephalogram (EEG):** detects brain waves and examines them in different stages of consciousness, especially sleep

- **Computerized Axial Tomography (CAT) Scan:** a sophisticated x-ray that shows brain structure in 3D
- **Magnetic Resonance Imaging (MRI):** uses magnetic fields to measure the density and location of brain material and structure
  - no radiation
  - more detailed than a CAT scan
- **Positron Emission Tomography (PET) Scan:** radioactive glucose is injected into the system; it shows how much of a certain chemical parts of the brain are using, essentially measures which parts of the brain are most active during certain tasks (think PET=giving glucose/sugar to your pet)
- **Functional MRI (FMRI**): ties brain structure to brain activity during cognitive tasks (combines elements of MRI and PET)
- **Case study:** studying specific people in unique situation
  - Phineas Gage: a rod went through his head but he lived; his personality changed and eventually caused seizures

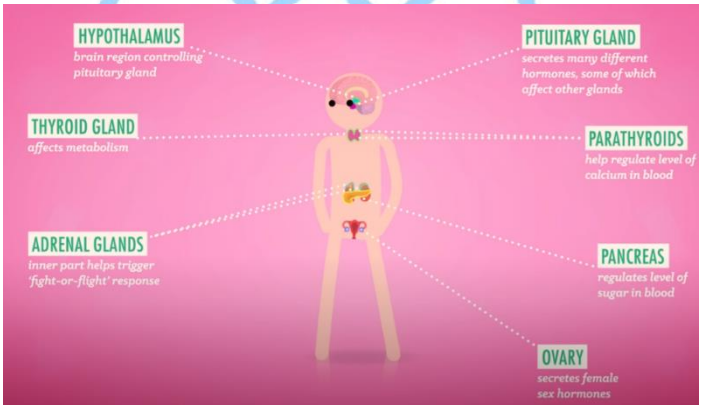
- **Brain Structure and Function (summary on p21)**
  - **Hindbrain/brain stem**: controls basic biological functions that keep us alive
    - **Medulla**: controls blood pressure, heart rate, and breathing
    - **Pons**: controls facial expressions, connects the hindbrain with the rest of the brain
    - **Reticular formation**: runs through middle of medulla and pons; selective attention, ignoring repeating stimuli, alertness
    - **Cerebellum** (aka "little brain"): coordinates muscle movement from the bottom of the brain
    - **Thalamus**: receives sensory signals coming up the spinal cord and sends them to other forebrain areas (sits atop brain stem, might be MB)
  - **Midbrain**: coordinates simple movements with sensory information & integrates sensory information and muscle movements
    - **Hypothalamus**: controls hunger, sexual arousal, thirst, and the endocrine system
    - **Amygdala**: controls emotion

        - **Hippocampus**: vital for memory and retaining new information
    - **Cerebral Cortex**: gray wrinkled surface of the brain (the wrinkles are called fissures)
        - **Cerebral hemispheres:** 2 sections of the cortex for contralateral control
            - left hemisphere- right half of body
            - right hemisphere- left half of body
            - **Brain lateralization** (hemispheric specialization): the specialization of function in each hemisphere
            - **Split brain patients**: the corpus callosum has been cut to treat severe epilepsy, but patients can't orally report information presented to only the right hemisphere of the brain
    - **Association area**: any area of the cerebral cortex not associated with receiving sensory information or controlling muscle movements
    - **Lobes**:
        - **Frontal lobes**
            - **Prefrontal cortex:** at front of frontal lobe, acts as the brain's central executive: foreseeing consequences, pursuing goals, and emotional control
            - **Broca's area:** at the left hemisphere of frontal lobe, controls the muscles involved in producing speech (think boca!)
            - **Motor cortex:** at the back of the frontal lobe, controls our voluntary movements
        - **Parietal lobes**
            - **Sensory (somatosensory) cortex**: located right behind the motor cortex, receives incoming touch sensations
            - Cognition, information processing, spatial orientation, speech, senses, math, reading, writing
            - Above temporal, behind frontal
        - **Temporal lobes**
            - process sound (sound waves are processed by the ears and turned into neural impulses that temporal lobes interpret)

        - **Wernicke's area:** comprehending speech and sound (left temporal)
    - **Occipital lobes:** vision
- **Brain plasticity**: parts of the brain can adapt to perform other functions if needed because dendrites grow throughout our lives
    - Younger brains are more plastic

Endocrine System

- **Adrenal Glands**: produce adrenaline → "fight or flight" prep (handles stress)
- **Ovaries and Testes (gonads):** produce sex hormones, controlled by the hypothalamus
- **Pituitary gland:** (aka master gland) secretes HGH, influences all other hormone-secreting glands, the master gland
- **Pineal gland:** located near the base of cerebrum, secretes melatonin
- **Thyroid gland:** located in the neck, regulates growth and metabolism with thyroxine
- **Pancreas gland:** controls blood sugar levels by secreting insulin and glucagons



Chromosomes

- **Twins**
    - **Identical (monozygotic) twins:** came from 1 zygote; physical similarity in twins causes them to be treated the same way
- **Chromosomal Abnormalities**
    - **Turner's Syndrome:** only single X chromosome; causes shortness, webbed necks, and different sexual development

- **Klinefelter's Syndrome:** XXY chromosome pattern; causes minimal sexual development and extreme introversion
- **Down's Syndrome:** extra chromosome on 21st pair; intellectual disability

Chapter 4: Sensation and Perception

- Overview:
  - **Transduction**: sensory messages are transformed into neural impulses
  - The neural impulses are then sent to the **thalamus**, which sends them to other parts of the brain (other than smell)
  - **Sensory Adaptation**: decreasing responsiveness to stimuli due to constant stimulation (sensory receptors become less sensitive)
  - **Sensory Habituation:** our perception of sensations is partially due to how focused we are on them (brain ignores repetition)
  - **Cocktail-Party Phenomenon**: someone says your name, your attention involuntarily switches to them
  - **Priming**: exposure to a stimulus that influence a response to a subsequent stimulus
  - **Change blindness:** occurs when a change in a visual stimulus happens but isn't noticed
  - Sensation and Perception
    - **Sensation**: the activation of our senses
    - **Perception**: the process of understanding/experiencing these sensations

Vision

- **Step one: gathering light** (light is reflected off of objects and gathered by the eye)
  - the color we perceive depends on:
    - **intensity-** how much energy the light contains. determines brightness
    - **wavelength-** determines hue
    - degree to which light waves producing a color are of the same wavelength-saturation
- **Step two: within the eye**

- **Cornea**: light first enters the eye through it, helps to focus the light, it's basically just a protective covering
- **Pupil**: light goes through it after the cornea
- **Iris**: determines how much light gets in the eye by controlling the size of the pupil
- **Lens**: through accommodation, light that enters the pupil is focused by it, curved and flexible; as light passes through it, the image is flipped upside down and inverted
- **Retina**: the focused inverted image projects on it

- **Step three: transduction** (occurs when light activates neurons in the retina)
  - **Rods and cones:** the first layer of cells in the retina, directly activated by light
    - **cones-** activated by color, clustered around the fovea
    - **rods-** peripheral vision, respond to black and white, outnumber cones
  - **Bipolar cells and ganglion cells**
    - when enough cones and rods fire, they activate the next layer of bipolar cells
    - if enough bipolar cells fire, the next layer of ganglion cells is activated
    - the ganglion cells' axons form the optic nerve
  - **Optic nerve:** where transduction takes place; sends impulses to the LGN
    - impulses from the left side of each retina go to the left hemisphere of the brain, right right
    - **optic chiasm-** spot where the nerves cross each other
  - **Lateral Geniculate Nucleus (LGN):** located in the thalamus, sends messages to the visual cortex
  - **Blind Spot:** where the optic nerve leaves the retina, has no cones or rods and thus, no vision
- **Step four: in the brain**
  - **Feature detectors:** visual perception of all features, recognizing visual input and categorizing it
    - impulses travel from the retina to the visual cortex to them

Theories of Color Vision

- **Trichromatic theory:** we have three types of cones for red, blue, and green and they are activated in combinations to produce other colors
- **Opponent-process theory:** the sensory receptors arranged in the retina come in pairs (red/green, blue/yellow, black/white) and when one sensor is stimulated, the other is inhibited from firing
    - Explains color blindness and after images

Principles of Visual Perception

- **Figure-Ground Relationship:**
    - **Figure**: objects
    - **Ground**: surrounding background
- **Gestalt Rules:** we normally perceive objects as groups, not isolated elements
    - **Proximity**: objects close together → perceived as belonging to the same group
    - **Similarity**: objects are similar in appearance → perceived as part of the same group
    - **Continuity**: objects that make up a continuous form are grouped together
    - **Closure**: objects that make up a recognizable image are grouped, even if the mind needs to fill in gaps
        - similar to top-down processing'
- **Constancy**: our ability to maintain a constant perception of an object even as sensation from it changes
    - **Size constancy:** we keep a constant size in mind for an object if we are familiar with it, we know it doesn't grow or shrink as distance changes
    - **Shape constancy:** we know the shape of an object remains constant, even as retinal images change
    - **Brightness constancy:** we perceive objects as being a constant color even as the light reflected from them changes
- **Perceived Motion:** our brains can perceive objects at rest to be moving
    - **Stroboscopic effect:** images in a series of still pictures presented at a certain speed seem to move (flip books)

- **Phi phenomenon:** a series of light bulbs turned on and off at a particular rate appear to be one moving light
- **Autokinetic effect:** spot of light is projected on a wall in a dark room and appears to move if you stare at it

