Unit 3: Development and Learning

ESSENTIAL QUESTIONS

Are you the same person now as you were when you were 10 years old? Do you think you will be the same person in 10 years as you are now? Why or why not?

How can you unlearn a bad habit and replace it with a new, better one?

Topic	Learning Objective	Textbook Pages
3.1 Themes and Methods in Developmental Psychology	Explain how enduring themes inform developmental psychology. Describe ways cross-sectional and longitudinal research design methods used in developmental psychology inform understanding about behavior and mental processes.	296-299
3.2 Physical Development Across the Lifespan	Explain how physical development in each of the following applies to behavior and mental processes: □ before birth □ in infancy and childhood □ in adolescence □ in adulthood	302-317
3.3 Gender and Sexual Orientation	Describe how sex and gender influence socialization and other aspects of development.	320-347
3.4 Cognitive Development across the Lifespan	Explain how theories of cognitive development apply to behavior and mental processes.	349-360
3.5 Communication and Language Development	Explain how key components of language and communication apply to behavior and mental processes. Explain how language develops in humans.	363-371
3.6 Social-Emotional Development Across the Lifespan	Explain how social development relates to behavior and mental processes.	374-396
3.7 Classical Conditioning	Explain how classical conditioning applies to behavior and mental processes.	400-408
3.8 Operant Conditioning	Explain how operant conditioning applies to behavior and mental processes.	417-432
3.9 Social, Cognitive, and Neurological Factors in Learning	Explain how social learning applies to behavior and mental processes. Explain how cognitive factors in learning apply to behavior and mental processes.	411-415, 435-444

3.1 - Themes & Methods in Developmental Psychology

Developmental psychologist: A type of psychologist that studies, physical, cognitive, and social change throughout the life span.

Enduring Themes

Chronological order	Thematic issues
Birth to death	**A Lens of specific focus that is of interest to a developmental psychologist. Some lenses are: stability and change, nature & nurture, and continuous vs discontinuous stages of development.**

Thematic Issues

Stability:	**Change:**
Stability is a condition in one's life where they are not undergoing any major life-changing events. **Whether their dispositions(a person's inherent qualities/character)**	Whether dispositions remain constant throughout Life: Is the difficult and colicky child destined to come a neurotic, anxious, and worrying adult?

OR

Nature:	**Nurture:**
The effect of our genetics and instinct on our experiences and development	**The effect of the environment you are raised in on our experiences**

OR

Continuous:	**Discontinuous:**
In reality, development is a continuous spectrum, and there are no set definitions points that apply to the entire population	**When talking about life span development, we can categorize parts of development into ancy, childhood, adolescence, early adulthood, ddle adulthood, late adulthood** **Some parts of life, particular the conditions you Reside in, can change discontinuously, like residence and school**

OR

Design Methods

Longitudinal Study

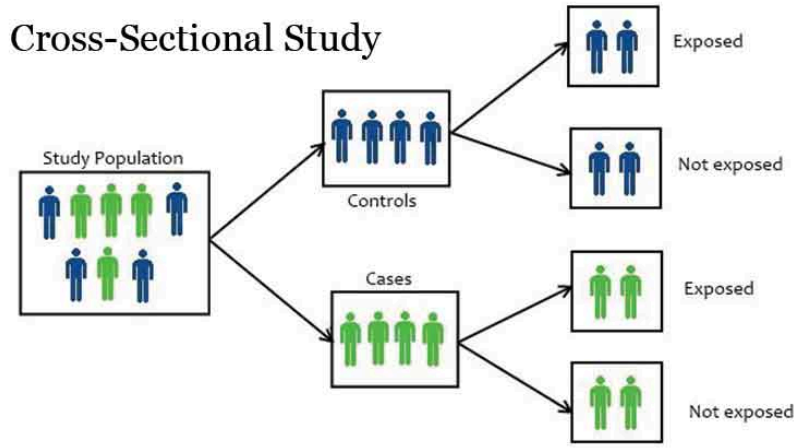
Longitudinal Study: Studying the same group over a considerable span of time

Draw a visual representation of a longitudinal study.	

Pros	Cons
Can gather data about change, and one group of people means you can know and account for their flaws	**Difficult and expensive to perform**

Cross-Sectional Study

Cross-sectional Study: Individuals from different cohorts compared at one point in time

Draw a visual representation of a cross-sectional study.	

Pros	Cons
Quick, cost effective, do not take long periods of time	**Can't trace how variables change over time**

