

Development and Learning

AP Psychology

Studying Development

Developmental psychology 发展心理学 studies how people change across the lifespan. Two questions run through the whole unit.

- Is change **continuous** 连续的 (gradual and smooth) or **discontinuous** 不连续的 (in stages)?
- Is a trait **stable** 稳定的 across life, or does it change?

Researchers answer these with two designs. A **cross-sectional study** 横断研究 compares different age groups at one time - fast, but differences may come from the groups' different generations. A **longitudinal study** 纵向研究 follows the same people over years - slower, but it shows real change within a person.

Physical Development

Development before birth can be disrupted by **teratogens** 致畸物 (harmful agents such as alcohol), maternal illness, genetic mutations, and hormonal or environmental factors.

Infant physical development follows the same general order everywhere, though the rate varies. Newborns show **reflexes** 反射 that indicate healthy development, such as the **rooting reflex** 觅食反射 (turning towards a touch on the cheek). The **visual cliff** 视崖 experiment shows that infants perceive depth early.

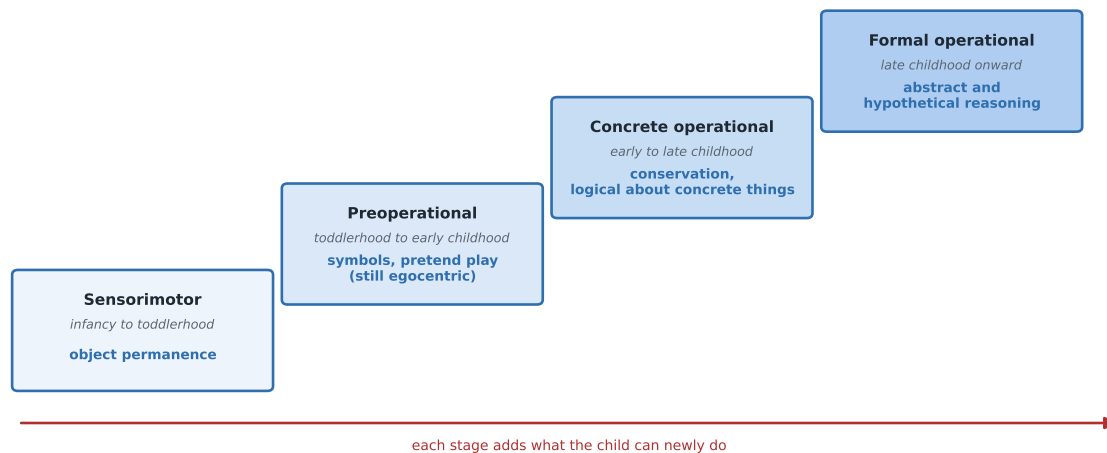
A **critical period** 关键期 is a window in which a particular experience has an unusually strong effect; a **sensitive period** 敏感期 is a softer version of the same idea.

Adolescence 青春期 brings the **adolescent growth spurt** 青春期发育突增 and **puberty** 青春发育期, including **primary sex characteristics** 第一性征 and **secondary sex characteristics** 第二性征. Adulthood spans most of life and is marked by a gradual levelling off, then decline - including **menopause** 更年期 in women.

Gender and Sexual Orientation

Sex 生理性别 refers to biological characteristics, while **gender** 社会性别 refers to the roles and expectations a society attaches to them. **Gender roles** 性别角色 are learned through **socialization** 社会化: family, school, peers, and media all teach what behaviour is expected. **Sexual orientation** 性取向 describes a person's enduring pattern of attraction. The exam asks how sex and gender influence socialization and development, not for any evaluation of individuals.

Cognitive Development



Piaget's four stages, each defined by what the child can newly do

Piaget 皮亚杰 proposed that children build **schemas** and pass through four stages:

- **Sensorimotor stage** 感知运动阶段 (infancy to toddlerhood): the child learns through senses and action, and develops **object permanence** 客体永久性 - knowing an object still exists when hidden.
- **Preoperational stage** 前运算阶段 (toddlerhood to early childhood): the child uses symbols and pretend play but shows **egocentrism** 自我中心 (difficulty taking another view) and lacks **conservation** 守恒 (knowing quantity stays the same when shape changes).
- **Concrete operational stage** 具体运算阶段 (early to late childhood): the child reasons logically about concrete things and gains conservation.
- **Formal operational stage** 形式运算阶段 (late childhood onward): abstract and hypothetical reasoning becomes possible.

Vygotsky 维果茨基 saw children as social learners. The **zone of proximal development** 最近发展区 is the gap between what a child can do alone and what they can do with help; **scaffolding** 支架 is the support that closes it.

Adult cognition changes too, and here the fluid/crystallised split from Unit 2 returns: reasoning speed declines while accumulated knowledge does not. **Dementia** 痴呆 is a decline beyond normal ageing.

Language Development

Language 语言 is a shared system of arbitrary symbols used to communicate. Development follows a common sequence: nonverbal **gestures** 手势, then **cooing** 咕咕声, **babbling** 咿呀语, the **one-word stage** 单词阶段, and **telegraphic speech** 电报式语言 (two-word combinations).

Children generalise rules before they master exceptions, which produces **overgeneralization** 过度规则化 - saying "goed" instead of "went". This is evidence that they are learning rules, not just copying.

Social and Emotional Development

Ecological systems theory 生态系统理论 describes development as nested environments, from the immediate family outwards to culture.

