The Ultimate AP® Psychology Unit 3 Cheat Sheet

3.1 Themes & Methods in Development

Big Debates

Nature vs. nurture: genes vs. environment; answer = interaction (**epigenetics**: experience switches genes on/off).
Continuity vs. stages: gradual, quantitative change vs. distinct qualitative steps (Piaget, Erikson).
Stability vs. change: do traits persist (temperament) or shift w/ experience across life? Both, to a degree.

Research Designs

Design	How	Watch out
Cross-sect.	Diff. ages, 1 time	Cohort effects
Longitudinal	Same ppl, years	Attrition, cost
Cross-seq.	Both combined	Complex, slow

Cohort effect: group differences due to the era people were born in (tech, schooling, war), not age itself.
Attrition: participants drop out over time → the remaining sample may be biased (e.g., healthier, richer).

Key Ideas

Critical period: window when exposure is required for normal development (imprinting in ducklings, Lorenz).
Sensitive period: optimal, not absolute window; learning still possible later, just harder (language).
Maturation: biological growth that unfolds on a set schedule regardless of most experience (walking).
Temperament: inborn emotional reactivity & intensity (easy, difficult, slow-to-warm-up); fairly stable.
Social clock: a culture's preferred timing for life events like marriage, parenthood & retirement; varies by era.

⚠ Cross-sectional finds AGE DIFFERENCES; only longitudinal shows how individuals CHANGE over time.

✓ AAQ/EBQ: name the design, then a limit that matches it (cohort effect ↔ cross-sectional; attrition ↔ longitudinal).

3.2–3.3 Physical Dev. & Gender

Prenatal & Infancy

Stage	Timing	Key event
Zygote	0–2 wks	Cell division
Embryo	2–8 wks	Organs form
Fetus	9 wks–birth	Growth

Teratogens: harmful agents crossing placenta (alcohol, nicotine, drugs, viruses); **FASD** from alcohol.
Reflexes: **rooting** (turn to cheek touch), sucking, grasping, Moro (startle); fade as brain matures.
Brain: neurons overproduced, then **synaptic pruning** cuts unused links; **maturation** sets motor order.

Adolescence & Adulthood

Puberty: **primary sex traits** (reproductive organs) & **secondary** (breasts, voice, body hair).
Menarche = 1st period; **spermarche** = 1st ejaculation. Early vs. late maturing affects social outcomes.
Teen brain: limbic system (reward) matures before prefrontal cortex (judgment, ~mid-20s) → risk-taking.
Aging: menopause (~50), slower reaction time, sensory decline; exercise & activity protect function.

Gender & Sexual Orientation

Sex = biological traits. **Gender** = cultural roles & expectations. **Gender identity** = inner sense of self.
Gender typing: learning a traditional role via modeling & reinforcement (**social learning theory**).
Gender schema: kids form "boy/girl" categories, then match their own behavior & preferences to them.
Sexual orientation: enduring attraction; not chosen, not caused by parenting; prenatal hormones & genes play a role.

⚠ Teratogens do the most damage in the embryonic stage (weeks 2–8), often before pregnancy is known.

⚠ Sex = biology; gender = social role & identity. Don't swap the two terms in an FRQ answer or definition.

3.4 Cognitive Development

Piaget's Building Blocks

Schema: mental framework. **Assimilation**: fit new info into existing schema (all 4-legged animals = "dog").
Accommodation: change a schema to fit new info (sees a cat that meows → builds a new "cat" schema).

Stage	Age	Hallmark
Sensorimotor	0–2	Object permanence
Preoperational	2–7	Egocentrism, pretend
Concrete op.	7–11	Conservation, logic
Formal op.	12+	Abstract, hypothet.

Stage Details

Object permanence: objects still exist when out of sight (~8 mo; peekaboo & stranger anxiety follow).
Egocentrism: can't take another's view (3-mountain task).
Theory of mind: grasp others' beliefs (~4–5).
Conservation: quantity stays same despite shape change (tall vs. wide glass); mastered in concrete stage.
Animism (objects are alive) & **centration** (focus on only 1 feature at a time) mark preoperational thinking in kids.