3.2 - Physical Development across the Lifespan: Infancy & Childhood

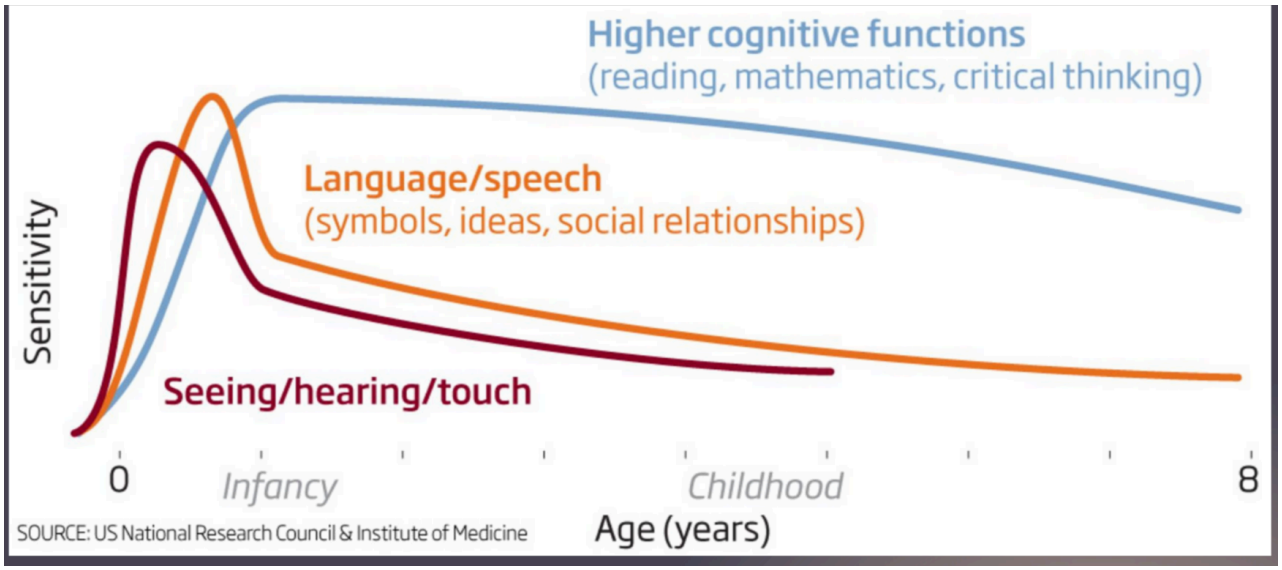
Before Birth	
Teratogens: Substances or environmental factors that can cause developmental malformations in a fetus when the mother is exposed during pregnancy **-ex smoking, drinking, or drugs while pregnant**	
What other factors influence prenatal development?	**Teratogens, maternal illness, genetic mutations, hormonal, and environmental factors can influence the major physical and psychological milestones that occur during prenatal development.** **Before birth, humans are most vulnerable during the embryo stage** - **Structural defects can occur** - **During Fetal Stage: stunt grow or problems with organ functions** - **Viruses(zika, rubella), Radioactive exposure, Drugs(including medications), Alcohol**
Infancy & Toddlerhood	
Reflexes	
How do reflexes indicate the physical development of an infant?	Indication of development. They hammer your knee to see a kick reflex. Reflexes are a milestone of physiological development.
Rooting reflex: Turns head when touched on cheek	
Motor Development	
Gross motor skills: Roll -> Rock -> Crawl -> Walk -> Run **- Large movements of the body that involve coordination of arms, legs, and other large muscle groups. Control of said groups indicate key milestones along the path of a child's motor cdvelopment**	
What is important to understand about the order and the progression of these skills?	**This developmental path occurs in roughly the same order in everychild, though factors like practice, motivation, enviornment, and opportunities can affect the time by which a child unlocks these skills**

Fine motor skills: The motor skills are tiny, they can be smaller movements of hands and fingers, and can include tasks like writing, buttoning shirts, and using utensils

Depth Perception

Explain the visual cliff experiment and the findings of Richard Walk and Eleanor Gibson. Be sure to identify elements of experimentation as practice!

This is an experiment where infants, and the youth of other species, will be put over a ledge of a "visual cliff," where there is a drop off behind a sheet of glass. Initially, when babies begin crawling, they will crawl over the cliff with no hesitation. But, as they begin to develop a sense of fear and depth perception, the babies will become more hesitant. This is more of a test of depth perception. Once babies figure out it is save, they will continue to crawl over it normally.



Critical and Sensitive Periods

Critical period:	**Sensitive period:**

Windows when the presence or absence of an experience results in irreversible change. **A biologically determined time period where development MUST take place, or it will not develop at all.** **Ex: when your learning how to walk**	**Period of time during which exposure to a specific environmental condition(or lack of exposure) has the potential for greatest influence** **Periods of time where the brain is particularly responsive to experiences.** **Ex: the year after you learn to walk where you are sensitive to influence**
Application to language acquisition:	Application to language acquisition:
It is much harder to learn a new language after the critical period has passed.	**Even after learning to speak, children are still particularly susceptible to words, and will often repeat what they hear.**

Imprinting: The process by which certain animals for attachments during a critical period very early in life

Adolescence	
What differences and similarities do you see across time and cultures in your book?	**Adolescence can very tremendously across time and cultures. In the past, and in some cultures today too, kids in adolescence were expected to earn they're keep by doing work, this often made them age and mature quicker, but miss out on key childhood experiences.**

Growth spurt: Rapid increases in physical growth over short periods of time. 2 major growth spurts, one in infancy, and one durin puberty

Puberty: When you get the ability to reproduce

Menarche: The first menstrual cycle or first menstual bleeding in female humans. It signals the begining of the fertility period

Spermarche: The onset of sperm production in males

Primary sex characteristics	Secondary sex characteristics

Biological and psyiological features that differentiate males from females **Ex: reproductive organs** - **Present from birth and play a <u>direct</u> role in reproduction**	**Traits that emerge during puberty, but do not directly involve the reproductive system. THey distirnguish sexes but don't play a role in reproduction** **Ex: Breast Development, Facial Hair**
How can puberty influence one's social experience?	**Puberty often increases our self-consciousness, we suddenly become aware, and concerned about, what others are thinking of us. This can lead to identify exploration, peer-inflence, and a shifting of family dynamics.**
Adulthood	

How are abilities characterized in adulthood?
 	
What abilities are most impacted and how do they change?
	- **Most of the lifespan**
	- **Characterized by a leveling off and then a varying decline of reproductive ability**
	  - **Erectile Dysfunction**
	  - **Menopause**
	- **Loss of mobility, flexibility, reaction time, and visual and auditory sensory accuracy**

3.4 - Cognitive Development across the Lifespan

Cognitive Development

Jean Piaget & Stages of Cognitive Development: Jean Piaget believed that children develop schemas via continuous and discontinuous processes such as assimilation and accommodation

- Swiss psychologist
- Studied his own children

We speak in life in terms of stages in order to make it easier to understand, but in reality, life develops in a continuous motion.

Even specific moments in biological development happen gradually

He proposed that cognitive development takes place in a series of distinct stages

- Every child goes though the exact same stages, in the exact same order, without skipping any stages
- Cultural variations however in ages these stages are reached

FOUR STAGES:
- Each results in an increase in the child's ability to adapt and to understand the world
- Each stage can be referenced to a set of problems a child can or cannot solved based off of their progress
- At each stage, each child reorganizes their ability to understand the world.

