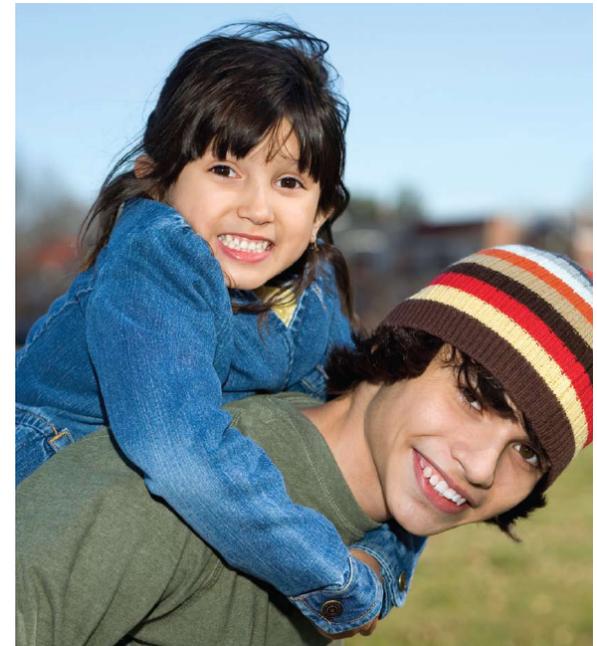


Unit 9: Developmental Psychology



Unit Overview

- [Prenatal Development and the Newborn](#)
- [Infancy and Childhood](#)
- [Parents and Peers](#)
- [Adolescence](#)
- [Adulthood](#)
- [Reflections on Two Major Developmental Issues](#)



Click on the any of the above hyperlinks to go to that section in the presentation.

Introduction

- Developmental psychology
 - Nature versus nurture
 - Continuity and stages
 - Stability and change



Developmental Psychology

Issue	Details
Nature/Nurture	How do genetic inheritance (<i>our nature</i>) and experience (<i>the nurture we receive</i>) influence our behavior?
Continuity/Stages	Is developmental a gradual, continuous process or a sequence of separate stages?
Stability/Change	Do our early personality traits persist through life, or do we become different persons as we age.

Prenatal Development and the Newborn

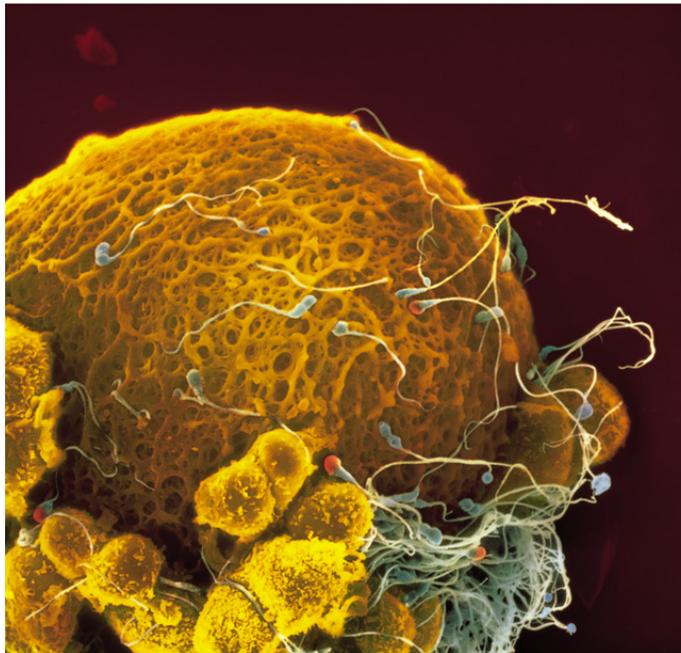


Prenatal Development and the Newborn

How, over time, did we come to be who we are? From zygote to birth, development progresses in an orderly, though fragile, sequence.

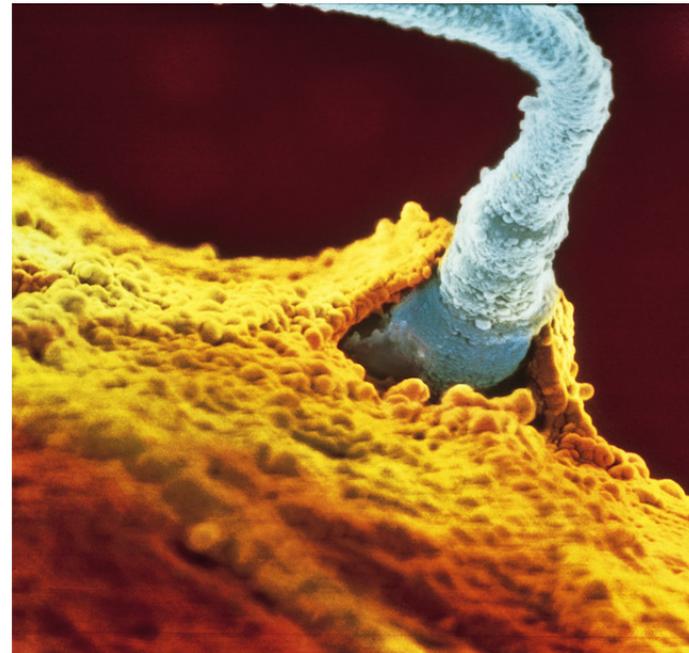
Conception

A single sperm cell (male) penetrates the outer coating of the egg (female) and fuses to form one fertilized cell.