Vygotsky & Aging

Vygotsky: learning is social. **Zone of proximal development**: what a child can do w/ help, not yet alone.
Scaffolding: adult gives support, then removes it as skill grows. Piaget = child as scientist; Vygotsky = apprentice.
Aging: **fluid intelligence** (speed, novel problems) ↓; **crystallized** (knowledge, vocab) holds or ↑.
Dementia & neurocognitive disorders: NOT normal aging; Alzheimer's erodes memory, then reasoning.

⚠ Piaget underestimated kids: many skills appear earlier than his ages suggest (habituation studies).

✓ Assimilation = no schema change; accommodation = schema changes. Ask: did the category itself change?

3.5 Communication & Language

Building Blocks

Unit	Meaning	Example
Phoneme	Smallest sound	/ch/ in chat
Morpheme	Smallest meaning	-ed, un-, dog
Semantics	Word meaning	-ed = past
Syntax	Word order	Adj. before noun

Grammar: full rule system of a language = semantics + syntax; kids learn it w/o formal teaching.

Language Milestones

Babbling (~4 mo): random sounds from ALL languages; by ~10 mo narrows to home-language sounds.
One-word stage (~1 yr): single words carry a whole thought, called holophrases ("Milk!" = I want milk).
Two-word / telegraphic (~2 yr): mostly nouns & verbs, no extra words ("Go car"), but in the right word order.
Rapid growth (2+ yrs): vocabulary explodes, full sentences appear, most grammar in place by ~5.
Overgeneralization: applying a grammar rule to exceptions ("I goed," "two mouses") → shows rule learning.

Theories & Timing

Nativist (Chomsky): inborn capacity for grammar (universal grammar). **Skinner**: imitation + reinforcement.
Sensitive period: learning a 2nd language w/o accent is easiest in childhood; deaf kids need early sign exposure.
Interactionist view: biology gives the capacity; social interaction w/ caregivers triggers & shapes it.
Receptive before productive: kids understand words months before they can say them (point to "ball").

⚠ Overgeneralization is a sign of progress, not a mistake to worry about: the child learned a rule.

✓ Phoneme = sound; morpheme = meaning. "Cats" has 4 phonemes but 2 morphemes (cat + s).

3.6 Social-Emotional Development

Attachment

Harlow: infant monkeys clung to cloth "mother" over wire one w/ food → **contact comfort** drives attachment.
Lorenz: goslings **imprinted** on the first moving object they saw (him) during a critical period after hatching.
Ainsworth's strange situation: watch infant as caregiver leaves & returns → classify attachment style.

Style	On reunion	Caregiver
Secure	Comforted fast	Responsive
Avoidant	Ignores parent	Distant
Anxious-amb.	Clingy + angry	Inconsistent
Disorganized	Confused, fearful	Frightening

Parenting Styles (Baumrind)

Authoritarian: strict rules, low warmth ("because I said so").
Permissive: warm but few rules or limits.
Authoritative: high warmth + clear rules w/ reasons → most competent, confident kids (correlation).
Uninvolved: low warmth, low control → worst outcomes on average. **Stranger anxiety** appears ~8 mo.

Erikson & Beyond

Erikson: 8 psychosocial crises, from trust vs. mistrust (infant) ... to **identity vs. role confusion** (teen).
Adult stages: intimacy vs. isolation (young adult), generativity vs. stagnation, integrity vs. despair (old age).
Emerging adulthood (Arnett): ~18–25, exploring identity before full adult roles in many cultures.
Adolescent identity: teens try roles & values; peers ↑ in influence but parents still shape core values.
Self-concept: sense of who you are; grows more abstract & stable from childhood through adolescence.

⚠ Parenting style studies are correlational: authoritative parenting is linked to, not proven to cause, outcomes.

3.7 Classical Conditioning

Pavlov's Model

Term	Pavlov's dog
NS (neutral stim.)	Tone before learning
UCS (unconditioned)	Food
UCR (unconditioned)	Salivation to food
CS (conditioned)	Tone after pairing
CR (conditioned)	Salivation to tone

Learning: NS + UCS paired repeatedly → NS becomes CS. Best when NS comes just BEFORE UCS (~0.5 sec).