HOWEVER:
- Even as children and adults become better adapted to their environment, they nevertheless rely on cognitively mature processes to solve problems throughout their lives

1) **Sensorimotor**
    - Explore the world with sense
    - Develop object permanence(the awareness that things continue to exist even when not perceived)
2) **Peroperational**
    - Strong imagination
    - egocentrism(difficulty taking another point of view) becomes theory of mind (people's ideas about their own AND other's mental states).
3) **Concrete Operational**
    - Using logic and concrete analogies
    - Conservation(properties such as mass, numbers, volume remain the SAME DESPITE CHANGES in the forms of objects)
4) **Formal operational**
    - Hypothetical scenarios, planning, abstract thinking

CRITIQUE:
- His theory underestimaes the abilities of chulden
- There is much more natural variation in the cognitive abilities of children than theoriezed
- His theory does not incorporate the pivotal role of

How do these stages demonstrate the enduring theme of continuous and discontinuous development?	The stages are discontinuous, you can only be in one stage at a time. But, the age at which you reach these stages, and the percent by which you are in which stage can vary dramatically. The discontinuum arises from the set order in which you reach the stages.

Terminology

Schema: a concept or category about the world

- **Framework that organizes n interprets information**

Assimilation: One's tendency to interpret new experience in terms of existing schemas

SS - same schema

Accommodation: Changes in schemas to incorporate information from experiences

CC - change concept

Stages of Cognitive Development

Sensorimotor

A stage of development that occurs from infancy through toddlerhood. The Child understands the world in actions, not words. A toddler doesn't know you exist anymore when you put your hands in front of your face. They lack object performance during this stage.

- Learning through action

- **No symbolic thought yet - babies cannot think about objects or events that are not immediately present to their sense**

Object permanence: The awareness that things continue to exist when not perceived.

- **MErges around 8-12 months, it marks the beginning of mental representation**

Preoperational 2-7 years

Children become proficient in using mental symbols and engage in pretend play.

Identified more by cognitive tasks children cannot perform such as conservation and reversibility or by those they exhibit, such as animism and egocentrism.. Children develop a theory of mind during this stage.

Egocentrism:

- Inability to take another's perspective, its not quite selfishness, but they are cognitively limited in the sense they cannot understand that other people have different veiwpoitns

Mental symbols: Mental representations of objects in the world around them

Pretend play: Fantasy or make-believe play that includes an as-if orientation to actions, objects, and peers. It often involves playing a distinct role, such as mother, teacher, or doctor.

Conservation: The principle that characteristics of an object such as mass, volume, and number remain constant despite physical changes to the object.

- The Child cannot use logical operations to solve problems

Reversibility: A mental operation that reverses a sequence of events or restores a changed state of affairs to the origin condition.

- Children do not understand reversibility, and as a result, do not understand conservation.

Animism: The belief that natural phenomena, nonhuman creatures, or inanimate objects are alive/possess lifelike and human-like characteristics such as intentions, desires, and feelings.

Ex: Asking your dog how their day was?

Egocentrism: The inability to see the world through the perspective of another. People only think about things from one perspective: their own.

- Growth in this since covid because of isolation

Theory of mind: People will look for something in the last place they saw it.

ability to understand that others have beliefs, desires, intentions, and perspectives that are different from one's own.

Concrete Operational: Ages 7-11

A stage that occurs from early through late childhood. Children in this stage can generally correct the cognitive errors made in the preoperational stage and understand the world in logical, realistic, and straightforward ways, but they cannot think systematically.

Formal Operational

Late childhood through adulthood, Abstract thinking and hypothetical reasoning

- **Teenagers tend to overthink hypothetically**
- **What if????**
- **<u>Piaget</u> proposed that not all people achieve formal operational thinking**
- **Older children, adolescents, and adults gradually become able to solve problems using both abstract symbols and ogic**

Abstract thinking: The ability to understand concepts that are real, such as freedom or vulnerability, but are not directly tied to something physical or tangeable

Hypothetical reasoning: Being able to consider possibles, probalbilties, and alternatives, its about askinbg what if

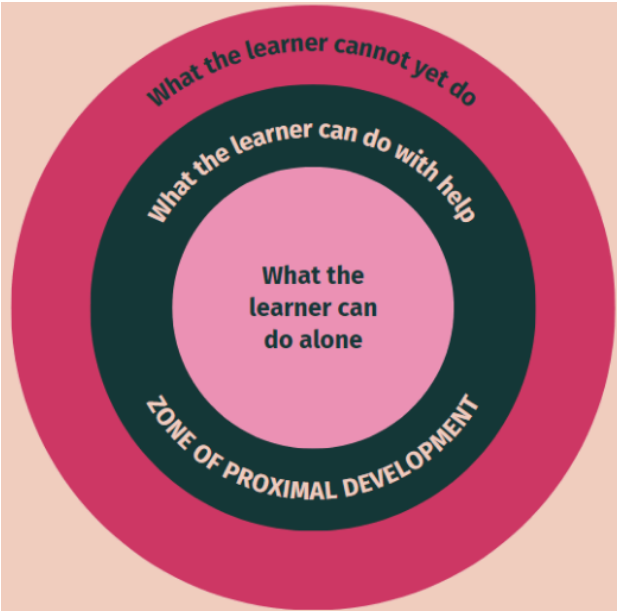
- Teenagers tend to do this too often and let it control them

Zone of Proximal Development

Lev Vygotsky's Zone of Proximal Development:

Lev Vygotsky: Russian psychologist who believed that children learn through social interaction, such as playing with peers or parents

- **Two processes in children's cognitive development**
    1) **Zone of proximal development -> the area of knowledge JUST beyond a child's abilities**
        - **Children learn BEST in this zone according to Vygotsky, they need to be interacting with a more skilled person**
    2) **Scaffolding:** The support adults and teachers present when they provide <u>progressively</u> more difficult problems or ask children to explain their reasoning for learning (Within th ZPD), it enables children to work independently with help readily available so they can solve problems
- This is why your coaches and teachers push you do do wat is just beyond your current abilities

