Development Over the Life Span
Human development

Developmental psychologists
Study physiological and cognitive changes across the life span and how these are affected by a person’s genetic predispositions, culture, circumstances, and experiences.

Socialization
The process by which children learn the rules and behavior expected of them by society.
Learning objectives

13.1 – The stages of prenatal development and some factors that can harm an embryo or fetus during pregnancy

13.2 – How culture affects a baby’s physical maturation

13.3 – Why contact comfort and attachment are so important for infants (and adults)

13.4 – The varieties of infant attachment
Prenatal development

Germinal stage
Begins at fertilization, when the male sperm unites with the female ovum (egg); the fertilized single-celled egg is called a zygote.

Embryonic stage
Begins about two weeks after fertilization and lasts until the eighth week after conception.

Fetal stage
Begins after eight weeks, and the organism, now called a fetus, further develops the organs and systems that existed in rudimentary form in the embryonic stage.
What do you think?

It is unlikely that drinking one glass of wine once a month will have a damaging effect on the fetus.

A. True
B. False
It is likely that continuing to smoke cigarettes during a pregnancy will have a damaging effect on the developing fetus.

A. True
B. False
What do you think?

Continued exposure to chronic stress may affect the developing fetus.

A. True
B. False
Agents that cross the placenta

German measles

X-rays and other radiation

Toxic chemicals

Sexually transmitted diseases

Cigarette smoking

Alcohol and other drugs
Physical abilities

Newborn reflexes

Rooting
Sucking
Swallowing
Moro ("startle") reflex
Babinski reflex
Grasping
Stepping
Perceptual abilities

Visual abilities
Quickly develops beyond initial range of eight inches.
Can distinguish contrasts, shadows, and edges.

Other senses
Hearing
Touch
Olfaction
Culture and maturation

Many aspects of development depend on customs

Differences in babies’ sleep arrangements reflect cultural and parental values.

Recommendation to have babies sleep on their back has caused many babies to skip crawling.
In Western cultures, you are more likely to see infants sleeping alone in cribs rather than in bed with their parents.

A. True
B. False
Attachment

A deep emotional bond that an infant develops with its primary caretaker.

Contact comfort
In primates, the innate pleasure derived from close physical contact.
The basis of the infant’s first attachment.

Tested using the Strange Situation procedure
A parent-infant “separation and reunion” procedure that is staged in a laboratory to test the security of a child’s attachment.
Which is correct?

In the Strange Situation procedure, an infant cries when their primary caregiver leaves the room, can be consoled by the stranger who enters the room, and is joyous upon being reunited with their primary caregiver. This describes which attachment style?

A. Avoidant  
B. Secure  
C. Anxious-ambivalent
The rise and fall of separation anxiety

![Graph showing the percentage of children who cried following mother's departure at different ages in various cultures.]}

- Rural African (n=25)
- Antigua, Guatemala (n=36)
- Israeli kibbutz (n=122)
- Guatemalan Indian (n=34)

**Axes:**
- X-axis: Age (months)
- Y-axis: Percentage of children who cried following mother's departure
Types of attachment

**Secure**
A parent-infant relationship in which the baby is secure when the parent is present, distressed by separation, and delighted by reunion.

**Insecure**
A parent-infant relationship in which the baby clings to the parent, cries at separation, and reacts with anger or apathy to reunion.
What causes insecure attachment?

Abandonment and deprivation in the first year or two of life.

Parenting that is abusive, neglectful, or erratic because the parent is chronically irresponsible or clinically depressed.

The child’s own genetically influenced temperament.

Stressful circumstances in the child’s family.
Learning objectives

13.5 – The importance of “baby talk” in the development of language

13.6 – Basic milestones in the development of language

13.7 – Piaget’s description of the major stages of cognitive development and their hallmarks

13.8 – Modern approaches to children’s mental development
Language development

Acquisition of speech begins in the first few months.
Infants are responsive to pitch, intensity, and sound.

By 4-6 months of age, children can recognize their names and repetitive words.

By 6-12 months of age, children become familiar with sentence structure and start babbling.
Language development

By 11 months, infants use symbolic gestures.

At about 12 months, infants use words to label objects.

Between 18-24 months, toddlers combine 2 to 3 words into telegraphic speech.
Thinking

According to Piaget, cognitive development consists of mental adaptations to new observations.

Two adaptive processes

Assimilation: absorbing new information into existing cognitive structures.

Accommodation: modifying existing cognitive structures in response to new information.
Your turn

At what age will children recognize that the two clay balls on the right have the same amount of clay as the two balls on the left?

1. Ages 0-2
2. Ages 2-7
3. Ages 7-12
4. Ages 12 and over
Your turn

At what age will children recognize that the two clay balls on the right have the same amount of clay as the two balls on the left?