Lennart Nilsson/ Albert Bonniers Publishing Company

(a)



Lennart Nilsson/ Albert Bonniers Publishing Company

(b)

Prenatal Development and the Newborn

40 days

45 days

2 months

4 months



Prenatal Development

A **zygote** is a fertilized cell with 100 cells that become increasingly diverse. At about 14 days the zygote (a) turns into an embryo (b)



(a)

Lennart Nilsson/ Albert Bonniers Publishing Company



(b)

Biophoto Associates/ Photo Researchers, Inc.

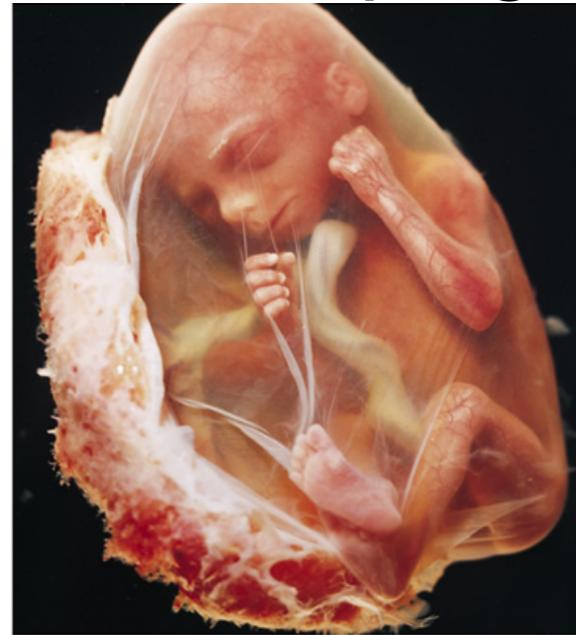
Prenatal Development

At 9 weeks, an **embryo** turns into a **fetus** (c and d). **Teratogens** are chemicals or viruses that can enter the placenta and harm the developing fetus.



Lennart Nilsson/Albert Bonniers Publishing Company

(c)



Lennart Nilsson/Albert Bonniers Publishing Company

(d)

Prenatal Development

- Placenta
- Teratogens
- Fetal alcohol syndrome (FAS)



Prenatal Development and the Newborn

- Fetal Alcohol Syndrome (FAS)
 - physical and cognitive abnormalities in children caused by a pregnant woman's heavy drinking
 - symptoms include misproportioned head



6-Week Old Baby
"Normal" brain

6-Week Old Baby
"Fetal Alcohol Syndrome" brain

The Competent Newborn

- Reflexes
- [Habituation](#)
- Novelty-preference procedure
- Sensation and perception



The Competent Newborn

Infants are born with reflexes that aid in survival, including rooting reflex which helps them locate food.



Infant Reflexes

- **Rooting**— turning the head and opening the mouth in the direction of a touch on the cheek
- **Grasping**— curling the fingers around an object
- **Stepping Reflex**— reflex that causes newborns to start a stepping motion as they touch a surface



Infant Reflexes

- **Sucking**— sucking rhythmically in response to oral stimulation
- **Moro (startle reflex)**— throwing the arms out, arching the back and bringing the arms together as if to hold onto something (in response to loud noise or sudden change in position of the head)
- **Babinski**— fanning and curling toes when foot is stroked



The Competent Newborn

Offspring cries are important signals for parents to provide nourishment. In animals and humans such cries are quickly attended to and relieved.



Carl and Ann Purcell/ Corbis



Lightscares, Inc. Corbis

Sensory Development

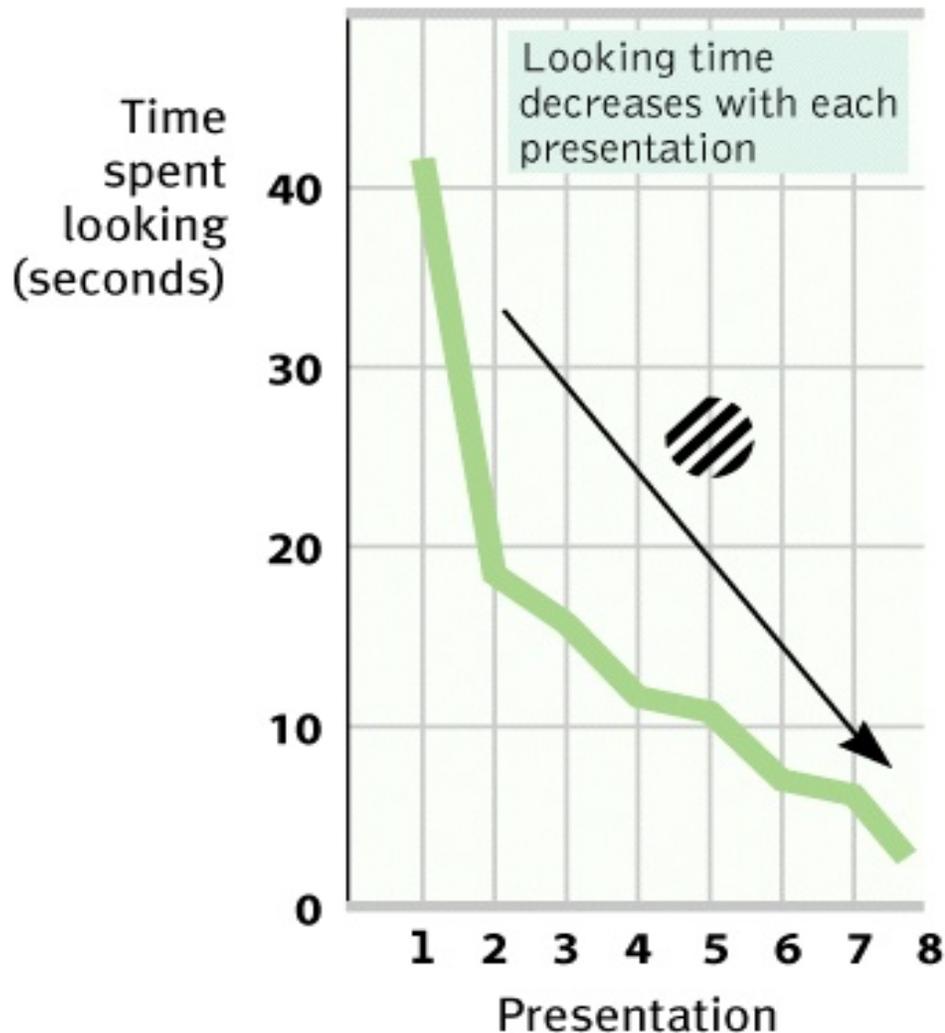
- **Visual Acuity** – Newborns see most clearly when faces or objects are between 4 and 30 inches away.
- Their visual acuity initially is only about 20/600 (what a newborn can see at a distance of 20 feet, an adult can see at 600 feet-part of the problem is that eye muscles are developing.)
- Binocular vision (the ability to use both eyes together to focus on an object) occurs around 14 weeks.