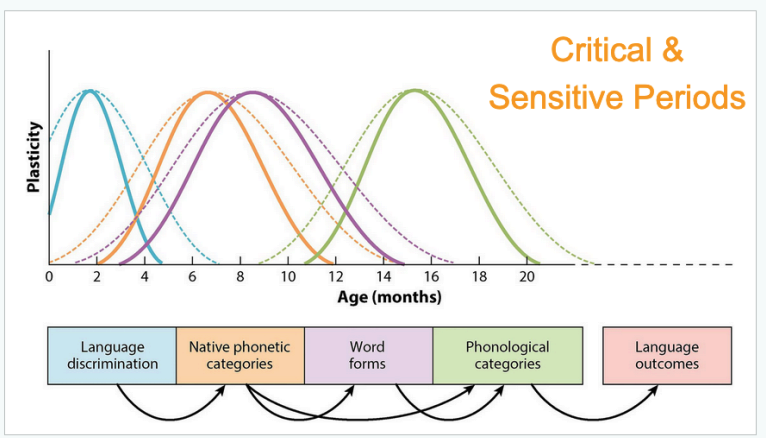


Scaffolding: A variety of instructional techniques used to move students PROGRESSIVELY towards stronger understanding and ultimately greater independence in the learning process.

Adulthood - Adults experience changes in cognitive abilities throughout theyre life span	
Crystallized intelligence:	**Fluid intelligence:**
Solid, This type of intelligence remains relatively stable throughout adulthood - Semantic(general knowledge) memory, verbal intelligence, procedural or implicit(unconcious encoding) memory	Liquid, This type of intelligence can adaptively change and WANE as people age - Porter episodic memory - Increased wisdom(practical knowledxge)
Dementia: Everybody will eventually get Dementia; some people get it early; some people get it late; some form of it is inevitable - A generalized, pervasive cognitive deterioration of memory and other functions, like language, and higher thinking. It is severe and can interfere with daily functioning and social and occupational activity. - You will die from alzheimers, this is due to a lack of acetylcholine(neural transmitter involved in muscle stimulation, memory formation, and learning) - The large majority of people 65 and older do not suffer from significant cognitive deficits. Dementia is due to normal aging, strokes, and/or excessive alcohol use.	

3.5 - Communication and Language Development

Key Components of Language
Language: Complex system of communication that uses words, symbols, or signs to express thoughts, ideas, motion, and information. - SHared and mutually agreed upon system of symbols(combined into phonemes, morphemes, and semantics)
Phonemes: Smallest unit of sound: - A speech sound that plays a meaningful role in a language and <u>cannot</u> be analyzed into smaller sounds - p, a, th, s
Morphemes: Smallest unit of MEANINGFUL sound - Am an, the, or prefixes and suffixes, ing, pre, -s, -ed
Semantics: Set of rules by which we derive meaning from morphemes, words, and sentences.
Grammar
Syntax: Syntax: The set of rules for arranging words, different languages have different syntax - White House vs Casa Blanca - Subject verb direct object
Grammar: It is an abstract system of rules that describes how language works - Made up of syntax, morphology(rules affecting the form taken by individual words), phonology, and semantics are also included in some modern systems of grammar. Set of rules a language uses to convey meaning. One of the fundamental building blocks of language.
Language Development

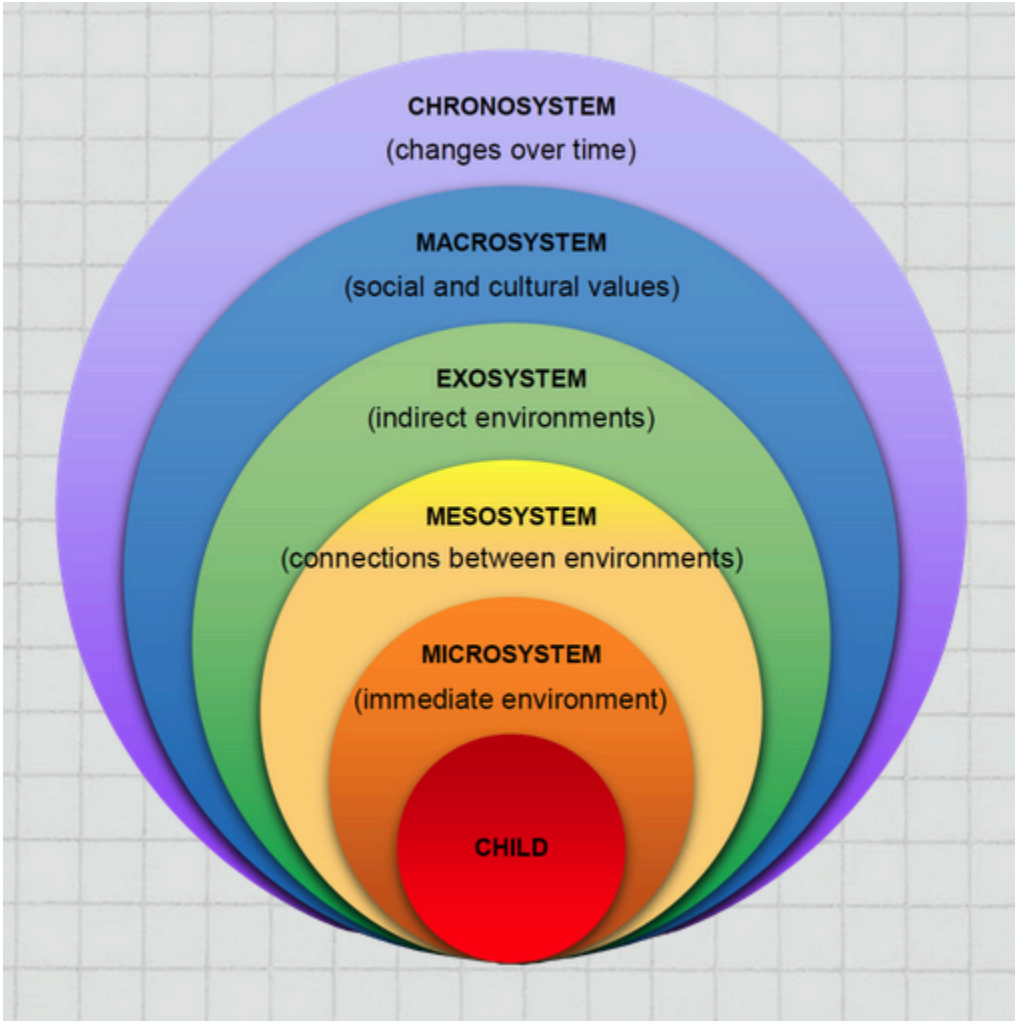
How is non-verbal communication used within a culture?	**Non verbal languages work the exact same way, its just the lexicon is replaced with manual gestures instead of words.** **Different types of non-verbal communication can very form culture to culture**
IMPORTANT STUDY THIS What are the stages of formal language development? Give examples of how one would communicate at each stage.	**1) Receptive: They cannot speak themselves, but they can understand speech sounds and read lips to an extent** **2) Babbling:** **- They experiment with different phonemes** **- All different kinds, but do not make sense of it** **- They may repeat words when heard** **- But do associate meaning** **- They may use phonemes not from theyre language** **3) One Word Stage** **- Can understand meanings of words** **- Addign suffixes and prefixed can help** **4) Telegraphic stage(compare to telegraph)** **- Toldres combine words into simple commands** **- Adults understand for the most part** **- Poor syntax** **- Eat now vs now eat** **After this children understand humor, puns, play on words, and can quickly form sentences**
How can critical and sensitive periods apply to language acquisition and development?	**Critical periods aren't set in stone, but if a child misses something they need form a critical period it can be difficult to obtain or build upon** 
Overgeneralization: People learned often make errors such as overgeneralization of language rules: Ex: goed vs. went / eated vs. ate / throwed vs. threw	
Cultural Considerations	
How can culture impact language acquisition and development?	**- Acquisition** **- Development** **Rules from 1st to second generation become more intricate** **There can be difficulty in pronouncing phonemes across languages.**