- **Depth Cues**
  - **Visual cliff experiment**: by Eleanor Gibson, an infant that can crawl won't cross the cliff, indicating that infants have depth perception
  - **Monocular cues**: depth cues that need only one eye
    - **Linear perspective**: parallel lines converge with distance
    - **Relative size:** larger objects appear closer
    - **Interposition**: objects that block the view to other objects must be closer
    - **Texture gradient**: we can see more details in the texture of objects that are closer
    - **Shadowing**: implies where the light source is
  - **Binocular cues**: depth cues that need both eyes
    - **Binocular (retinal) disparity**: the closer the object, the more disparity there will be between the images from each eye
    - **Convergence**: the more the eyes converge, the closer the object must be
- **The Effects of Culture on Perception**
  - Some basic perceptual sets are learned from culture
  - Expectations and past experiences
  - **Muller-Lyer Illusion**: an optical illusion consisting of a stylized arrow. When viewers are asked to place a mark on the figure at the midpoint, they invariably place it more towards the "tail" end.
  - **Ebbinghaus illusion**: two same-size objects surrounded by different sizes can look like different sizes (circle surrounded by little circles vs same circle surrounded by big circles look different)

Hearing

- **Sound waves**: created by vibrations which travel through the air that are collected by our ears

    - **Amplitude**: height of wave- determines loudness in decibels
    - **Frequency/wavelength**: length- determines pitch (megahertz)
    - **Purity** determines timber
- **Outer ear:**
    - **Pinna-** sound waves are collected in the outer ear
    - **Auditory canal-** waves travel down it
    - **Eardrum/tympanic membrane-** a thin membrane that vibrates as sound waves hit it
- **Middle ear**:
    - **Ossicles-** hammer, anvil, stirrup: transmit the vibrations to the oval window
- **Inner ear:**
    - **Oval window**-from ossicles to cochlea
    - **Cochlea-** shaped like a snail's shell and filled with fluid (vibrates as the oval window moves) transmits vibrations into neural signals
    - **Basilar membrane-** (floor of cochlea) hairs move and the hair cells are connected to the **organ of corti** (neurons activated by movement of hair cells)
    - **Transduction**- Auditory nerve sends these impulses to the brain
- **Pitch Theories**
    - **Place theory**: hair cells in the cochlea respond to different frequencies of sound based on where they are located
        - some bend to high pitches, others to low
        - explains how we sense higher pitches
    - **Frequency theory**: the hair cells fire at different rates
        - explains lower tones
- **Deafness**
    - **Conduction deafness:** problem with the system of conducting the sound to the cochlea; a problem in ear canal, eardrum, ossicles, or oval window
    - **Sensorineural (nerve) deafness**: hair cells in the cochlea are damaged and can't regenerate, often results from loud noises

Touch

- Pain, cold, warmth, pressure
- Some nerve endings respond to temperature, others to pressure
- Our brain interprets the amount of indentation (temperature change) as intensity of touch
- Nerve endings are very concentrated in the *fingertips*
- **Pain**
    - Pain receptors will fire when other receptors are stimulated sharply
    - Pain warns us of danger
    - Types of pain:
        - **Visceral pain:** pain detected by receptors inside organs
        - **Somatic pain**: pain from skin, muscles, tendons, and joints
- **Gate-control theory**: some pain messages have a higher priority that the gate is open to but shuts out lower priority messages
    - Endorphins (since they control pain) can shut the gate
    - Signals in small nerve fibers open and close

Taste (Gustation)

- Chemicals from food are absorbed by taste buds
- **Taste buds** are located on **papillae**, some respond more intensely to different things
    - The more densely packed the taste buds, the more chemical absorbed → intense taste
- **Tastes**: sweet, salty, sour, bitter, and umami

Smell (Olfaction)

- **Process**: molecules of substances rise into the air, drawn into the noise, and settle into a mucous membrane where they are absorbed by receptor cells
- **Olfactory bulb**: gathers messages from receptor cells are linked to it and sends the info to the brain
    - Connected to the brain by nerve fibers
    - Connected to the amygdala and hippocampus (one reason why smells trigger memories)

Body Position Senses

- **Vestibular Sense**: tells us about how our body is oriented in space
    - Process: fluid in the 3 semicircular canals moves and sensor hairs pick up on the movement, then neurons are activated and impulses are sent to the brain
- **Kinesthetic Sense**: gives us feedback about the position and orientation of specific body parts

Perception

- **Psychophysics**: the study of the interaction between the sensations we receive and our experience of them
- **Thresholds**
    - **Absolute threshold:** the minimum amount of stimulus we can detect 50% of the time (subliminal- below the absolute threshold)
    - **Difference threshold (just noticeable difference**): smallest amount of change needed in a stimulus before we detect a change
        - computed by **Weber's Law**, the change needed is proportional to the intensity of the original stimulus (ty Ernest Weber)
        - hearing- 5%
        - vision- 8%

Perceptual Theories

- **Signal Detection Theory:** investigates the effects of the distractions and interference we experience while perceiving the world and tries to predict what we will perceive among competing stimuli
    - Takes into account response criteria:
        - motivations and expectations
        - also called receiver operating characteristics
    - **False positive**: we think we perceive a stimulus that isn't there
    - **False negative**: not perceiving a stimulus that is present
- **Top-Down Processing:** we perceive by filling in gaps in what we sense with background knowledge (told what to see, then we see it)

- **Schemata**: mental representation of how we expect the world to be created from experience, influences how we perceive it
    - **Perceptual set**: a predisposition to perceive something in a certain way
- **Bottom-Up Processing (Feature Analysis)**: perception starts at the bottom with the individual characteristics of the image (seeing something, then figuring out what it is)
    - Puts characteristics together into our final perception
    - More accurate than top-down processing since there are no biased perceptual sets

Chapter 5: States of Consciousness

- Overview
    - **Dualism vs. Monism**
        - **Dualism**: humans consist of thought (nonmaterial, rises from the brain) and matter (substance)
        - **Monism**: thought and matter are aspects of the same substance, thought stops existing when the body dies
    - **Consciousness**: our level of awareness about ourselves and our environment
- **Levels of Consciousness**
    - **Mere-Exposure Effect**: we prefer stimuli that we have seen before over novel stimuli, even if we don't consciously remember seeing it
    - **Priming**: research participants respond more quickly/accurately to questions they've seen before, even if they don't remember it
    - **Blind Sight**: one level of consciousness is not getting visual information, their behavior demonstrates that another level can see but they report being blind
    - Types of Levels
        - **Conscious level:** information about yourself and your environment that you are aware of
        - **Preconscious level:** information about yourself or your environment that you are not thinking about, but could be
        - **Subconscious level**: information of which we are not consciously aware, must exist due to behavior, proved by priming and mere exposure effect

        - **Unconscious level**: some events/feelings that are unacceptable to the conscious mind are repressed into it
        - **Nonconscious level**: body processes controlled by the mind that we are not aware of

Sleep

- **Sleep Cycle/stages**
    - **Sleep stage 1:** relaxed, the brain's activity slows to a large amplitude and slow, regular alpha waves
        - Hypnagogic jerks: jerking awake, associated with falling/floating
        - Hypnagogic images: flashes of a picture
    - **Sleep stage 2:** slipping into sleep, brain has theta waves
        - Sleep spindles: bursts or rapid rhythm
    - **Sleep stage 3**: transitioning to deep sleep, delta waves begin
    - **Sleep stage 4**: deepest sleep, people are hard to wake, breathing/pulse are low, muscles react
    - **REM (rapid eye movement):** 95% of dreams, brain waves resemble alpha waves (awake waves)
        - **Paradoxical sleep:** body internally aroused but externally calm
            - **Sleep paralysis**: caused by body's REM paralysis not wearing off despite being more awake
            - **REM rebound**: if deprived of REM sleep the previous night, we will spend more time in REM
- **Sleep Disorders**
    - **Insomnia**: recurring problems in falling or staying asleep
        - affects 10% of the population
        - sleeping pills disturb sleep patterns
    - **Narcolepsy**: periods of intense sleepiness, may fall asleep at unpredictable times, possibly right into REM
        - affects less than .001% of the population

- **Sleep apnea:** causes you to stop breathing for short periods of time at night then wake up a little and gasp for air (but might not remember)
    - affects attention, memory, energy
    - prevents deep sleep
    - high risk group: overweight men
- **Night terrors**: episodes of extreme screaming, fear, or flailing during sleep (during deep sleep, things like thrashing)
- **Somnambulism (sleep walking)**
    - more common in children
    - early in the night; stage 4
    - not remembered in the morning

- **Dreams**
    - **Freudian psychoanalysis**: emphasizes dream interpretation as a way to uncover information in the unconscious mind since dreams are wish fulfilling (we act out our unconscious desires)
        - **Manifest content**: the literal storyline of dreams
        - **Latent content**: the unconscious meaning of it
    - **Activation-synthesis theory** (Hobson and McCarley): dreams are the brain's interpretation of what is happening physiologically during REM sleep
    - **Activation-information theory:** the function of REM is to integrate information processed during the day into our memory
        - Supported by stress increasing the number and the intensity of our dreams as well as seeing bits and pieces of our day in them
        - Dealing with daily events during REM (aka **information-processing theory**)
- **Hypnosis**: a calm, trance-like state during which you tend to have higher concentration and focus, you are more open to suggestion
    - Hypnosis cannot bring back memories or make you act totally against your will
    - **Posthypnotic Amnesia**: forgetting events that occurred while you were under hypnosis

- **Posthypnotic Suggestion**: a suggestion that a hypnotized person behave in a certain way after hypnosis ends
- **Role Theory**: during hypnosis, people act out the role of a hypnotized person because they are expected to, meaning hypnosis is a social phenomenon
- **Dissociation**: a dual-processing state of "split consciousness" (zoning out), some might think it is behind hypnosis
- **Hypnotic suggestibility**: ability to be hypnotized
  - higher in people who have rich fantasy lives and follow directions
  - Hilgard's hypnotic susceptibility test: 10% of subjects won't be susceptible, 10% will always give in, but most are in the middle
- **State Theory:** hypnosis is an altered state of consciousness
- **Dissociation Theory:** Ernest Hilgard said hypnosis causes a voluntary split in consciousness (one level responds to the suggestions of the hypnotist while the other level retains awareness of reality)
  - Ice water bath experiment: subjects felt pain but reported none, demonstrates the presence of a hidden observer/ a level of our consciousness that monitors what is happening while another level obeys the hypnotist