Sensory Development

- **Depth Perception** – developed at least by the age of 6 months.
 - Visual Cliff – used as a measurement of depth perception



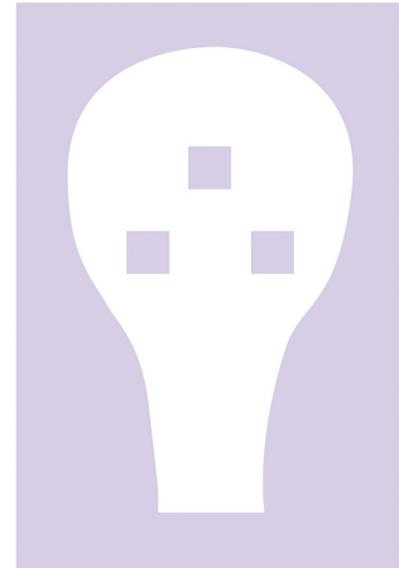
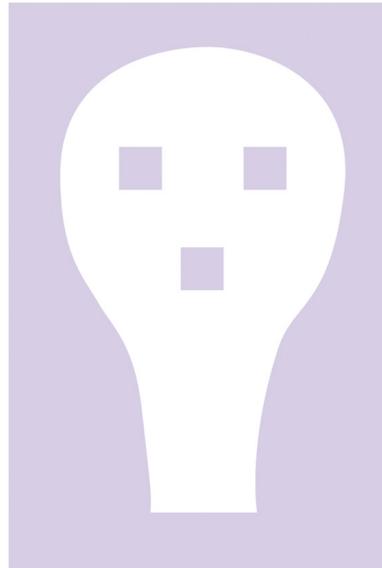
Prenatal Development and the Newborn



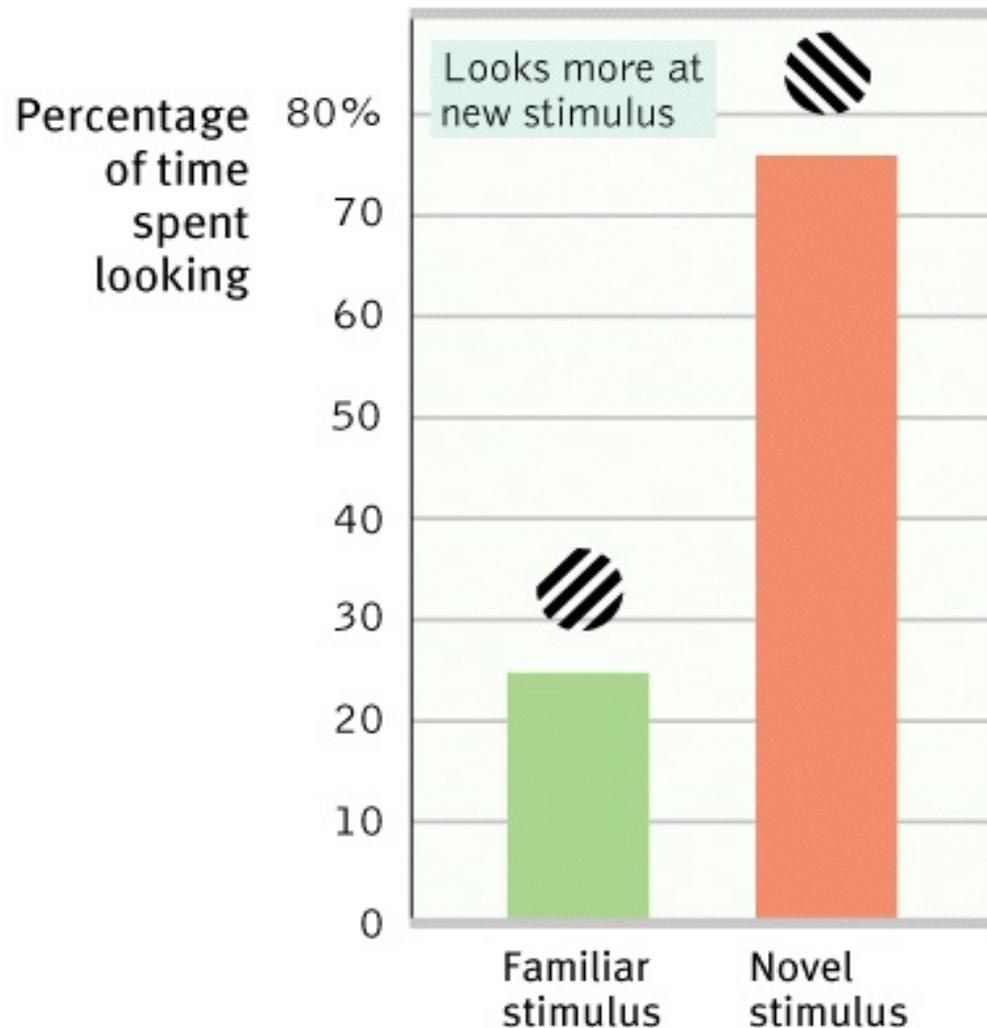
- Habituation
 - decreasing responsiveness with repeated stimulation