Processes

Acquisition: CS-UCS link forms. **Extinction**: CS alone repeatedly → CR fades (link suppressed, not erased).
Spontaneous recovery: extinguished CR reappears after a rest period → learning wasn't erased.
Generalization: CR to similar stimuli (Little Albert feared other furry things). **Discrimination**: CR only to CS.
Higher-order conditioning: a CS pairs w/ a new NS → new NS becomes CS too (light → tone → food).

Applications & Limits

Little Albert (Watson): white rat (NS) + loud noise (UCS) → fear (CR) of the rat; ethics now forbid it.
Taste aversion (Garcia): 1 pairing works even w/ hours of delay → **biological preparedness** limits learning.
Counterconditioning: pair CS w/ new, opposite response (exposure therapy, aversive conditioning).
Habituation: response ↓ to a repeated, harmless stimulus (ignore a ticking clock); simplest learning.

⚠ UCR & CR are often the SAME behavior. Label by the trigger: food → UCR; tone → CR, always.

✓ Classical = involuntary, reflexive responses tied to stimuli. Operant = voluntary behavior tied to consequences.

3.8 Operant Conditioning

Consequences

Law of effect (Thorndike): behaviors followed by good outcomes repeat. **Skinner**: Skinner box, shaping.

	Add (+)	Remove (–)
Behavior ↑	+ Reinforce.	– Reinforce.
Behavior ↓	+ Punish.	– Punish.

+ reinforcement: add good (praise). **– reinforcement**: remove bad (seatbelt beep stops when you buckle).
+ punishment: add something bad (extra chores). **– punishment**: remove something good (phone taken).
Primary reinforcer: meets a biological need (food). **Secondary/conditioned**: learned value (money, grades).

Schedules of Reinforcement

Schedule	Rule	Example
Fixed ratio	Every n responses	Punch card
Variable ratio	Avg. n, random	Slot machine
Fixed interval	1st after set time	Weekly quiz
Variable int.	Random time	Pop quiz

Continuous: fastest learning, fastest extinction. **Partial**: slower learning, very resistant to extinction.
Variable ratio → highest, steadiest rate & most resistant to extinction. **Fixed interval** → scalloped (cram before due).

Shaping & Limits

Shaping: reinforce successive approximations of target behavior. **Instinctive drift**: animals revert to instinct.
Superstitious behavior: accidental reinforcement links an unrelated act to a reward (lucky socks).
Premack principle: a preferred activity reinforces a less-preferred one (homework, then video games).

⚠ Negative reinforcement ≠ punishment. It INCREASES behavior by removing something unpleasant.

3.9 Social, Cognitive & Neuro Factors

Observational Learning

Bandura's Bobo doll: kids who watched an adult hit the doll imitated the aggression → learning by **modeling**.
Vicarious reinforcement / punishment: seeing a model rewarded ↑ imitation; seeing a model punished ↓ it.

Step	Need
Attention	Notice the model
Retention	Remember the act
Reproduction	Able to do it
Motivation	Reason to do it

Prosocial modeling: helpful models ↑ helping. **Antisocial** modeling: violent media linked to ↑ aggression.
Modeling works best when the model is warm, similar to the learner, high-status or rewarded for the act.

Cognitive Learning

Latent learning (Tolman): rats learned maze w/o reward; showed it fast once food was added → **cognitive map**.
Insight learning (Köhler): chimps suddenly stacked boxes to reach bananas → "aha" solution, not trial & error.
Learned helplessness (Seligman): repeated uncontrollable bad events → stop trying even when escape is possible.
Self-efficacy (Bandura): belief you can succeed at a task; ↑ effort, persistence & choice of hard goals.

Neurological Factors

Mirror neurons: fire when you act & when you watch someone act; proposed basis for imitation & empathy.
Dopamine & reward: reward circuits strengthen links between actions & outcomes, aiding operant learning.

⚠ Mirror neurons are a proposed explanation; evidence for their role in human imitation is still debated.

✓ Latent = learned but not shown until there's a reason. Insight = sudden solution. Don't swap them.