Social-Emotional Development across the Lifespan 3.6

Ecological Systems Theory

Ecological systems theory: A framework developed by Urie Bronfenbrenner that emphasizes the complex interactions between individuals and their environments across different systems.

- Highlights how various layers of environment, form imeeditatre settings to broader influences, affect human development
- Holistic view
- 5 interconnected systems: microsystem, mesosystem, ecosystem, macrosystem, and chronosystem
- Mesosystem represents the connections between different microsystems, such as how family interactions influence experiences at school
- Context: Is important for development -> diff bahavior in school vs family
- Exosystem includes settings that indirectly influence the individual(parents workplace or community resources for family life)



Parenting Styles

Authoritarian:

- High expectations, low emotional support
  - Little warmth
  - Unexplained rules
  - Punishment
  - Can lead to well-behaved but potentially aggressive and shy child

Authoritative:

- High expectations, high emotional support
- High levels of warmth, responsiveness, and support, along with reasonable expectations for behavior
- Parents:
    - Nurturing
    - Firm
    - Structure with independence and autonomy

Permissive:

- Low expectations, high emotional support
- Parents are more like friends than authority figures
- Children can struggle with self control

Cultural Differences in Parenting

Different cultures can adopt certain(or a mix of parenting staples)

- Authoritarian:
    - Culturally viewed as care and responsibility, not harshness
    - Outcome very by culture
    - High Academic Achievement, Respect for elders
    - Low self esteem
    - High anxiety
    - East Asian, Middle Easter, SOme African and latin american
- Authoritative:
    - High expectations, warmth and communication
    - Common in individualist cultures(US, and Western EU)
    - Encourage independence with boundaries
    - Ruels explained, child input is valued
    - High self esteem
    - Social competence
    - Academic Success
- Permissive
    - Self freedom and expression with few rules
    - Common individualist and affluent western societies
    - Parents are more like friends
    - Children make own decisions
    - Encourages creativity and indep but my ultimately lead to poor self control and difficulty listing to authority

Attachment

Attachment: The deep emotional bond that forms between individuals, typically between a child and caregiver

- Affects interactions and relationships, and choices throughout life

Temperament: Innate or biologically based individual differences in physical, emotional, and attentional reactivity and self regulation

- Different pokemon have different temperament

Cultural influences:	**Different cultures may lead to different levels of attachment and trust Regional variations exist in temperament, and attidues of people in general. Different cultures value different things which can lead to different emotional, phsycial, and attentional outcomes.**

Secure Attachment

Secure: Type of emotional bond in which a child feels safe, protected, and comfortable with a caregiver

Chjild uses the caregiver as a secure basis forem which they will explore their environment

- Upset when gone, happy when here

Insecure Attachment

Avoidant:	**Anxious:**	**Disorganized:**
A child who does not care whether or not the caregiver is there - **They are unaffected by the caregivers presence**	**A child who is extremely upset when their caregiver leaves, but remains angry, or resistant upon their return**	**Lack of clear attachment behavior, a result from inconsistent or frightening caregiving** - **Can lead to fear and confusion in the child** - **Ex trinity**

Separation anxiety: Distress experienced by individuals(infants or young children) when separated from their primary caregivers

How has research with monkeys inform psychology's understanding of attachment?	**Study conducted by Harry Harlow in the 50-60s.** **Showed infant monkeys preferred soft, cloth surrogate mothers over wire ones that provided food** **SHowed that attachment is comprised of multiple things** - **In this case, contact comfort, not just nourishment was vital for emotional development** - **This challenged existing theories thast attachment was based on feeding** - **Isolated monkeys suffered emotional deficits** - **Showcased need for affection beyond basic needs**

Social Development

Childhood & Adolescence

How do children engage with peers?	- Pretend PLay:
	  - Fantasy or make believe that includes an as-if orientation to actions, objects,m and peers
	  - People server distinct roles
	  - Using mental representation to differentiate form reality
	- Parallel PLay
	  - Play in which a child is next to others and using similar objects but still engaged in their own activity