Drugs

- **Antagonist**: blocks receiving sites
  - **Alcohol**: makes GABA receptors more sensitive to GABA and glutamate production slows; affects memory, decisions, and impulses (frontal lobe & cerebellum)
  - **Cocaine**: traps dopamine in the synapse, blocks the dopamine transporters (Active in motor cortex, voluntary movements)
- **Agonist**: mimics substances
  - **Marijuana**: mimics anandamide, a natural cannabinoid responsible for stopping inhibitory transmitters that stop excess dopamine (so basically it allows more dopamine); anandamide plays a role in memory, which explains memory loss
  - **Ecstasy**: emits a serotonin-like chemical and is absorbed by serotonin receptors into sending cell

        - Habitual use leads to less natural serotonin, which leads to depression
        - Raises body temp, decreases appetite and sleep
    - **LSD**: resembles serotonin and binds to receptors, leading to complex sensory impacts by brain area communication (explains the hallucinations and out-of-body experiences)
    - **Heroin**: mimics natural opiates/endorphins; stops the release of inhibitory neurotransmitters that normally stop dopamine, allowing more of it into the synapse
        - Total euphoria and no pain
        - Addictive and killer
    - **Meth**: imitates dopamine
        - Leads to heavy addiction
- **Categories of Drugs:**
    - **Stimulants**: speed up body processes in the autonomic nervous system
        - Ex: Caffeine, cocaine, amphetamines, nicotine
        - Disturb sleep, reduce appetite, increase anxiety, cause heart problems
    - **Depressants**: slow down body systems
        - Ex: Alcohol, barbiturates, anxiolytics (tranquilizers, antianxiety drugs)
        - Cause euphoria
        - Too much: memory problems, judgement
    - **Hallucinogens** (**Psychedelics**): cause changes in perception of reality, sensory hallucinations, loss of identity, vivid fantasies
        - Ex: LSD, ecstasy
        - Reverse tolerance: second dose may be less than first but cause greater effects, the drug lingers in the body for weeks
    - **Opiates**: agonists for endorphins (kills pain), depressing neural activity
        - Ex: morphine, heroin, methadone, codeine
        - Similar in chemical structure to opium
        - Elevates mood, cause drowsiness and euphoria
        - Very physically addictive (rapidly change brain chemistry and create tolerance/withdrawal)

        - The brain will stop making its own endorphins if too much
- More vocab:
    - **Psychoactive drugs**: chemical substances that alter mood and perception (right to the synapses!)
    - **Tolerance**: the diminishing effect with regular use of the same dose of a drug, requiring bigger doses to get the drug's same affect
    - **Neuroadaptation**: the brain adapts to offset the drug affect

Chapter 6: Learning

- **Learning:** A long lasting change in behavior resulting from experience
- **Classical Conditioning**: Ivan Pavlov found that dogs learn to salivate to the sounds that they regularly hear before being fed even without the food, purely due to association
    - Developed classical conditioning: neutral stimuli associated with stimuli such as food will produce similar responses as the old stimuli
    - **Classical Conditioning Process:**
        1. unconditioned stimulus (US or UCS) is presented (the natural thing)
        2. it is presented with the neutral stimulus
        3. the unconditioned response (UR or UCR) occurs naturally
        4. if the UCS is continually paired with a neutral stimulus, they will be associated
    - **Conditioned stimulus (CS):** a neutral stimulus that is paired with an unconditioned stimulus to elicit a conditioned response (CR), even in the absence of the US
    - **Acquisition**: learning has occurred once the animals respond to the CS without the US; repeated pairings of CS and US yield a stronger CR
    - **Ineffective learning methods:**
        - **trace conditioning**: presentation of CS, short break, presentation of US
        - **simultaneous conditioning**: CS and US presented at same time
        - **backward conditioning**: presentation of US, presentation of CS
    - **Extinction**: the CS no longer elicits the CR; achieved by presenting the CS without the US repeatedly

- **Spontaneous Recovery**: after extinction, the CR briefly reappears upon presentation of the CS sometimes
- **Generalization**: the tendency to respond to stimuli that is similar in some way to the CS, but the subjects can be trained to discriminate
- **Discrimination**: learned ability to distinguish CS
- **Little Albert Experiment:** John Watson and Rosalie Rayner conditioned Albert (a little boy) to fear a white rat by pairing the rat with a loud noise that made him cry
    - Albert *generalized* to other fluffy white things; fluffy white things also elicited the conditioned response (fear/crying)
    - Illustrates aversive conditioning
    - Inspired/founded on Ian Pavlov's experiment with dogs/classical conditioning
- **Biology**: we are biologically prepared to make certain connections more easily than others such as **taste aversions** (pairing nausea with a new food, helped for survival)
    - Salient (strong/obvious) stimuli create a more powerful CR
    - **Garcia and Koelling's Experiment**: illustrated that rats more easily make some connections than others, such as noise with shock

- **Higher-Order Conditioning**: second order conditioning, the CS acts as a US in order to condition a response to a new stimulus
- **Operant Conditioning:** learning based on the association of consequences with one's behavior
    - **Edward Thorndike** conducted an experiment where he locked a cat in a puzzle cage and it had to get out to get food
        - time required decreased over trials (meaning the rat got better)
        - concluded that the cat learned new behavior without mental activity
    - **Law of effect:** if the consequences of a behavior are pleasant, the stimulus-response (S-R) connection will be strengthened and the frequency of the behavior will increase (and vice-versa)

- **Instrumental learning**: the consequence was instrumental in shaping future behaviors
- **B.F. Skinner:** coined the term operant conditioning
    - **Skinner box:** delivers food to an animal and a lever to press or disk to peck in order to get the food
    - The food acts as a reinforcer, as is anything that makes an event more likely to occur
- **Escape learning**: allows one to terminate an aversive stimulus
- **Avoidance learning**: enables one to avoid the aversive stimulus all together
- **Reinforcement**: Increasing behavior by using pleasant consequences
    - **Positive reinforcement:** the addition of something pleasant
    - **Negative reinforcement**: the removal of something unpleasant
- **Punishment**: Decreasing behavior by using unpleasant consequences
    - **Positive punishment**: the addition of something unpleasant
    - **Negative punishment**: the removal of something pleasant
    - Punishment is most effective if delivered immediately after unwanted behavior
    - Harsh punishment is more effective b/c it may result in anger or fear
    - **Learned helplessness**: possible result of punishment, the belief that all actions will result in punishment (giving up)
        - **Martin Selgman's experiment** showed that dogs with a series of inescapable shocks stopped trying to escape even when they could
    - Learning due to punishment:
        - **Escape learning:** allows one to terminate a bad stimulus (ex: dropping out of school)
        - **Avoidance learning:** avoiding stressful stimulus (ex: skipping class on test day)
- **Shaping**: rewarding approximations of the desired behavior (closer and closer)
    - increases the likelihood and speed of the subject stumbling upon the desired behavior for the first time

- **Chaining**: teaching subjects to perform a number of responses successively in order to get a reward
    - Example: a rat named Barnabus who learned to run through a veritable obstacle course to get food
- **Discriminative stimulus**: in discrimination, the special conditions under which the subject learns to perform the desired behavior
- **Primary reinforcers**: are rewarding in and of themselves (such as food, water, rest)
- **Secondary reinforcers**: things we have learned to value or things that lead to primary reinforcers
    - Ex: praise, money
    - **Token economy**: every time people perform a desired behavior, they are given a token that can be traded in for a reinforcer a practical application of generalized reinforcers (used in prisons, mental institutions, schools)
- **Premack principle**: the reinforcing properties of something depend on the situation, whichever of two activities is preferred can be used to reinforce the other activity ("You can hang out with your friends (reinforcement) once you finish washing the dishes")
- **Reinforcement Schedules**
    - **Continuous reinforcement**: rewarding the behavior each time, best when first teaching a new behavior
    - **Partial-reinforcement effect**: behaviors will be more resistant to extinction if the animal has not been reinforced continuously; they yield higher response rates than continuous
    - When reinforcement is delivered:
        - **Ratio schedule**: number of responses made (ex: after doing it 2x)
        - **Interval schedule**: the passage of time (ex: weekly)
    - The pattern of reinforcement:
        - **Fixed schedule**: constant
        - **Variable schedule:** changing (more resistant to extinction than fixed schedules)

        - **Fixed-ratio (FR) schedule**: provides reinforcement after a set number of responses (ex: FR-5 schedule: subject will be rewarded after the fifth response)
        - **Variable-ratio (VR) schedule:** provides reinforcement based on a varying number of responses (ex: VR-5 schedule: average number of responses required to get a reward is five)
        - **Fixed-interval (FI) schedule:** requires that a set amount of time elapse before a response results in a reward (FI-3 minute schedule: rewards the first response that occurs after three minutes)
        - **Variable-interval (VI) schedule**: varies the amount of time required to elapse before a response will result in reinforcement (VI-3 minute schedule: subject will be rewarded for the first response made after an average of three minutes)
    - **Biology**
        - **Instinctive drift**: the tendency for animals to forgo rewards to pursue their typical patterns of behavior
        - Animals won't perform certain behaviors that go against their natural inclinations

Ways to Learn

- **Observational Learning (Modeling)**: learning by seeing others' actions
    - **Basic components**: observation, imitation, a mental representation of the observed behavior must exist to enable imitation
    - **Albert Bandura** studied modeling helped him formulate social-learning theory & showed that children learn violent behavior through observation
    - **Bobo doll experiment:** children exposed to adults who modeled aggressive behavior against Bobo doll vs children left alone with a bobo doll, they exhibited almost identical aggressive behavior
    - **Mirror neurons**: neurons that activate during observational learning/triggers empathy, sympathy, and second-hand embarrassment