Cognitive Development in the Newborn

Investigators study infants becoming habituated to objects over a period of time. Infants pay more attention to new objects than habituated ones, which shows they are learning.



Prenatal Development and the Newborn



Having habituated to the old stimulus, newborns preferred gazing at a new one

Infancy and Childhood



Infancy and Childhood

Infancy and childhood span from birth to the teenage years. During these years, the individual grows physically, cognitively, and socially.

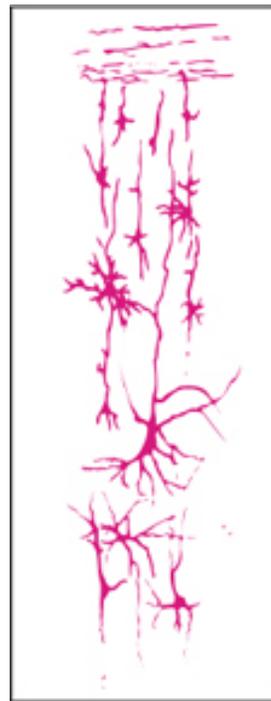
Stage	Span
Infancy	Newborn to toddler
Childhood	Toddler to teenager

Physical Development

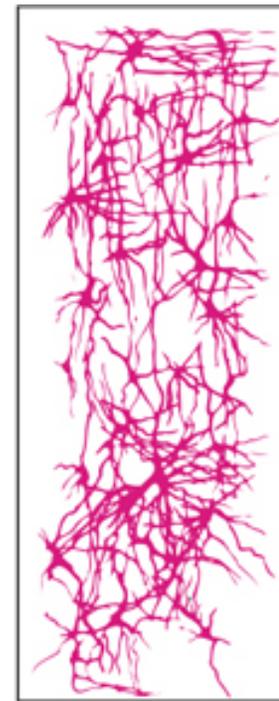
Physical Development

Brain Development

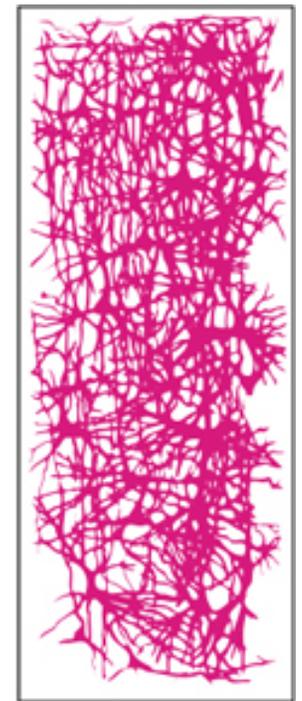
- Brain development
- Pruning process
- Maturation



At birth



3 months



15 months

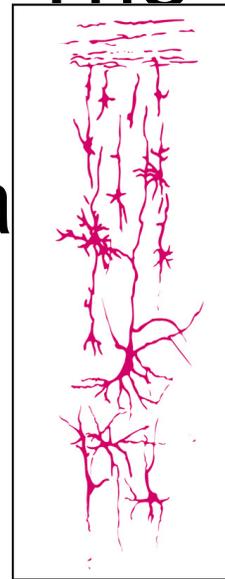
Physical Development

Infants' psychological development depends on their biological development. To understand the emergence of motor skills and memory, we must understand the **developing brain**.

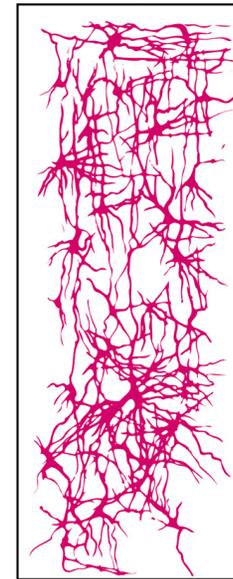


Developing Brain

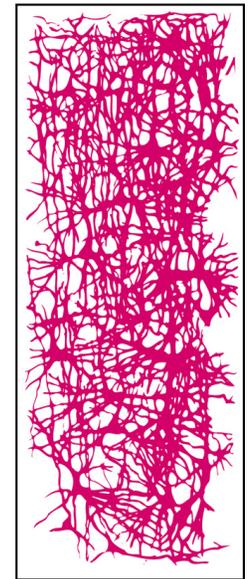
The developing brain overproduces neurons. Peaking around 28 billion at 7 months, these neurons are pruned to 23 billion at birth. The greatest neuronal spurt is in the frontal lobe enabling the individual to think rationally.