What importance do peer relationships have in adolescence?	Peer relationships play a key and pivotal role in adolescence as they help build social connections and skills that a child will use for the rest of their life
Imaginary audience: An adolescent belief that others are constantly focusing attention on them, scrutinizing behavior and appearance, etc.	
Personal fable: A belief in one's uniqueness and invulnerability, an expression of adolescent egocentrism and may extend further into the life span	
Adulthood	
What do relationships look like in adulthood?	**In adulthood, relationships between people are often for practical benefits. We have relationships for our work lives, and they help us build connections. On top of this, we also have emotional and intimate relationships with our loved ones.**
What importance can attachment have in adulthood?	**Attachment can often influence how adults think, feel, and behave, and even though adults often possess higher levels of metacognition and are aware of these processes, they are not entirely immune to them.**
Culture	
Social clock: In a given culture, the set of norms governing the ages at which particular life events, like beginning school, marriage, leaving home, having children, and retirement can vary dramatically.	
Emerging adulthood: This is a developmental stage that is neither adolescence nor young adulthood, and is(theoretically) and empirically distinct from them both - Late teens - twenties - 18 -25	

The Stage Theory of Psychosocial Development

- proposed by Eirk Erikson and suggest that individuals go through 8 stagbes throughout their lives, each stage presents a different posayhcological conflict/challenge that needs to be resolved for proper development to occur

Trust and mistrust:

1st stage

- Birth to 18 months
- Focuses on infants basic needs being met by the parents
- Whether this need is met can lead to trust or mistrust
- Int trustLevel = needs ? 10 : 0;

Autonomy and shame and doubt:

2nd stage

- 2-3 Years old
- Children assert independence
- If encouraged and supported for their independence, children will become more confident and secure in their own ability to survive and thrive in the world
- The opposite will occur if they are unsupported or put odwn

Initiative and guilt:

3rd stage

- 3-5 yo
- Children assert power and control over the world via directing pretend play and other social interactions
- If encouraged, they develop a sense of initiative and confidence in their ability to lead and make decisions

Industry and inferiority:

4th stage

- Middle childhood, 6-12
- Sense of competence and accomplishment via mastering new skills
- May feel industrious if they are successful, but inferior if they perceive their efforts as not good enough

Identity and role confusion:

5th stage

- adolescents , 12-18
- Struggle with finding their own identity and may experience confusion about their societal roles

Intimacy and isolation:

6th stage

- Young adulthood
- 19-40y
- Ndvidiuals seek to create intimate loving relationships with other people
- People can feel isolation if unable

Generativity and stagnation:

7th stage

- Middle Age adults
- Adults grapple with contributing to the world and feeling like theyve made a difference(gerativity) or feeling unproductive, uninvolved, and, in some cases, useless (stagnation)

Integrity and despair:

8th stage

- Late adulthood
- Individuals reflect on their lives and either feel satisfaction from a well-livewd(integrity) life or reret over missed opportunities(despair)

Adverse Childhood Experiences (ACEs)

Adverse Childhood Experiences: Potentially traumatic events that occur before a child reaches 18

- Physical and emotionally abuse
- Physical and emotional neglect
- HouseHold Dysfunction
  - Mental Illness
  - Incarcerated Relative(in prison)
  - Mother treated violently
  - Substance ause

How can sociocultural differences influence ACEs?	**What can be considered ACEs can very from culture to culture**

Identity Development

Commitment?

Exploration?		No	Yes
	No	**Identity diffusion:** A status that characteriszes those who have neither explored the options nor made a commitment to an identity.	**Identity foreclosure:** Made a commitment to an identity without exploring other options
	Yes	**Identity moratorium:** Describes those who are exploring in an attempt to establish an identity but have not yet made any commitment	**Identity achievement:** Those who have committed to an identity after exlporation

What other processes are involved in developing one's identity?	**Identity development is a composite of hundreds of things that go into affecting peoples lives** **Big players:** - **Race** - **Ethnicity** - **Gender Identity** - **Sexual Orientation** - **Religion** - **Occupation**

	- **Family**

Possible self: A mental representation of one could become

People often consider many of these when forming an identity

Classical Conditioning 3.7

Learning: A relatively permanent change in behavior as a result of experience.
- Change includes an increase or decrease in strength of behavior, ex: playing piano louder, softer, faster, or slower
  - Behavior is any act that is observable
  - Experience is dependent on our interaction with the environment
  - Some experiences have larger effects on our behavior than other

Classical conditioning: A type of learning in which an initially neutral stimulus when paired with a stimulus that elicits a reflex response results in a learned or conditioned response when the now conditioned stimulus is presented

- Ivan Pavlov and his dogs
- Sound of metronome was paired with meat powder until the metronome alone produced salivation

Associative learning: Type of learning in which an individual learns to associate two stimuli or a stimulus and a response. Involves forming connections between events, objects, opr actions that occur together, allowing the individual to make predictions and guide their behavior accordingly.

Elements of Classical Conditioning

Unconditioned stimulus: A stimulus that elicits an automatic or involuntary response
- a puff of air in the eye

Unconditioned response: Any original response that occurs NATURALLY and in the absence of conditioning
- produces blinking

Neutral stimulus: A stimulus that initially does not elicit the reflex or automatic response being studied

Conditioned stimulus:A neutral stimulus that is repeatedly paired with an unconditioned stimulus until it acquires the ability to elicit a response that it did not before it was repeatedly associated with the unconditioend stimulus
- Pavlovs dogs salivating at the metronone

Conditioned response: The learned or acquired response to a conditioned stimulus
- The savlivation

Procedures

Acquisition: The first stages of learning when a conditioned response is established

- This occurs when you repeatedly pair the conditioned stimulus and the unconditoned stimulus

When should the NS be presented in respect to the UCS for acquisition to be most effective?	Immediately before the unconditioned stimulus, ideally with only a half second interval in between, this builds the connection in the subject that the neutral stimulus accurately predicts the unconditioned stimulus
How would one test to see if acquisition has occurred?	You completely to not activate the unconditioned stimulus, and check if the conditioned response still occurs when the neutral stimulus(conditioned stimulus if acquisition happened) occurs

Extinction: The decrease or disappearance of conditioned response

What is the procedure for extinguishing a conditioned response?	**Repeatedly presenting the conditioned stimulus without pearing it with the unconditioned stimulus, this breaks the association**

Spontaneous recovery: The reappearance of a conditioned response after a rest period or a period of lessened response.