- **Latent Learning:** subconsciously acquiring information, becomes obvious only once a reinforcement is given for demonstrating it
    - Edward Tolman's experiment had three groups of rats:
        1. always got a reward for completing the maze
        2. never got a reward
        3. not rewarded during the first half of trials, rewarded in second half (during the first half their performance was very similar to the group that never got a reward but performance improved dramatically and suddenly once they began to be rewarded for finishing the maze)
        - conclusion: the rats must have learned their way around the maze in the first half, the dramatic improvement in the second half resulted from latent learning
- **Abstract Learning**: understanding concepts in order to secure a reward
    - Studies show that pigeons can
- **Insight Learning**: when one suddenly realizes how to solve a problem
    - **Wolfgang Kohler's Experiment**: suspended a banana from the ceiling out of reach of a group of chimpanzees in a room with many boxes; chimps spent most time running around in frustration but suddenly they piled up the boxes, climbed up, and grabbed the banana

Chapter 7: Cognition

- **Overview**
    - **Natural concept**: imprecise mental classification based on experiences
    - **Artificial concept**: precise concepts that are defined and have rules or characteristics (topics covered in school)
    - **Dunning-Kruger Effect**: the most incompetent are the most overconfident (poor performers lack the skill and the knowledge to know that they lack it)

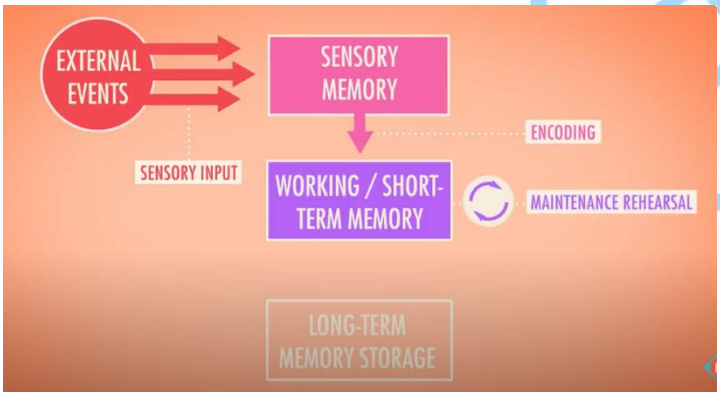
Memory (learning that has persisted over time, normally has been stored and can be recalled)

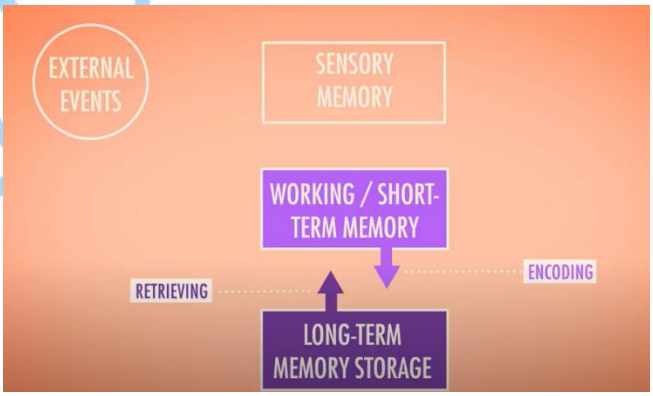
- **Types of Memory**

- **Sensory Memory**: the first stop for external events, contains all of the information processed by senses for less than a second
    - **George Sperling's Experiment:** flashed a 3x3 grid for 1/20th of a second to participants who had to recall one of the rows immediately after; participants could recall any perfectly, demonstrating that the entire grid must be held in sensory memory for a split second
- **Iconic memory**: a split second perfect photograph of a scene
- **Echoic memory:** a brief (3-4 second) perfect memory for sounds
    - Not all information in sensory memory is encoded into short term memory
    - **Selective attention** determines which sensory messages get encoded
- **Short-Term/Working Memory:** holds everything you are currently thinking/memories we are currently working with and aware of
    - If we do nothing with short term memories, they usually fade in 10-30 seconds
    - Capacity limited to seven items
    - **Chunking**: can be used to expand this limit by grouping items (includes most mnemonic devices)
    - To retain information: **rehearse** (repeat) it
    - **Explicit memory**: consciously rehearsing information to retain it (facts, school stuff)
    - **Implicit memory**: things that we naturally just take in, does not require active concentration or intention (I 'member pants like I care, I think)
        - **Automatic processing:** Non-conscious encoding of incidental information (such as time, space, frequency, definitions) and implicit is a kind of this
- **Long-Term Memory:** our permanent storage, unlimited
    - **Episodic memory**: memories of specific events, stored in a sequential series (like your first kiss!)
    - **Semantic memory**: general knowledge of the world stored as facts, meanings, or categories

        - **Procedural memory:** memory of skills and how to perform them, stored sequentially but difficult to describe with words
        - **Explicit memories:** conscious memories of facts or events we tried to remember
        - **Implicit memories**: unintentional memories that we might not even realize we have
        - **Eidetic (photographic) memory:** very rare, seems to use very powerful and enduring visual images (TESSA)
        - **Deep processing**: encodes meaning, not just the word
        - Connecting to personal meaning, semantic meaning, and rehearsal helps it move to long-term

- Process:
    - External event
    - Sensory memory then encoding
    - Short term then encoding (rehearsal holds it there)
    - Long term then retrieved (back to short term/working)





- **Levels of Processing Model of Memory**
    - **Principles**: examines how deeply the memory was processed
        - **deeply (elaboratively) processed**: more likely to remember
        - **shallowly (maintenance) processed**: you will forget quickly
    - **Retrieval**: getting information out of memory so we can use it
        - **Recognition**: the process of matching a current event or fact with one already in memory (which is the capital of Greece: Athens or Sparta?)

- **Recall**: retrieving a memory with an external cue (___ is the capital of Greece)
- **Relearning**: a measure of memory that assesses the amount of time saved when learning material again (refreshing)
- Factors that influence retrieval: the order in which the information is presented
    - **primacy effect**: predicts that we are more likely to recall items presented at the beginning of a list
    - **recency effect**: demonstrated by our ability to recall the items at the end of a list
    - **serial position effect:** recall of a list is affected by the order of items (you remember the first and last things b/c of primacy and recency)
    - **retrieval cues**: little details that can lead you to remembering more (such as state, emotions, names, or sounds)
- Context
    - **tip-of-the-tongue phenomenon:** temporary inability to remember information
    - **semantic network theory**: our brain forms new memories by connecting their meaning and context with meanings already in memory
    - **flashbulb memories:** powerful because the importance of the events caused us to encode the context surrounding the event
    - **mood-congruent memory**: the greater likelihood of recalling an item when our mood matches the mood we were in when the event happened
    - **state-dependent memory:** recalling events encoded while in particular states of consciousness (easier to retrieve when in same mental state)
    - **context-dependent memory**: memories that are easily retrieved when in the same context as when they were first encoded

- **Constructive Memory**
    - **"Recovered Memory" Phenomenon**: individuals claim to suddenly remember events they have "repressed" for years
        - **Elizabeth Loftus**: often there are constructed or false memories of events; leading words led to constructed memories
    - **Constructed (or reconstructed)** memory: can report false details of a real event/a recollection of an event that never occurred
        - Leading questions can influence us to recall false details
        - Constructed memories feel accurate to the person recalling them
    - **Misinformation effect**: incorporating false information into one's memory of an event
    - **Source misattribution**: forgetting or falsely recalling where a memory came from
    - Can arise from emotion, retelling, suggestions of outside sources, time passing
- **Forgetting**
    - **Causes**: we fail to encode, retrieve, or have storage decay
        - **Failed encoding**: we failed to truly move it to long-term memory
        - **Decay**: we do not use a memory or connections to it for a long time
        - **Interference**: other information in your memory competes with what you're trying to recall
            - **retroactive interference**: learning new information interferes with the recall of older information
            - **proactive interference**: older information interferes with the recall of newer information
    - **Retrieval failure**: can't pull up memories (retrieval cues can help)
    - **Relearning effect**: relearning information takes less time and effort than learning it

- **Physical Storage**
    - **Anterograde Amnesia:** can't encode new memories but can recall events already in memory, can learn new skills but won't remember learning them

        - caused by damage to the hippocampus
        - suggests that procedural memory is located elsewhere in the brain
    - **Retrograde Amnesia**: can't remember the past but can make new memories (more commonly known)
    - **Long-Term Potentiation:** neurons can strengthen connections between each other
        - repeated firings strengthen connections, and the receiving neuron is more sensitive to messages from the sending neuron
        - may be related to connections we make in long term memory

Language

- **Elements of Language**
    - **Phonemes**: the smallest units of sound used in a language (English has about 44)
    - **Morphemes**: the smallest unit of meaningful sound (can be words or parts of words)
    - Language consists of phonemes that make up morphemes that make up words
    - **Syntax**: the order in which words are spoken or written (grammar)
    - **Semantics**: contextual meaning that allows deviation of a meaning
- **Language Acquisition**
    - Stages:
        - **Babbling**: occurs around six months of age, represents experimentation with phonemes (they can use any of them)
        - **Holophrastic stage**: babies speak in single words (holophrases)
        - **Telegraphic speech**: toddlers will combine the words they can say into simple commands (meaning is clear, but syntax is absent: children begin to learn grammar and syntax rules but often misapply them, like overgeneralization)
    - **Common errors:**
        - **Underextension**: limiting the definition of a word (ex: using "cat" for just MooMoo)
        - **Overextension**: expanding the definition of a word (ex: calling all cats "MooMoo")