At birth



3 months



15 months

Maturation

The development of the brain unfolds based on genetic instructions, causing various bodily and mental functions to occur in sequence — standing before walking, babbling before talking — this is called **maturation**.

Maturation sets the basic course of development, while experience adjusts it.

Motor Development

First, infants begin to roll over. Next, they sit unsupported, crawl, and finally walk. Experience has little effect on this sequence.



Renee Altier for Worth Publishers

**Sitting
unsupported
6 months**



Jim Craigmyle/ Corbis

**Crawling
8-9 months**



Phototake Inc./ Alamy Images

**Beginning
to walk
12 months**



Profimedia, CZ s.r.o./ Alamy

**Walking
Independently
15 months**

Maturation and Infant Memory

The earliest age of conscious memory is around 3½ years (Bauer, 2002). A 5-year-old has a sense of self and an increased long-term memory, thus organization of memory is different from 3-4 years.



Developing a sense of “self.”



Amy Pedersen

Kicking moves the mobile, will be retained for about a month.

Infancy and Childhood: Physical Development

- **Infantile Amnesia**– this explains why 3-4 year olds can't remember anything of the first few months of life. Many neural connections that underlie memories are still developing and not yet formed.



Infancy and Childhood: Physical Development

- **Motor Development** – refers to the acquisition of abilities such as grasping, walking, skipping, and balancing.
- **Developmental Norms** – timetable during infancy that helps doctors and psycho-logist record motor development, and spot possible problems.



Infancy and Childhood: Physical Development

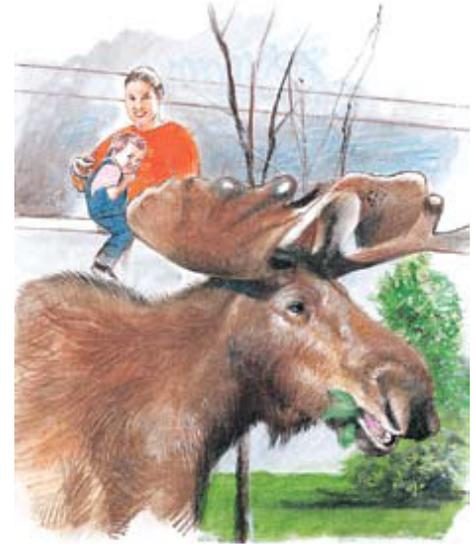
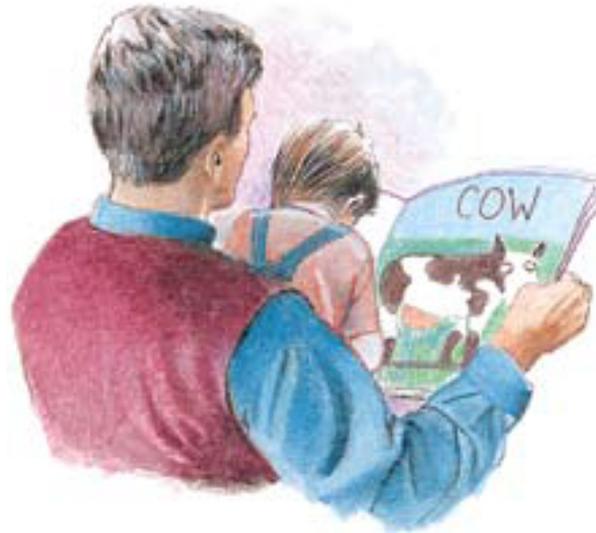


- Babies only 3 months old can learn that kicking moves a mobile — and can retain that learning for a month (Rovee-Collier, 1989, 1997).

Cognitive Development

Cognitive Development

- Cognition
- Jean Piaget
 - Schema
 - Assimilation
 - Accommodation



Jean Piaget



- Piaget's cognitive development personality theory was based upon the premises of constructivism, and his interest in the root of knowledge drove him to focus his attention on the psychology of children. According to Piaget, people developed deliberate cognitive representations of their environment, which they could then manipulate. Piaget agreed that cognitive processes followed a series of stages, and even though certain children may reach stages before other children, the order of stages is invariable.

Cognitive Development

Piaget believed that the driving force behind intellectual development is our biological development amidst experiences with the environment. Our cognitive development is shaped by the errors:



Sliding a miniature slide



Trying to sit in a miniature car

Both photos: Courtesy of Judy Deloache

Infancy and Childhood: Cognitive Development

- Cognition

- All the mental activities

associated with thinking,
knowing, remembering, and
communicating

- Schema

- a concept or framework that
organizes and interprets
information



Schemas

Schemas are mental molds into which we pour our experiences.



Two-year-old Gabriella has learned the schema for "cow" from her picture books.



Gabriella sees a moose and calls it a "cow." She is trying to assimilate this new animal into an existing schema. Her mother tells her, "No, it's a moose."



Gabriella accommodates her schema for large, shaggy animals and continues to modify that schema to include "mommy moose," "baby moose," and so forth.