- Can only occur after extinction
- This shows that extinction is not forgetting but building the idea that the conditioned stimuli now signals the absence of the unconditioned stimuli

Stimulus generalization: The elicitation of a conditioned response by stimulation SIMILAR, but NOT identical to the original stimulus

Stimulus discrimination: The ability to distinguish between the stimuli and respond to the SPECIFIC stimuli ONLY.

Higher-order conditioning: Conditioned stimulus is used as unconditioned stimulus

- build upon the foundation of the initial classical conditioning

Emotional Responses

Explain the research involving classically conditioning emotional responses:	John Watson and Little Albert - Conditioned an infant to fear a white rat - Sight of the white rat(conditioned stimuli) was paired with a loud noise(unconditioned stimuli) until the white rat alone produced crying and other fear indications(conditioned response) - Fear was generalized further to similar stimuli like a dog, monkey, rabbit, and fur coat - This showed that human emotional responses could evelop as a result of classical conditioning and that fears are learned rather than innate.
Counterconditioning: A behavioral technique used in therapy which involves replacing an unwanted response to a stimulus with a desired response	
How does this apply to therapeutic interventions for psychological disorders?	Often usd with desnsitazition(gradual exposure) to help animals and people overcome phobias or reacitivy by creating a positive association instead of an old negative one
Taste Aversion	
Taste aversion: The conditioned stimuli is a novel taste, and the unconditioned stimuli is a drug that produces nausea(unconditioned response) and the conditioned response is the avoidance of the taste	
One-trial conditioning: A form of classical conditioning where a strong association or learned response forms after just a SINGLE pairing of the unconditioned stimuli and the conditioned stimuli without needing repeated trials Ex: kool aid that gives you nausea	
Biological preparedness: The innate predisposition of an organism to learn certain stimulus response pairings more readily than others	
How can classically conditioning an aversive reaction be used to benefit others?	*We can condition people to do things that help them, ex: paining unhealthy foods with bad odors to help people lose weight*
Habituation	
Habituation: A decrease in response to a stimulus after being repeatedly exposed to it	

What is an example of habituation?	*Getting used to city noise or toilet flushing*

Operant Conditioning Part I- Training Techniques 3.8

Operant Conditioning	
Operant conditioning: The process in which behavior change(learning) occurs as a function of the consequences of behavior - Reinforcement is any event that strengthens the behavior it follows	
Aspects of Reinforcers	
Primary	Secondary
A reinforcer that satisfies a basic biological need such as food or water	A reinforcer that has acquired value through association with a primary reinforcer, such as money or praise
Law of effect: Behaviors with reinforcing consequences are more likely to be repeated while behaviors with punishing consequences are less likely to be repeated	
Shaping: An operant conditioning procedure in which reinforcers guide behavior toward closer and closer approximations of the desired behavior	
Instinctive drift: The tendency of an animal to revert to instinctive behaviors if said behaviors interfere with a conditioned repsonse	
Comparisons to Classical Conditioning	
Stimulus generalization: transferring a learned response from one stimulus to another, similar stimulus - Type of learning where a new situation is perceived as identical to a previously encountered situation, one that has a learned response	
Stimulus discrimination: The ability to differentiate between a conditioned stimulus and other stimuli that have not been paired with an unconditioned stimulus.	
Training Techniques	
Reinforcement: A consequence that strengthens or increases the likelihood of a behavior by providing a desirable outcome or removing an undesirable one.	
Punishment: A consequencew that decreases the likelihood of a behavior	

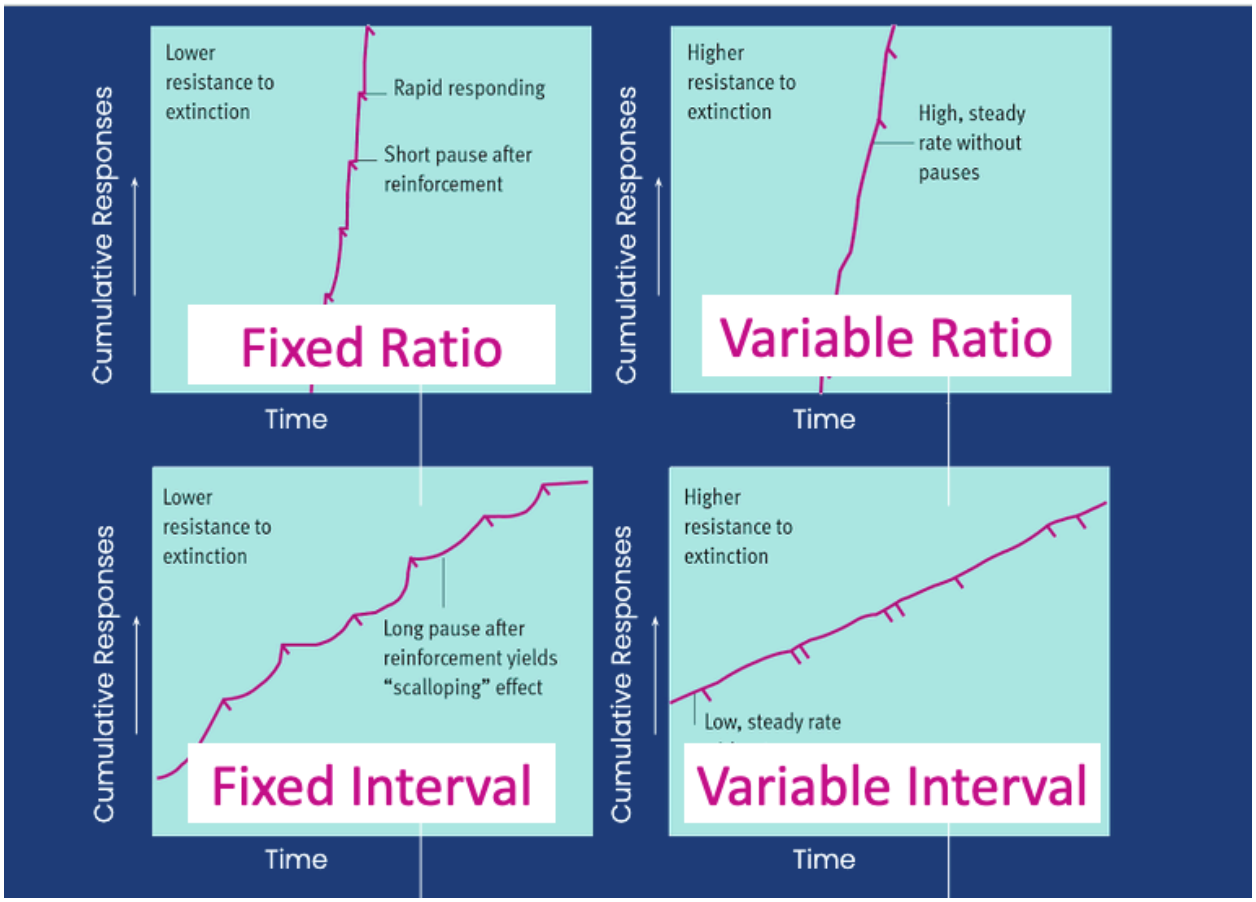
Training Techniques of Operant Conditioning