        - **Overgeneralization**: applying rules beyond what they apply to (ex: use of "go-ed" for went)
- **Opposing views on how we acquire language**
    - **Behaviorists**: language, like all behaviors, is learned through operant conditioning and shaping (when kids use language correctly, they are rewarded with a smile/encouragement)
    - **Noam Chomsky**: nativist theory of language acquisition- theorized that humans are born with language acquisition devices (ability to learn language rapidly as children)
        - critical period for learning language may exist
    - **Linguistic relativity hypothesis**: Benjamin Whorf suggested the language we use might control, and in some ways limit, our thinking
    - **Cognitive universalism:** the theory that concepts are universal and not obstructed by language

Thinking and Creativity

- **Describing Thought**
    - **Concepts**: the cognitive rules we apply to stimuli from our environment that allow us to categorize and think about the objects, people, and ideas
        - may be based on prototypes
        - **Prototype**: what we think is the most typical example of a particular concept
        - **Images**: the mental pictures we create in our minds of the outside world, can involve any sense
- **Problem Solving**
    - **Algorithms**: a rule that guarantees the right solution by using a formula or other fool proof method (ex: try every possible solution)
    - **Heuristics**: rules of thumb that are generally true that we can use to make a judgment in a situation

        - **Availability heuristic:** judging a situation based on examples of similar situations that come to mind initially, may lead to incorrect conclusions due to variability in personal experience
        - **Representativeness heuristic**: judging a situation based on how similar the aspects are prototypes the person holds in his mind
    - **Problems in judgments**
        - **Overconfidence**: the tendency to overestimate the accuracy of our judgments
        - **Belief bias**: we make illogical conclusions in order to confirm our pre-existing beliefs
        - **Belief perseverance:** our tendency to maintain a belief even after the evidence we used to form it has been contradicted
            - **Gambler's fallacy**: the idea that independent events are not independent (ex: having a good slot streak and thinking it will continue)
    - **Impediments to problem solving**
        - **Rigidity (mental set):** the tendency to fall into established thought patterns
        - **Functional fixedness:** the inability to see a new use for an object
        - **Confirmation bias**: the tendency to look for evidence that confirms our beliefs and ignore evidence that contradicts them
        - **Framing**: the way the problem is presented can drastically change the way we view a problem
        - **Anchoring bias**: tendency to rely too heavily on the first piece of provided info when making decisions
    - **Creativity**: originality and appropriateness, new or unique trains of thought
        - **Convergent thinking:** narrowing down to one solution
        - **Divergent thinking**: thinking that searches for multiple possible answers to a question, associated with creativity
        - Usually involves thinking of new ways to use what we are all familiar with or new ways to express emotions or ideas we share

Chapter 8: Motivation and Emotion

Motivation

- **Theories of Motivation**
    - **Instinct Theory**: we are innately driven to act a certain way (evolutionary perspective)
        - This was overruled because a tendency does not mean it is supposed to be there
        - Instinct was redefined as complex unlearned behaviors that have a fixed pattern throughout a species
    - **Drive Reduction Theory**: our behavior is motivated by biological needs (requirements for survival)
        - **Drives**: our impulses to act in ways that satisfy our needs/desire to reach homeostasis
            - **Primary drives**: biological needs (ex: thirst)
            - **Secondary drives**: learned drives (ex: wanting money to satisfy primary drives)
        - Ex: need is food, drive is hunger, drive-reduction: snacking
        - **Homeostasis**: a balanced internal state our body strives to be in: when we are out of it, we have a need that creates a drive
        - **Incentives**: positive or negative stimuli that entice or repel us
    - **Optimal Arousal Theory**: we seek an optimum level of excitement or arousal
        - we are motivated by activities that help us achieve our needed level
        - balance of stimulation and relaxation, motivated to avoid boredom and stress
        - **Yerkes-Dodson Law:** we might perform well at an easy task with a very high arousal level
            - the same high level would worsen our performance on a difficult task
    - **Opponent-Process Theory**: people are usually at a baseline (normal) state. We might perform an act that moves us away from this state that may be pleasurable

at first, but eventually we feel an opponent process and want to return to baseline state

- with physically addictive substances, we get withdrawal and are required to have more to return to new baseline state
- explains **addictive behaviors**

- **Incentive Theory**: we learn to associate stimuli with rewards and others with punishment/motivated to act due to incentives
- **Maslow's Hierarchy of Needs**
  - Physiological needs: to satisfy drives for hunger, thirst, and shelter
  - Safety needs: to feel safe, secure, and out of danger
  - Belonging and love needs: to be accepted and belong
  - Esteem needs: to achieve and to gain approval and recognition/respect
  - Self-actualization needs: to achieve your unique potential, spiritual growth

- **Hunger/Hunger Motivation**
  - Biology:
    - **Lateral hypothalamus**: causes us to eat (think L for let's eat!)
    - **Ventromedial hypothalamus:** causes us to stop eating (satiety center)
    - **Set-point theory**: the hypothalamus wants to maintain a certain optimum body weight
      - if we drop below the weight, it lowers our metabolic rate (how quickly our body uses energy)
      - when the set point is reached the hypothalamus tells us to stop eating and raises metabolism to burn excess food
    - **Metabolism**: converts food to energy, some faster than others
  - **Psychological factors:**
    - **Externals**: more motivated to eat by external food cues (attractiveness or availability of food)
    - **Internals**: respond more often to internal hunger cues
    - The extent of the effect of each type of cue on us might be learned
    - **Garcia effect**: taste aversion to a food results after feeling nauseous after eating it

        - We prefer foods we were raised with
    - **Eating Disorders**
        - **Bulimia**: binging and purging
        - **Anorexia nervosa**: refusing to eat due to obsession with weight/starving themselves to below 85% of normal body weight
        - **Obesity**: severely overweight, often by over 100 pounds, which threatens health
    - **Hunger hormones**
        - **Glucose**: energy sugar that circulates throughout the body
        - **Insulin**: allows our cells to promote extra glucose to fat (inverse relationship with glucose)
        - **Leptin**: protein produced by bloated fat cells, says "stop eating"
        - **Orexin**: triggers hunger, from hypothalamus
    - **Ancel Key's experiment**
        - Created obsession with food
        - Devastating psychological and social (withdrawing) effects of starvation

- **Sexual Motivation**
    - **Sexual Response Cycle**: documented by William Masters and Virginia Johnson
        1. **Stages**:
            - initial excitement
            - plateau phase
            - orgasm
            - resolution phase
    - **Psychological Factors**
        - Sexual desire can be present even when the capability to have sex is lost
        - Erotic material can spark physiological responses
- **Social Motivation**

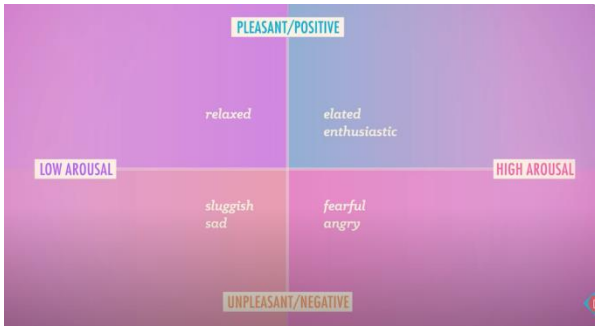
- **Achievement Motivation:** examines our desires to master complex tasks/knowledge and reach goals
    - Some people have higher than others
    - Varies from activity to activity
    - **Extrinsic motivators**: rewards that we get for accomplishments from outside ourselves
        - ex: grades, salary
    - **Intrinsic motivators**: rewards we get internally
        - ex: enjoyment, satisfaction
        - most effective to sustain a behavior for a long period of time
- **Management Theory**
    - **Theory X**: managers believe that employees will work only if rewarded with benefits or threatened with punishments
    - **Theory Y**: managers believe that employees are internally motivated to do good work and policies should encourage this inner motive
        - studies show it's more beneficial
- **When Motives Conflict**
    - **Approach-approach conflict**: you must choose between two desirable outcomes
    - **Avoidance-avoidance conflict**: you must choose between two unattractive outcomes
    - **Approach-avoidance conflict**: one event or goal has both attractive and unattractive features
    - **Multiple approach-avoidance conflicts**: you must choose between two or more things, each of which has both desirable and undesirable features

Emotion: a mind and body's integrated response to a stimulus

- **Theories of emotion**
    - **James-Lange Theory:** we feel emotion b/c biological changes cause stress (bodily reaction to an event leads to emotion)

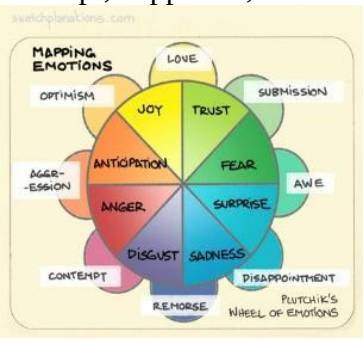
- **Cannon-Bard Theory**: the biological change and the cognitive awareness of the emotional state occur simultaneously (combo of bodily action and cognition)
    - the hypothalamus sends signals to our cortex and autonomic nervous system about environment
- **Two-Factor Theory**: Stanley Schachter said both our physical responses and cognitive labels (mental interpretations) combine to cause emotional responses
    - People who are physiologically aroused experience more intense emotions
    - Arousal leads to cognitively labelling it, leading to emotion
    - SCHACTER 2 FACTOR (it rhymes!)
    - Spillover effect: lingering arousal (increased energy/reactivity)
    - Arousal spurs emotions but cognition directs it
- **Opponent-process**: we trigger one emotion by suppressing its opposite (ex: happiness is no sadness)
- **Lazarus**: stimuli leads to interpretation, which leads to both general autonomic arousal and an emotional experience
- **Zajonc**: emotion and cognition are separate and travel different routes
    - Ex: a loud noise startles you, you don't control that (low road neural path, fear stimulus leads to quick fear reaction)
    - Interpretations of situations are slower than emotional reactions
    - Feelings influence thought
    - Physical reaction is first due to instinct, then cognitive appraisal, then ultimate appraisal is a combo
    - Emotion is just naming arousal