Infancy and Childhood: Cognitive Development

- Assimilation
 - interpreting one's new experience in terms of one's existing schemas
- Accommodation
 - changing one's current understandings (schemas) to incorporate new information or experiences



Jean Piaget with a subject

Piaget's Theory and Current Thinking

PIAGET'S STAGES OF COGNITIVE DEVELOPMENT

Typical Age Range	Description of Stage	Developmental Phenomena
Birth to nearly 2 years	<i>Sensorimotor</i> Experiencing the world through senses and actions (looking, touching, mouthing, and grasping)	<ul style="list-style-type: none">• Object permanence• Stranger anxiety
2 to about 6 or 7 years	<i>Preoperational</i> Representing things with words and images; use intuitive rather than logical reasoning	<ul style="list-style-type: none">• Pretend play• Egocentrism• Language development
About 7 to 11 years	<i>Concrete operational</i> Thinking logically about concrete events; grasping concrete analogies and performing arithmetical operations	<ul style="list-style-type: none">• Conservation• Mathematical transformations
About 12 through adulthood	<i>Formal operational</i> Abstract reasoning	<ul style="list-style-type: none">• Abstract logic• Potential for mature moral reasoning

Sensorimotor Stage

In the **sensorimotor** stage, babies take in the world by looking, hearing, touching, mouthing, and grasping. Children younger than 6 months of age do not grasp **object permanence**, i.e., objects that are out of sight are also out of mind.



Doug Goodman

At 8 months of age what is out of sight is not out of mind.

Sensorimotor Stage

(Birth — 2 years)

Infancy and Childhood: Cognitive Development

- **Stranger Anxiety**
 - fear of strangers that infants commonly display
 - beginning by about 8 months of age



Sensorimotor Stage: Criticisms

Piaget believed children in the sensorimotor stage could not think — they do not have any abstract concepts or ideas.

However, recent research shows that children in the sensorimotor stage *can* think and count.

Children understand the basic laws of physics. They are amazed at how a ball can stop in midair or disappear.

Sensorimotor Stage: Criticisms

■ Baby Mathematics

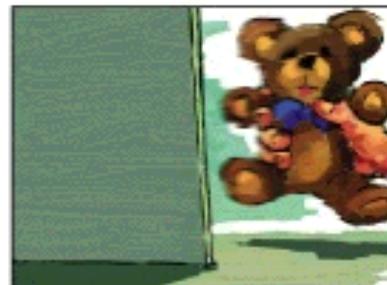
- Shown a numerically impossible outcome, infants stare longer (Wynn, 1992)



1. Objects placed in case.

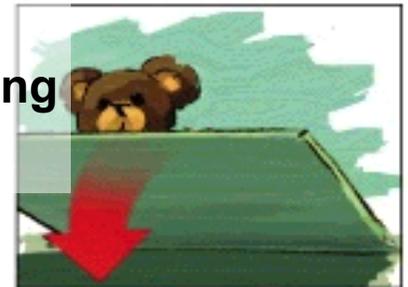


2. Screen comes up.

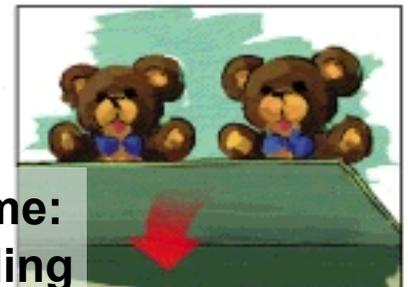


3. Object is removed.

4. Possible outcome:
Screen drops, revealing one object.



4. Impossible outcome:
Screen drops, revealing two objects.



Preoperation alStage

(2 — 6/7 years)

Preoperational Stage

Piaget suggested that from 2 years old to about 6-7 years old, children are in the **preoperational** stage—too young to perform mental operations.



The child points to the left flask as having more liquid when in fact the two flasks contain the same amount of liquid. The inability to use a mental *operation* and understanding conservation of liquid amounts is lacking at this stage.

Infancy and Childhood: Cognitive Development

- Conservation
 - the principle that properties such as mass, volume, and number remain the same despite changes in the forms of objects.



Conservation

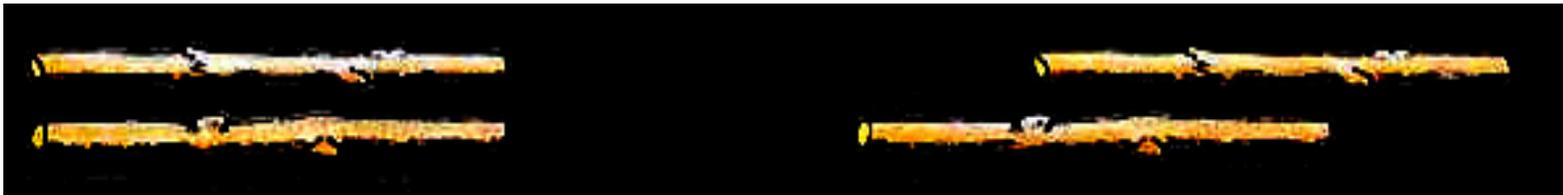
- Number



In conservation of number tests, two equivalent rows of coins are placed side by side and the child says that there is the same number in each row. Then one row is spread apart and the child is again asked if there is the same number in each.