		Consequences	
		Strengthen behavior	Weaken behavior
Stimulus	Addition of	**Positive reinforcement:** **Strengthens behavior by giving you something you look**	**Positive punishment:** **Weakens behavior by giving something you don't like**
Stimulus	Removal of	**Negative reinforcement:** **Strengthens behavior by taking away something you dont like**	**Negative punishment:** **Weakens behavior by taking away something you do like**

Applications of Operant Conditioning	
How does operant conditioning explain **superstitious behavior**?	**Superstitious behavior** occurs when consequences reinforce unrelated behaviors. Essentially, a punishment or reinforcement can occur close in time with an independent behavior, establishing a correlation.
Learned helplessness: The hopelessness and passive resignation humans and other animals learn when unable to avoid repeated aversive events -- No control	
What implications does learned helplessness have within society? *What psychological disorder do we associate with it?*	Helplessness can lead to a large portion of humans to give up, if they cannot do anything about it why bother? This can lead to depression &

Schedules of Reinforcement - The schedule in which reinforcement is delivered can determine the strength of the association	
Continuous reinforcement: There is reinforcement of EVERY correct(desired) response -	
Partial reinforcement: Only some responses are reinforced	
Partial Reinforcement	
Fixed vs. Variable	**Interval vs. Ratio**
This schedule can change based on whether it is known EXACTLY when reinforcement will occur(**fixed**) or if it is unknown(**variable**)	The schedules focus on whether reinforcement is delivered on a time based schedule(**interval**) or for the number of behaviors performed(**ratio**)
Fixed ratio: Reinforcement is given after a specific number of responses, high steady rate of resp onse	
What are some examples of a fixed ratio schedule?	Production line workers, Collecting Tokens in a video Cape, BOGO FREE
Variable ratio: a response is reinforced after an unpredictable or average NUMBER of responses Most resistant to extinction	
What are some examples of a variable ratio schedule?	Sale bonuses, Scrolling on tiktok till a funny video
Fixed interval: (PEriodic Reinforcement) The first response that occurs after a set interval has elapsed is reinforced, 2, 4 ,6 min - Moderate and erratic response rate	
What are some examples of a fixed interval schedule?	Weekly Paycheck, 10 min timer
Variable interval: Reward is presented for the first response after a variable duration of time has elapsed since the previous reinforcement, not dependent on number	
What are some examples of a variable interval schedule?	Boss checking your work, Checking your subscribers on yotube

Label the following graphs as to which schedule of reinforcement is being demonstrated:



Looking at the graph on the bottom left, what does the scalloping within the sections indicate?	**Fixed Interval - Effectiveness is slower after the initial gain because the subject knows they won't get something again for n amount of time**
When reading these graphs, what indicators can you use to determine if a schedule is fixed or variable?	**Fixed is choppy, it is like a floor or ceiling function because they know exactly when the reward is, Variable, on the other hand, has them working continuously because the next reinforcement could be any second.**
When reading these graphs, how can you discern if a schedule is ratio or interval?	**Interval has a lower response over time**

Social, Cognitive, and Neurological Factors in Learning 3.9

Social Learning	
Social learning theory: Theory tha we learn social behavior by obersiving and imitating and by being rewarded or punished	
Vicarious conditioning: The process by which a person becomes more likely to engage in a particular behavior(response) by observing another individual being reinforced for that behavior and less likely to engage in a particular behavior(response) by observing another individual being punished for that behavior	
Modeling: The process by which a person imitates a behavior they see another immitating	
How did the Bobo Doll Study demonstrate social learning?	**Children were presented with a doll and a toy, children who first observed an adult hit the doll with the toy were more likely to do it themselves when rpesented the opportunity to do so.**
Cognitive Factors	
Insight learning: Sudden realization of a solution to a problem - Occurs when the solution to a problem occurs without any association, consequence, or model being present - Ex: the chimp seemed to suddenly grasp the need to use a short stick to reach a longer stick to reacht eh fruit - AHa moment	
Latent learning: Learning that occurs but is not apparent until there is an incentive to demonstrate it - I understand it now - Learning acquired without a conscious effort, awareness, intention, or without reinforcement until a need for it arises - A unix system ik this	
Cognitive map: A mental represnetation of the layout of one's environment - Mental understanding of an enviornment - Formed through trial and error - Based on assumption thatr individual seeks and collects contextual clues like environmental relationships., rather than passively receiving information to reach a goal	

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