1. Ages 0-2
2. Ages 2-7
3. **Ages 7-12**
4. Ages 12 and over
Sensorimotor stage

Birth to 2 years

Infant learns through concrete actions: looking, touching, putting things in the mouth, sucking, grasping.

“Thinking” consists of coordinating sensory information with bodily movements.

Major accomplishment is object permanence.
The understanding that an object continues to exist even when you cannot see or touch it.
What do you know?

Kathy is 1 ½ years old. She is playing with some toys and accidentally drops one behind a chair. She goes behind the chair and retrieves it. Kathy has mastered object permanence.

A. True
B. False
Preoperational stage

Ages 2 to 7

Children still lack the cognitive abilities necessary for understanding abstract principles and mental operations.

Egocentric

Cannot grasp concept of conservation
Concrete operations

Ages 7 to 12

Children’s thinking is still grounded in concrete experiences and concepts, but they can now understand conservation, reversibility, and causation.
Formal operations stage

Ages 12 to adulthood

Teenagers are capable of abstract reasoning
Can compare and classify ideas
Can reason about situations not personally experienced
Can think about the future
Can search systematically for solutions
Children develop mental representations of the world through culture and language, and that adults play a major role in their children’s development by constantly guiding and teaching them.
Current views

Cognitive abilities develop in continuous, overlapping waves rather than discrete steps or stages.

Preschoolers are not as egocentric as Piaget thought.

Children, even infants, reveal cognitive abilities much earlier than Piaget believed possible.

Cognitive development is spurred by the growing speed and efficiency of information processing.

Cognitive development is influenced by a child’s culture.
Testing infants’ knowledge

Infants look longer at objects that seem to violate physical laws than those that do not.

Surprise indicates their expectations were violated.

They must know what is physically plausible for this to occur.
13.9 – How moral feelings and behavior develop

13.10 – The importance of a child’s ability to delay gratification
Moral reasoning: Kohlberg’s theory

Pre-conventional level
Punishment and obedience
Instrumental relativism

Conventional level
Good boy–nice girl
Society-maintaining

Post-conventional level
Social contract
Universal ethical principles
Current views

The child’s emerging ability to understand right from wrong, and to behave accordingly, depends on the emergence of conscience and moral emotions such as shame, guilt, and empathy.

Some researchers suggest that the capacity for understanding right from wrong, like that for language, is inborn.

Many researchers are seeking a middle ground by studying gene-environment interactions.
Getting children to be good

**Power assertion**
Parent uses punishment and authority to correct misbehavior.

**Induction**
Parent appeals to child’s own resources, abilities, sense of responsibility, and feelings for others in correcting misbehavior.
Self-control and conscience

Self-regulation
The ability to suppress an initial wish to do something in favor of doing something else that is not as much fun.

This ability predicts a child’s ability to delay gratification now for a larger reward later, control negative emotions, pay attention to the task at hand, and do well in school, from kindergarten to college.
Learning objectives

13.11 – Why some people fail to identify themselves as either male or female

13.12 – The biological explanation of why most little boys and girls are “sexist” in their choice of toys, at least for a while

13.13 – When and how children learn that they are male or female

13.14 – Learning explanations of some typical sex differences in childhood behavior
Gender identity

Gender identity
The fundamental sense of being male or female, independent of whether the person conforms to social and cultural rules of gender.

Gender typing
Process by which children learn the abilities, interests, personality traits, and behaviors associated with being masculine or feminine in their culture.

Intersex conditions
Chromosomal or hormonal anomalies cause the child to be born with ambiguous genitals, or genitals that conflict with the infant’s chromosomes.
Which is correct?

The condition in which chromosomal or hormonal anomalies cause the child to be born with ambiguous genitals, or genitals that conflict with the infant’s chromosomes is called:

A. Gender typing
B. Intersex conditions
C. Gender identity
Influences on gender development

**Biological factors**
Biological researchers believe that early play and toy preferences have a basis in prenatal hormones, genes, or brain organization.

**Cognitive factors**
Cognitive psychologists suggest that toy preferences are based on gender schemas or the mental network of knowledge, beliefs, metaphors, and expectations about what it means to be male or female.

**Learning factors**
Gender appropriate play may be reinforced by parents, teachers, and peers.
Which is correct?

Amanda’s siblings are both brothers. She has spent her early upbringing playing with cars and balls. Upon entering preschool, she notices that all the girls have princess dolls. For her birthday, Amanda asks for a princess doll. The primary influences on Amanda’s choice of a gift are:

A. Biological factors
B. Cognitive factors
C. Learning factors
Learning objectives

13.15 – The physiological changes of adolescence

13.16 – The psychological issues of adolescence

13.17 – Findings on brain development and adolescence
Physiology of adolescence

Adolescence
Period of life from puberty until adulthood

Puberty
The age at which a person becomes capable of sexual reproduction

Menarche
A girl’s first menstrual period

Spermarche
A boy’s first ejaculation
Timing of puberty

Onset of puberty depends on genetic and environmental factors.
For example, body fat triggers the hormonal changes

Early vs. late onset
Early maturing boys have more positive views of their bodies and are more likely to smoke, binge drink, and break the law.