- **Two dimensional model**



- **Number of emotions**

- **Ekman's 7 basic emotions**: fear, anger, disgust, sadness, contempt, happiness, despair (universal)
- **Pluchick's 8 primary and 8 secondary emotions**:



- **Stress**
  - **Stressors**: life events that cause stress
    - **Catastrophes**: huge unpredictable things (like natural disasters)
    - Significant life changes: big things (moving, marrying)
    - Everyday inconveniences: short-term minor problems (like traffic)
  - Stress reactions: how we react to these changes in the environment
  - **Distress**: bad, unhappy, and unpleasant strain
  - **Eustress**: optimal stress level, results from positive events (ex: adrenaline)
  - **Measuring Stress**
    - **SRRS**: social readjustment rating scale, measures stress using LCU's (life changing units)
      - any major life change increases the score
      - people who score high are more likely to have stress related diseases
      - Thomas Holmes and Richard Rae
    - **Seyle's General Adaptation Syndrome (GAS):** describes the general response animals and humans have to a stressful event
      1. **alarm reaction**: the organism readies itself to meet the challenge by activating the sympathetic nervous system
      2. **resistance**: body remains physiologically ready, hormones released to maintain readiness (if in this state for too long, the body will be depleted of resources)
      3. **exhaustion**: parasympathetic nervous system returns our body to normal (more vulnerable to disease)
    - Explains problems associated with extended periods of stress

- More stress leads to more health problems
- We frequently overestimate how long it will last
- **Perceived Control**: control over events lessens stress and a perceived lack of control makes events more stressful
- **Physiology of stress:**
    - **Cortisol and epinephrine/adrenaline** are stress hormones- this leads to heart disease, immune suppression, and autonomic nervous system effects (such as psychosomatic disorder)
        - Cortisol also increases appetite and stores energy as fat
        - The body focuses its energy on essential life functions (like muscles and brain)
        - Contributes to heart problems
    - **B lymphocytes**: fighting bacterial infections (stress leads to less since energy is immobilized away from the immune system)
    - **T lymphocytes:** attacking cancer cells and viruses (stress leads to less since energy is immobilized away from the immune system)
    - **Microphages**: take in foreign substances
    - **Natural killer cell:** a type of lymphocyte white blood cell that destroys infected/cancerous cells

Chapter 9: Developmental Psychology

- **Research Methods**
    - **Cross-Sectional Research:** uses participants of different ages to compare how certain variables may change over the life span
        1. Produces quick results
        2. May be affected by historical events or cultural trends
    - **Longitudinal Research**: examines one group of participants over time
        1. Time consuming, expensive
        2. Precisely measures the effects of development on a specific group

Prenatal Development

- **Prenatal Stages**
    - **Conception**: an egg drops and roughly 200 million sperm penetrate it
    - **Zygote**: a cluster of cells that rapidly divide for 2 weeks and after 1, attaches to the uterine wall
        1. The outer part becomes the placenta
        2. 1 out of 5 pregnancies end here
    - **Embryo**: lasts a month and a half, vital organs develop (heart, brain, spine), most vulnerable stage (miscarriages, birth defects)
    - **Fetal**: lasts from the end of the second month until birth
        1. By 6 months, the child reaches the age of viability (other organs develop enough for theoretical sustenance)
        2. The baby can hear and recognize sounds and respond to light
- **Prenatal Influences on Development**
    - **Genetics**: determine which abilities we are born with (ex: process of developing motor skills)
    - **Teratogens**: can cause harm if ingested by the mother and pass through the placental barrier
    - **Alcohol**: heavy drinking during pregnancy can cause **FAS (fetal alcohol syndrome)**, which leads to mental retardation
        1. Fetal alcohol effect: caused by moderate drinking, leads to learning disabilities and behavioral problems
    - **Psychoactive drugs**: newborns can share their mother's drug addiction and withdrawal symptoms can lead to death
    - **Nutrition**: helps support the baby's growth, malnutrition links to heart disease and other psychiatric disorders
- **Motor Development**
    - **Reflexes**: inborn, automatic responses to specific stimuli
        1. **Rooting reflex**: when touched on cheek, baby turns head and seeks to put the object in his mouth
        2. **Sucking reflex:** when object is placed in baby's mouth, he will suck it

3. **Grasping reflex**: a baby will try to grasp an object that is placed on his hand or foot
4. **Moro reflex**: when startled, baby will fling out and then retract his limbs, making his or herself as small as possible
5. **Babinski reflex**: when a baby's foot is stroked, he will spread out the toes
6. **Motor Development:**
    - Roll over: five and a half months old
    - Stand: eight-nine months
    - Walk alone: fifteen months

- **The Newborn's Senses**
    - **Hearing**: babies can hear before birth and minutes after birth, baby will try to turn head toward mother's voice (hearing is the dominant sense)
    - **Taste and smell:** same basic preferences as we do (like loving sugar)
    - **Vision**: can see well 8-12 inches in front of them, everything else is a blur
        1. normal vision by 12 months old
        2. prefer face-like objects

Parenting

- **Attachment Theory:** the reciprocal relationship between caregiver and child
    - **Harry Harlow** raised baby monkeys with two artificial wire frame figure "monkeys", one figure was fitted with a bottle the infant could feed from and the other wrapped in soft material
        1. when frightened, infants preferred soft mom, which demonstrated the importance of **physical comfort** in formation of attachment
        2. monkeys raised by real mothers were less frightened in new situations
    - **Mary Ainsworth** observed infants' reactions when placed into strange situations when parents left for a short time **(Strange Situation)**
        1. **Secure attachment**: explored environment when parents were present, distressed when parents were absent
            - 66% of babies in experiment
            - came to parents when they returned

2. **Anxious avoidant**: explored environment, resisted being held by parents
    - 21% of participants
    - don't go to parents for comfort when they return
    - involves strict parenting, fear, self-image issues, and hiding emotions
3. **Anxious/ambivalent**: may show extreme stress when parents leave but still resist their comfort when they return
    - 12% of participants
    - involves strict parenting, unpredictable love, and predisposition to outbursts
4. **Anxious disorganized**: involves confusion about love and safety (such as feeling unworthy of love) & difficulty connecting with others

- **Parenting Styles**
    - **Authoritarian**: set strict standards for their children's behavior with no discussion about the rationale behind them
        1. Punishment is used more than reinforcement
        2. Children are less trusting and more withdrawn with others
    - **Permissive**: don't set clear guidelines for their children, rules are constantly changed and rarely enforced
        1. **Permissive/indulgent**: parents have few rules and expectations but still give the kids what they want (very free and allowing)
        2. **Permissive/negligent**: parents are absent/lack responsiveness (some kids become self-sufficient, some just struggle)
        3. Children have emotional control problems
    - **Authoritative**: set consistent standards for their children that are both reasonable and explained, encourages their children's independence
        1. praise as often as they punish
        2. Children are more socially and academically capable

Stage Theories

- **Continuity vs. Discontinuity**
    - **Continuity**: develop at a steady rate from birth to death

- **Discontinuity**: development happens in fits and the rate is variable

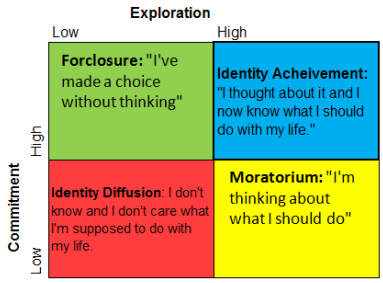
- **Sigmund Freud:** we develop through four psychosexual stages and if we fail to resolve a significant problem in our lives in one of these stages, we become fixated in the stage & remain occupied with behaviors associated with that stage
  - **Oral stage**: infants seek pleasure through their mouths (put many objects into mouth)
    1. **Fixation**: overeating, smoking, childlike dependence on things and people
  - **Anal stage**: develops during toilet training
    1. **Fixation**: retentive- overly controlling or expulsive- out of control
  - **Phallic stage**: babies realize their gender/Oedipus complex and Electra complex (obsession with parent of opposite sex)
    1. **Fixation**: problems in relationships
  - **Latency stage:** period of calm/low psychosexual energy (age 6- puberty)
  - **Genital stage:** focus of sexual pleasure is genitals, remains so forever
    1. **Fixation**: normal

  Fixation: a lingering focus of pleasure-seeking activities
- **Erik Erikson:** A neo-freudian who believed in the basics of Freud's theory but adapted it to fit his own observations and make the psychosexual stage theory based on the idea that our personalities are profoundly *influenced by experiences with others*
  - **Trust vs. Mistrust**: babies need to learn that they can trust their caregivers to fulfill their needs and that their requests are effective
    1. sense of trust or mistrust carries for life
  - **Autonomy vs. shame/doubt**: toddlers begin to exert their will over their bodies (autonomy)
    1. potty training is an early effort at this
    2. learn to control temper tantrums
    3. if we learn how to control ourselves and our environment in reasonable ways, we develop a healthy will and can control our reactions to social challenges
  - **Initiative vs. guilt:** natural curiosity about our surroundings
    1. asking many questions

2. if our curiosity is encouraged, we will feel comfortable expressing it always but if not, we feel guilty and will not express it

- **Industry vs. inferiority:** starting in first grade, we are asked to produce work that is evaluated
    1. if we perform as well as our peers, we feel competent but if not, inferiority complex and anxiety about our performance in that area
- **Identity vs. role confusion**: in adolescence, our main social task is to discover what social identity we are most comfortable with
    1. identity crisis: if an adolescent doesn't figure out a sense of self, they might have one later in life
- **Intimacy vs. isolation**: young adults figure out how to balance time and effort between work, relationships, and self
    1. the patterns we choose become relatively permanent
- **Generativity vs stagnation**: we look critically at our life path and try to ensure that our lives are going the way we want
    1. if not, we try to change it by controlling others or changing our identity
- **Integrity vs. despair:** toward the end of life, we look back at our accomplishments and decide if we're satisfied
    1. if so, we can step outside society and offer wisdom but if not, we may fall into despair over lost opportunities