Research identifies **parenting styles** 教养方式: **authoritarian** 专制型 (high demands, low warmth), **authoritative** 权威型 (high demands, high warmth), and **permissive** 放任型 (low demands, high warmth).

Attachment 依恋 is the emotional bond between infant and caregiver, studied with the **strange situation** 陌生情境 procedure. Styles include **secure attachment** 安全型依恋 and insecure forms (**avoidant** 回避型, **anxious** 焦虑型, **disorganized** 混乱型). **Separation anxiety** 分离焦虑 is heightened distress when away from a caregiver. Studies with monkeys showed that infants prefer **contact comfort** 接触安慰 over food, which changed how attachment was understood.

Peer relationships develop through **parallel play** 平行游戏 and **pretend play** 假装游戏 in childhood, and adolescents rely on peers more as they age.

Erikson 埃里克森 proposed a stage theory of **psychosocial development** 心理社会发展, in which each stage poses a conflict to resolve - the adolescent stage being **identity versus role confusion** 同一性与角色混乱. **Adverse childhood experiences (ACEs)** 童年不良经历 affect later relationships and health.

Classical Conditioning

The **behavioral perspective** 行为主义视角 explains behaviour through learning rather than thought.

Classical conditioning 经典条件作用 associates one stimulus with another:

- An **unconditioned stimulus (UCS)** 无条件刺激 naturally produces an **unconditioned response (UCR)** 无条件反应 - food causes salivation.
- A **neutral stimulus** 中性刺激 paired with the UCS becomes a **conditioned stimulus (CS)** 条件刺激, producing a **conditioned response (CR)** 条件反应.
- **Acquisition** 习得 depends on the order and timing of the pairing.
- **Extinction** 消退 occurs when the CS is no longer paired with the UCS; **spontaneous recovery** 自发恢复 is the reappearance of an extinguished CR.
- **Generalization** 泛化 is responding to similar stimuli; **stimulus discrimination** 刺激辨别 is responding only to the exact CS.
- In **higher-order conditioning** 高级条件作用 an established CS acts as a UCS for a new one.

Emotional responses can be conditioned, and **taste aversion** 味觉厌恶 shows that some associations are learned in a single trial because they aided survival. **Habituation** 习惯

化 is a diminished response to a repeated stimulus.

Operant Conditioning

Operant conditioning 操作性条件作用 associates a behaviour with its consequence.

- **Reinforcement** 强化 increases a behaviour; **punishment** 惩罚 decreases it.
- **Positive** 正 means something is added; **negative** 负 means something is removed. So **negative reinforcement** 负强化 increases behaviour by removing something unpleasant - it is not punishment.
- A **primary reinforcer** 原级强化物 satisfies a biological need; a **secondary reinforcer** 次级强化物 (money) is learned.
- **Shaping** 塑造 rewards **successive approximations** 逐步接近 of a target behaviour.

Reinforcement schedules 强化程式 change how strong and persistent learning is. **Continuous reinforcement** 连续强化 rewards every response and produces fast learning but fast extinction. **Partial reinforcement** 部分强化 comes in four kinds - **fixed-ratio** 固定比率, **variable-ratio** 变动比率, **fixed-interval** 固定时距, and **variable-interval** 变动时距 - and variable-ratio produces the highest, most extinction-resistant rate.

Superstitious behavior 迷信行为 arises when a consequence reinforces an unrelated action. **Learned helplessness** 习得性无助 develops when an organism repeatedly cannot escape an aversive event and stops trying.

Observational and Cognitive Learning

Not all learning needs direct experience. **Social learning theory** 社会学习理论 shows that behaviour can be learned by **observation** 观察 and **modeling** 榜样示范 - the basis of the Bobo doll findings on imitated aggression.

Insight learning 顿悟学习 is a sudden solution with no gradual conditioning. **Latent learning** 潜伏学习 is learning that occurs without reinforcement and stays hidden until there is a reason to show it, demonstrated by rats forming a **cognitive map** 认知地图 of a maze.

Worked example (a real AP exam question). The 2024 exam described Gavin, a preschooler at a science museum: he grabbed a large glass marble and tried to bounce it, he was briefly separated from his parents, and the next day he told his grandmother about a picture he had drawn. Students had to *"Explain how Jean Piaget's concept of assimilation could relate to Gavin's experience with the glass marble"* and *"Explain how egocentrism could relate to how Gavin interacted with his grandmother in the car"*. A full-mark answer defines the term **and** ties it to the specific detail: *"Gavin already had a schema for balls, which bounce. He assimilated the marble into that schema by treating it as a ball and trying to bounce it."* Notice the shape: the definition alone earns nothing, and so does retelling the story. The mark is for the join between them.

Exam tips

- **Negative reinforcement** increases behaviour. If you can say what was *removed*, and the behaviour went *up*, it is not punishment.
- Match a Piaget stage to its achievement - object permanence, conservation, abstract reasoning - rather than to an age.
- **Classical** conditioning links two stimuli and produces an involuntary response; **operant** conditioning links behaviour to consequence.
- **Variable-ratio** schedules resist extinction best. Use it whenever a question describes gambling-like persistence.
- Keep **critical period** for the narrow window and **sensitive period** for the softer one.
- On scenario questions, name the term and then point at the detail in the scenario that proves it. The detail is what earns the mark.