Conservation

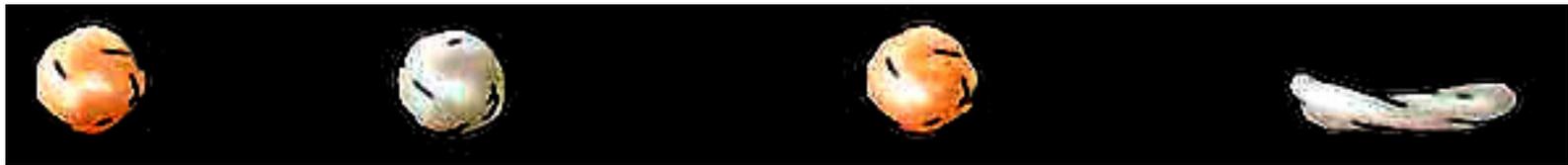
■ Length



In conservation of length tests, two same-length sticks are placed side by side and the child says that they are the same length. Then one is moved and the child is again asked if they are the same length.

Conservation

■ Substance



In conservation of substance tests, two identical amounts of clay are rolled into similar-appearing balls and the child says that they both have the same amount of clay. Then one ball is rolled out and the child is again asked if they have the same amount.

Egocentrism

Piaget concluded that preschool children are egocentric. They cannot perceive things from another's point of view.

When asked to show her picture to mommy, 2-year-old Gabriella holds the picture facing her own eyes, believing that her mother can see it through her eyes.

Preoperational Stage: Criticism

DeLoache (1987) showed that children as young as 3 years of age are able to use mental operations. When shown a model of a dog's hiding place behind the couch, a 2½-year-old could not locate the stuffed dog in an actual room, but the 3-year-old did.

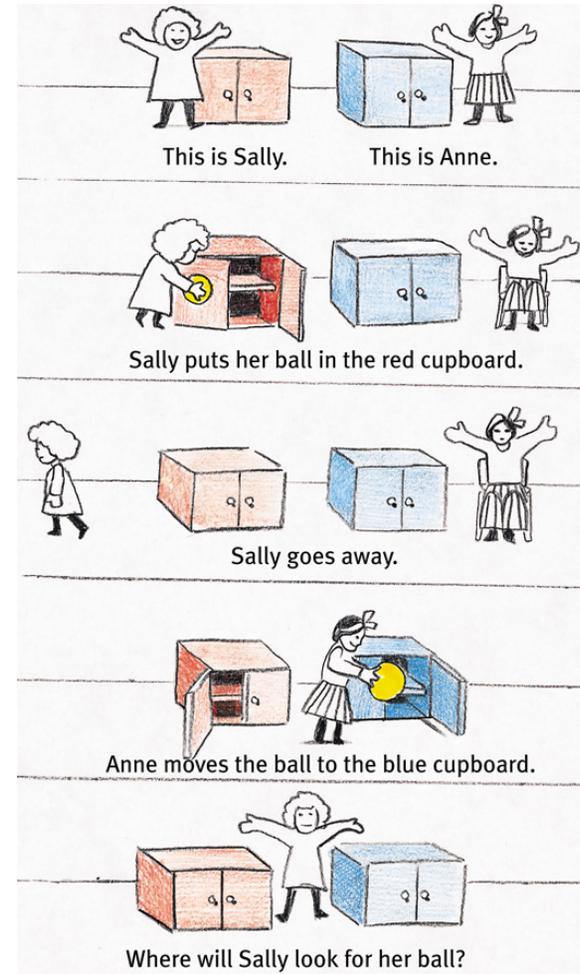
Infancy and Childhood: Cognitive Development

- Theory of Mind
 - people's ideas about their own and others' mental states — about their feelings, perceptions, and thoughts and the behavior these might predict

Theory of Mind

Preschoolers, although still egocentric, develop the ability to understand another's mental state when they begin forming a **theory of mind**.

The problem on the right probes such ability in children.



Concrete Operational Stage

(6/7 — 12 years)

Concrete Operational

In concrete operational stage, given concrete materials, 6- to 7-year-olds grasp conservation problems and mentally pour liquids back and forth into glasses of different shapes conserving their quantities.

Children in this stage are also able to transform mathematical functions. So, if $4 + 8 = 12$, then a transformation, $12 - 4 = 8$, is also easily doable.

Formal Operational Stage

(12 years — adult)

Formal Operational Stage

Around age 12, our reasoning ability expands from concrete thinking to abstract thinking. We can now use symbols and imagined realities to systematically reason.

Piaget called this **formal operational** thinking.

Formal Operational Stage

Rudiments of such thinking begin earlier (age 7) than what Piaget suggested, since 7-year-olds can solve the problem below (Suppes, 1982).

If John is in school, Mary is in school.
John is in school. What can you say about Mary?

Reflecting on Piaget's

Theory

Piaget's stage theory has been influential globally, validating a number of ideas regarding growth and development in many cultures and societies. However, today's researchers believe the following:

1. Development is a continuous process.
2. Children express their mental abilities and operations at an earlier age.
3. Formal logic is a smaller part of cognition.