- **James Marica**: the criteria for attainment of a mature identity are based on crisis and commitment
    - **Crisis/exploration:** actively examining existential questions like values, goals, and beliefs
    - **Commitment**: the extent to which an individual is aligned with goals, values, and beliefs



Cognitive Development

- **Jean Piaget**: hypothesized children think in similar ways which differ from the ways of adults, leading to the theory of cognitive development (specific progression of knowledge)

- **Theory of cognitive development**: children view the world through schemata, which are cognitive rules we use to interpret the world
- **Cognitive equilibrium**: harmony between thought processes and environment
- **Assimilation**: we incorporate our experiences into an existing schemata and when info violates our schemata, we make it fit into it
- **Accommodation**: adapting existing schema/knowledge to fit new information
- **Piaget's four stages:**
    1. **Sensorimotor stage (**birth-2 years): we explore the world through our senses, behavior is governed by reflexes until we develop our first cognitive schemata
        - major challenge- developing **object permanence** (the idea that objects continue to exist even when out of our sensory range)
    2. **Preoperational stage** (2 years-7 years): object permanence prepares us to use symbols to represent real world objects but there is no sense of **conservation** (a change in shape makes them assume change in mass)
        - the beginning of language (we speak our first words)
        - **animism**: assigning human traits to nonhuman objects
        - **centration**: they have the tendency to only focus on one part of something
        - **egocentric**: can only see world from their perspective
        - forming **theory of mind:** the ability to understand others' feelings and thoughts as well as their own and predicting behavior
    3. **Concrete operational** (7/8 years-12 years): we learn to think more logically about complex relationships between different characteristics of objects
        - **Conservation**: the realization that properties of objects remain the same even when their shapes change (ex. volume, area, number)
        - Decreased egocentrism, decentration, new conservation
    4. **Formal operations** (12 years-adulthood): we gain metacognition (the ability to think about the way we think) and abstract reasoning

- **hypothesis testing**: someone in this stage can reason and form a hypothesis
- we can manipulate objects in our minds without physically seeing them
- we can contrast ideas in our minds without real world correlates

- **Criticisms of Piaget: Information Processing Model**
  - He underestimated children- many go through the stages faster and enter them earlier than he thought
  - His tests relied too heavily on language use; results biased in favor of older kids; also too rigid

- **Lev Vygotsky**: sociocultural perspective, zone of proximal development (what people can do with help, in between what they can't do at all and what they can)
  - Countered Piaget's notion that development precedes learning and said learning and development occur together; emphasized parenting, culture, and language
- **Information-processing model**: a more continuous alternative to Piaget's stage theory
  - our abilities to memorize, interpret, and perceive gradually develop as we age, not in stages (ex: attention span)
  - could explain some apparent cognitive differences Piaget attributed to different cognitive stages

Moral Development

- **Lawrence Kohlberg**: escribed how our ability to reason about ethical situations changes over our lives by asking children to think about specific moral situations
  - **Heinz dilemma**: Heinz must make a moral choice about whether to steal a drug he can't afford to save his wife's life
  - **Preconventional**: youngest children, they focus on making the decision most likely to avoid punishment
    - moral reasoning limited to how the choice affects themselves
  - **Conventional**: look at the moral choice through the eyes of others and make the choice based on how others will view them

        - try to follow conventional standards of right and wrong (ex: lawful choices)
    - **Postconventional**: moral reasoning that examines the rights and values involved in the choice
        - self-defined ethical principles involved
        - the morality of societal rules are examined, not blindly accepted
    - **Criticisms of Kohlberg**
        - **Carol Gilligan**: said Kohlberg developed the model based on responses of boys and that there gender differences in development of morals and ethics: according to her research, boys have a more absolute view of what is moral and girls pay more attention to the situational factors

Gender and Development

- **Biopsychological (Neuropsychological) Theory**: concentrates on the nature element in the nature/nurture combo that produces our gender role
    - behaviors that a culture associates with a gender
    - look for more subtle gender differences
    - Women have larger corpus callosums, which may affect how the brain hemispheres communicate
- **Psychodynamic Theory (Freud):** always focuses on the unconscious
    - Oedipus complex and Electra complex (obsession with parent of opposite gender)
    - Proper gender development: child realizes that they can't beat their same sex parents for the attention of the other parent so child identifies with the same sex parent instead
- **Social-Cognitive Theory**: concentrating on the effects of society and our own thoughts about gender on role development
    - Social psychologists- look at how we react to boys and girls differently
    - Cognitive psychologists- focus on the internal interpretations we make about the gender messages we get from the environment
    - **Gender-schema theory-** we internalize messages about gender into cognitive rules about how each gender should behave

Intelligence

- **Intelligence theories**
    - **Spearman's theory** (S+S+S=G)
        - **S factor:** specific intelligence/the ability to excel in certain areas
        - **G factor**: general ability to reason and problem solve
        - **Factor analysis**: statistical procedure that identifies clusters of related items, used to identify different dimensions of performance that underlie a person's general intelligence

    - **Thurstone**: 56 personality tests to subjects, then used them to identify 7 clusters of mental abilities
        - High scores in one usually meant good in the others (backed up g factor)
    - **Howard Gardner's theory**: 8 types of intelligence
        - Linguistic (ex: J.K. Rowling)
        - Logical (ex: Einstein)
        - Musical (ex: Motzart)
        - Spatial (ex: Picasso)
        - Bodily-kinesthetic (ex: Lebron)
        - Intrapersonal- knowledge of the self (ex: introspective people)
        - Interpersonal (ex: Michelle Obama)
        - Naturalist (ex: Darwin)
    - **Sternberg's theory**: 3 intelligences
        - Analytic: assessed via intelligence tests
        - Creative: arts, adaptation
            - Expertise (knowing a lot about a lot, good knowledge base)
            - Imaginative thinking (unique idea)
            - Venturesome personality (new experiences, risk, perseverance)
            - Intrinsic motivation
            - Creative environment (sparks, supports, refines ideas)
        - Practical: everyday knowledge, street smarts
- **Intelligence tests:**

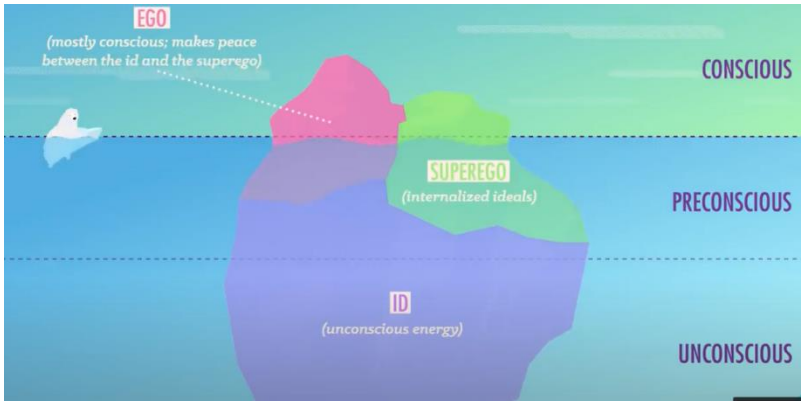
- **Alfred Binet** developed the first test
    - **Mental age**: score typical of a given performance for an age
    - **IQ**=mental age/chronological age x 100 (100 is average score)
    - Doesn't really work for adults since ages are not as distinct
- **David Wechsler** made the current IQ test (WAIS)
    - The tests can be biased towards white Americans
    - Environmental effects have impact on intelligence
- **Standardization**: consistent and standard test administration which allows for a comparison group whose scores allow comparison with others
- **Validity** (accuracy) and **reliability** (consistency)
- **Low scores:**
    - 50-70: people can do basic functions (mild)
    - 35-50: 2nd grade level abilities (moderate)
    - 20-35: simple work tasks with close supervision
    - <20: need constant aid (extreme)
- **Causes of low IQ:**
    - Unhealthy conditions (like lead poisoning)
    - Deficits (malnutrition, no health care)
    - Biological causes (down syndrome, fetal alcohol syndrome)
    - Complications at birth (lack of oxygen, disease in womb)
    - Genetics (twins raised separately had a .7 correlation)
- **Flynn effect**: substantial and long-sustained increase in IQ (Scores from 1930-present)
- **Early intervention:** early neglect from caregivers has children unable to do things, low IQ

Emotional Intelligence

- **John Mayer** defined it as the ability to perceive, understand, manage and use emotions
    - Perceiving emotions: labelling
    - Understanding: predicting, empathizing
    - Managing: handling your own, reacting

- Using: knowing how to help others and put it into play

Chapter 10 Personality

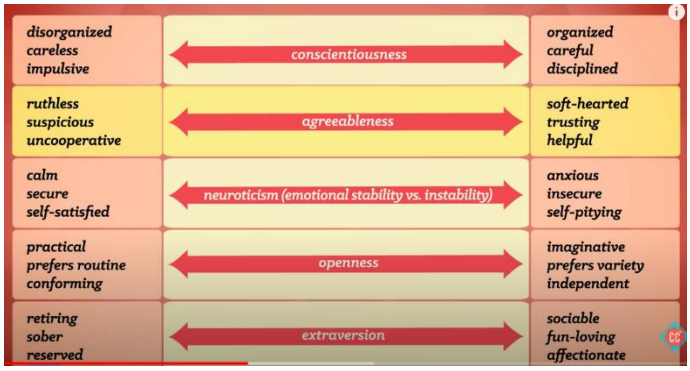
- **Personalities**: the unique attitudes, behaviors, and emotions that characterize a person
  - **Type A vs. Type B (some are neither)**
    - **Type A**: tend to feel a sense of time and pressure, easily angered, higher risk for heart disease but also success
    - **Type B:** tend to be relaxed and easygoing
- **Freud's** id, ego, and superego: personalities are the enduring conflict between impulses and our restraint of those urges
  - **The id:** primitive and instinctive, gratification and pleasure
    - **Eros-** the life instincts, often evidences as a desire for sex, directed by libido
    - **Thanatos-** the death instincts, seen in aggression, propelled by the pleasure principle, wants immediate gratification
  - **The ego:** located partly in the conscious, partly in the unconscious and follows the reality principle (negotiates between the desires of the id and the limitations of the environment, largely conscious)
    - uses **defense mechanisms** to protect the unconscious mind from the threatening thoughts in the unconscious
  - The **superego**: operates on both the conscious and unconscious level, sense of conscience about right and wrong (internalized ideals)
  - 