Early maturing girls are usually socially popular but also regarded by peer group as precocious and sexually active. They are more likely to fight with parents, drop out of school, and have a negative body image.
What do you think?

Over the past few decades, there has been an increase in adolescent violence.

A. True
B. False
What do you think?

Most teenagers experience a sudden drop in self-esteem.

A. True
B. False
What do you think?

Today’s teenagers are more narcissistic than their predecessors.

A. True
B. False
Adolescence: Media perception and reality

The rate of violent crimes committed by adolescents has been dropping steadily since 1993.

Feelings of overall self-esteem do not suddenly plummet after the age of 13 for either sex.

Very little change in narcissism levels over the decades.

According to the National Youth Risk Behavior Survey, today’s teenagers are more sexually conservative than their parents were at their age.
Areas of adolescent turmoil

Conflict with parents

Mood swings or depression

Higher rates of reckless, rule-breaking, and risky behavior
Learning objectives

13.18 – Erik Erikson’s theory of the stages of adult development

13.19 – The typical attitudes and experiences of “emerging adulthood,” the years from 18 to 25

13.20 – Some common mid-life changes for women and men

13.21 – Which mental abilities decline in old age and which ones do not
Erikson’s eight stages

**Trust versus mistrust**
Infancy (birth-age 1)

**Autonomy versus shame & doubt**
Toddler (ages 1-2)

**Initiative versus guilt**
Preschool (ages 3-5)

**Competence versus inferiority**
Elementary school (ages 6-12)

**Identity versus role confusion**
Adolescence (ages 13-19)

**Intimacy versus isolation**
Young adulthood (ages 20-40)

**Generativity versus stagnation**
Middle adulthood (ages 40-65)

**Ego integrity versus despair**
Late adulthood (ages 65 and older)
Your turn

At what age, according to Erikson, are people likely to wrestle with whether they are able to deal with the tasks facing them in life?

1. Age 4
2. Age 7
3. Age 15
4. Age 25
Your turn

At what age, according to Erikson, are people likely to wrestle with whether they are able to deal with the tasks facing them in life?

1. Age 4
2. **Age 7**
3. Age 15
4. Age 25
Psychological concerns can occur at any time in life, therefore stage theories are no longer used to understand how adults change or stay the same.

Adult development involves interactions among
- Biological changes
- Personality traits
- Personal experiences
- Historical events
- Particular environments
- Friends and relationships
The transitions of life

Emerging adulthood (ages 18-25)
Phase of life distinct from adolescence and adulthood
In some ways an adult, in some ways not

The middle years (ages 35-65)
Perceived by many as the prime of life

*Menopause*: the cessation of menstruation and the production of ova, usually a gradual process lasting several years.
Are you an adult yet?
What do you think?

After age 40, there is a significant decline in all aspects of cognitive ability.

A. True
B. False
Old age

Some types of thinking change, others stay the same.

*Fluid intelligence*: the capacity for deductive reasoning and the ability to use new information to solve problems; relatively independent of education, declines in old age.

*Crystallized intelligence*: cognitive skills and specific knowledge of information acquired over a lifetime; depends heavily on education, remains stable over lifetime.
Lifespan intellectual changes

Some intellectual abilities dwindle with age.

Numerical and verbal abilities relatively stable
Old age

Apparent senility often caused by combination of medications

Depression and passivity are result of loss of meaningful activity, intellectual stimulation, and control over events.

Weakness and frailty caused by sedentary lifestyles.

Gerontologists estimate that only 30% of the physical losses associated with old age are genetically based. The rest are environmental or psychological.
Learning objectives

13.22 – Why terrible childhood experiences do not inevitably affect a person forever

13.23 – What makes most children resilient in the face of adversity
Are adults prisoners of childhood?

Research psychologists have questioned the psychodynamic assumption that childhood traumas have emotional effects that inevitably continue into adulthood.

Considerable evidence disputes this claim.
Challenging our assumptions

Recovery from war
Only 20% of WWII war orphans had problems after being adopted and moving to the US. Most of these eventually established happy lives.

Recovery from abusive or alcoholic parents
Their children are at-risk for developing these problems, but most do not.

Recovery from sexual abuse
More emotional and behavioral symptoms, but most adjust and recover.