  - **Freud's defense mechanisms** (ego's methods of reducing anxiety)

        - **Repression**: blocking thoughts out from conscious awareness
        - **Denial**: not accepting the ego-threatening truth
        - **Displacement**: redirecting one's feelings toward another person or object (ex: if you're mad at your boss, taking it out on your kid)
        - **Projection**: believing that the feelings one has toward someone else are actually held by the other person and directed at oneself
        - **Reaction formation**: expressing the opposite of how one truly feels (being kind to someone you want to slap)
        - **Regression**: returning to an earlier, comforting form of behavior (acting like a child)
        - **Rationalization**: coming up with a beneficial result of an undesirable occurrence (ex: justifying our behaviors in other ways)
        - **Intellectualization**: undertaking an academic, unemotional study of a topic
        - **Sublimation**: channeling one's frustration toward a different goal (actually viewed as particularly healthy)
    - Other Freud vocab:
        - **Freudian slips**: when you "misspeak", it's actually reflective of unconscious thought
        - **Free association**: random thoughts and images that fill the mind (free-flowing unfiltered talking reveals unconscious thought)
    - **Criticisms of Freud:**
        - little empirical evidence supports it
        - proving it is impossible
        - overestimates the importance of early childhood and of sex
        - has little predictive power
        - able to interpret both positive and negative reactions to the theory as support
        - Feminists say penis envy grew from the assumption that men are superior to women (Karen Horney and Nancy Chodorow)
            - **womb envy:** men's jealousy of women's reproductive abilities

        - **Karen Horney** encouraged self-help and disliked the idea we are all about sex and agression
    - **Impact of Freudian Theory**: Terms used in our language (ego, penis envy, denial, unconscious)
- **Carl Jung said** the unconscious has two parts: collective and personal
    - **Personal unconscious:** contains the painful/threatening thoughts and memories that you don't want to confront
    - **Collective unconscious**: passed down through the species, explains certain similarities between cultures
        - contains **archetypes**: universal concepts we all share as part of the human species
        - ex. **shadow** represents the evil side of personality, fear of dark
    - Said we are driven to achieve a full knowledge of self
- **Alfred Adler** downplayed the importance of the unconscious and focused on the ego, said people are motivated by social tensions (inferiority and superiority)
        - **Inferiority**: the fear of failure/being worse
        - **Superiority**: the desire to achieve/being the best
        - Known for work on the importance of **birth order** in shaping personality
- **Humanistic Theories of Personality**
    - **Determinism**: the belief that what happens is dictated by what happened in the past (causes and conditions)
        - doesn't support the existence of free will
        - central to humanistic psychology
    - **Principles**
        - People are **innately good**
        - People are able to determine their destinies with **free will**
        - Focus on importance of **self concept** and **self esteem** (these have a positive correlation)
        - **Self-concept:** a person's global feeling about himself
    - **Abraham Maslow and Carl Rogers**: people are motivated to self-actualize and reach their full potential

        - **Maslow**: hierarchy of needs (deficiency needs=physical and psychological needs like sleep, food, love and growth needs=higher level things like truth and goodness)
        - **Roger's self theory:** people need unconditional positive regard to self actualize (unconditional positive regard=blanket acceptance towards others)
            - We are all good and will have a healthy self-concept as long as we are raised in a nurturing environment with:
                1. **Genuineness**: parents and teachers should be open
                2. **Acceptance**: open and comfortable environment
                3. **Empathy**: the ability to share and understand others' feelings
    - **Criticism of Humanistic Theories**: too optimistic about human nature
- **Trait Theories**: trait theorists believe we can describe people's personalities by specifying their main traits (these traits are stable and motivate behavior)
    - **Nomothetic Approach**: belief that the same basic set of traits can be used to describe all people's personalities
        - **Hans Eyesenck**: introversion-extroversion and stable-unstable scale can fully describe personality
    - **The big five personality traits**
        - Extraversion
        - Agreeableness: how easy to get along with
        - Conscientiousness: high = hardworking, responsible, organized
        - Openness to experience
        - Neuroticism: emotional stability/how consistent your mood is



- **Factor Analysis:** allows researchers to use correlations between traits to see which traits cluster together as factors
- Example: factor: conscientiousness has the traits- punctuality, diligence, neatness (strong correlation)

- **Idiographic Theorists**: using the same set of terms to classify all people is impossible, people need to be seen in the few terms that best characterize them
- **Gordon Allport**: common traits are useful but a full understanding of someone is impossible without looking at their personal traits
- **Types of personal traits**
  - **Cardinal dispositions**: play a pivotal role in everything you do (most dominant trait)
  - **Central dispositions**: common traits, basic building blocks
  - **Secondary dispositions:** less apparent and describe less significant traits, appear in certain scenarios

- **Behaviorist Theories of Personality**
  - personality is determined by the environment
  - reinforcement contingencies create personality
  - we can alter personalities by changing the environment
  - we act based on past conditioning by and from the environment
  - Criticism: fails to recognize the importance of cognition
- **Social-Cognitive Theories:** the interaction between our traits and social context
  - **Albert Bandura**: personality is created by an interaction between the person (traits), the environment and the person's behavior

        - This is based on **triadic reciprocity** (reciprocal determinism, both influencing each other)
        - Traits influence environment which influences behavior which influences traits (they all influence each other)
        - Also believed that personality is determined by **self-efficacy** (high = optimistic about their ability to get things done vs low = feel a sense of powerlessness)
    - **George Kelly**: **Personal-Construct theory**, says that in attempts to understand the world, people develop systems of personal constructs of pairs of opposites to evaluate the world
        - Ex: smart vs dumb
        - behavior is determined by interpretation of the world
        - behavior is influenced by cognitions, and we can predict future behavior with past behavior
    - **Julian Rotter's locus of control**
        - **Internal locus of control:** feel as if you are responsible for what happens to you, correlated with higher health, political activity, and grades
        - **External locus of control**: believe that luck and other forces outside of your own control determine your destiny
- **Biological Theories on Personality**
    - **Heritability**: a measure of the percentage of a trait that is inherited, little evidence exists for specific personality traits
    - **Temperament**: emotional style and characteristic way of dealing with the world
        - Infants seem to differ immediately at birth, thought to be born with different temperaments that influence personality development
        - Easy (40%): happy and regular, not easily upset
        - Slow-to-warm-up (15%): less cheery, less regular in sleep & eating
        - Difficult (10%): glum, erratic sleeping, resistant to change
        - Mixture (35%)

- **Hippocrates**: believed personality was determined by the relative levels of four humors in the body (one of the first people to recognize that biology impacts personality)
    1. Blood
    2. Yellow bile
    3. Black bile
    4. Phlegm
- **Somatotype Personality**: William Sheldon said certain personality traits are associated with each of the three body types (correlation, not causation):
    1. endomorphs (fat)
    2. mesomorphs (muscular)
    3. ectomorphs (thin)

- **Personality Assessment Techniques**
    - **Projective Tests**: used by psychoanalysts, involves asking people to interpret ambiguous stimuli, people's interpretations should reflect unconscious thoughts
        - **Rorschach inkblot test:** involves showing people a series of inkblots and having them describe what they see (projections of associations)
        - **Thematic apperception test (TAT**): consists of cards with a picture of people in an ambiguous situation, people are asked to describe what is happening in the cards
    - **Free association**: Freud and Jung encouraged free-flowing thought
    - **Dream analysis:** Freud saw dreams as a gateway into the unconscious
    - **Self-Report Inventories**: questionnaires that ask people to provide information about themselves; used by many types of psychologists, including humanistic, cognitive-behavioral, and trait theorists
        - **Myers-Briggs**: 16 personality types
    - **MMPI-Z (**Minnesota multiphasic personality inventory): usually used to address mental health/clinical issues
    - **Barnum Effect**: people have the tendency to see themselves in vague, stock descriptions of personality (named after P.T. Barnum)

Random Things

- **William Wundt**: introspection
- **Big 3 of behaviorism:** Pavlov (classical), Skinner (operant), Watson (more classical)
- **Eclectic psychologist**: doing stuff from multiple branches, whatever works for patients
- **Concept Application vs Research Question**
    - Concept Application: define and apply to a specific scenario
    - Research: analyze data, challenge/understand the premise behind a study
- **Fusiform gyrus**: facial recognition (none=**prosopagnosia)**
- **Gestures** are not universal but facial expressions are

Branches of Psychology

- **Historical Branches**
    - **Structuralist**: analyzing the metaphorical parts of the mind (William Wundt)
    - **Functionalist**: inspired by Darwin's survival of the fittest, focuses on biology and reasons for mental processes (William James, influenced by Darwin)
- **More modern branches**
    - **Behaviorist**: we act based on environment
    - **Psychoanalytic/psychodynamic**: unconscious thoughts
    - **Sociocultural view:** emphasis on the importance of social interaction, social learning, and a cultural perspective
    - **Evolutionary psychology**: looking at how the human race has developed and how existing traits are the products of natural selection (darwin)
    - **Cognitive view:** Our actions stem from our mental processes and the way we process info (mind not brain: thoughts, perceptions, expectations)
    - **Biological view**: how our physical makeup and brain operations influence our personality, preferences, behavior patterns, and abilities (Ex: depression is a lack of serotonin)

****Graphics are from Crash Course! We do not claim ownership of any images in this study guide.*