Cognitive Development

Piaget's Theory and Current Thinking

PIAGET'S STAGES OF COGNITIVE DEVELOPMENT

Typical Age Range	Description of Stage	Developmental Phenomena

Cognitive Development

Piaget's Theory and Current Thinking

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Cognitive Development

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Cognitive Development

Reflecting on Piaget's Theory

- Influential theory
- Development is more continuous
- Larger emphasis on social factors
- Vygotsky
 - Zone of proximal development

Cognitive Development

- Autism



Social Development

Social Development

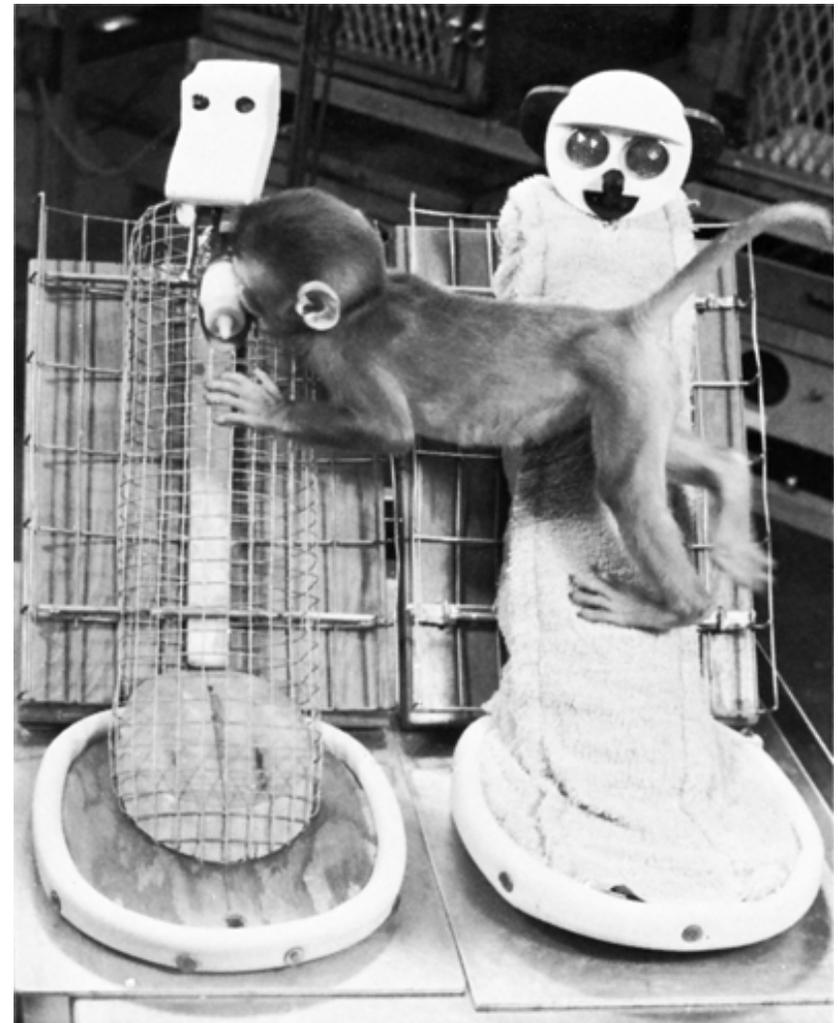
Stranger anxiety is the fear of strangers that develops at around 8 months. This is the age at which infants form schemas for familiar faces and cannot assimilate a new face.



Social Development

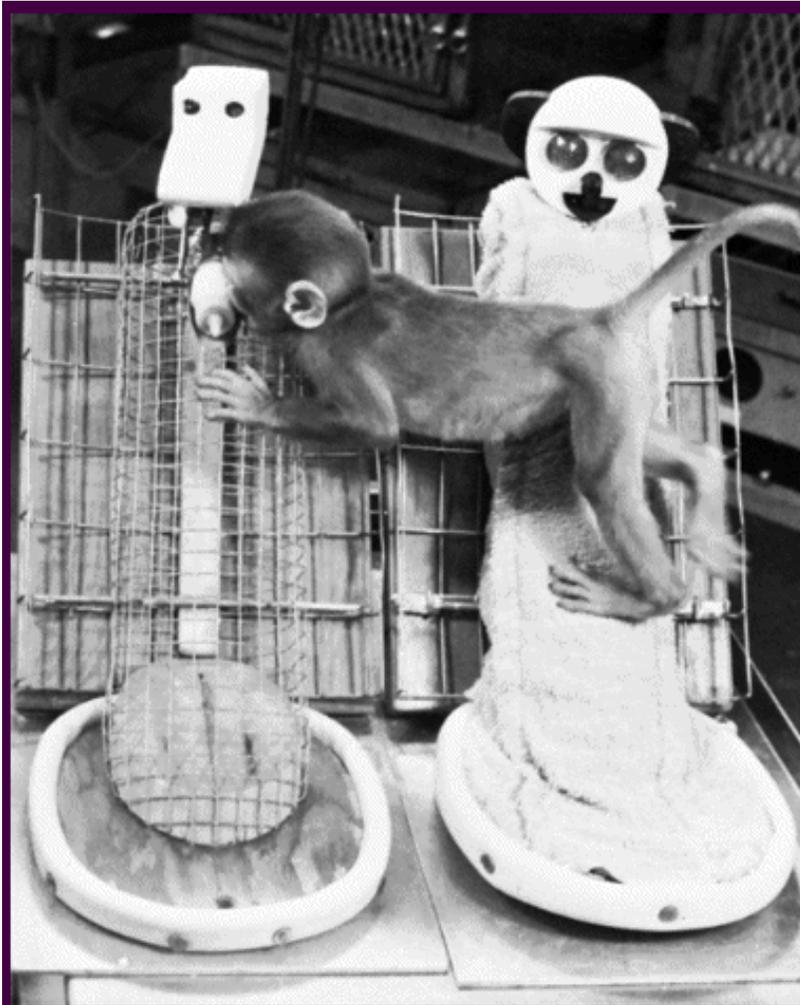
Origins of Attachment

- Attachment
 - Body contact
 - Harry Harlow's studies
 - Familiarity
 - Critical period
 - Imprinting
 - Sensitive period



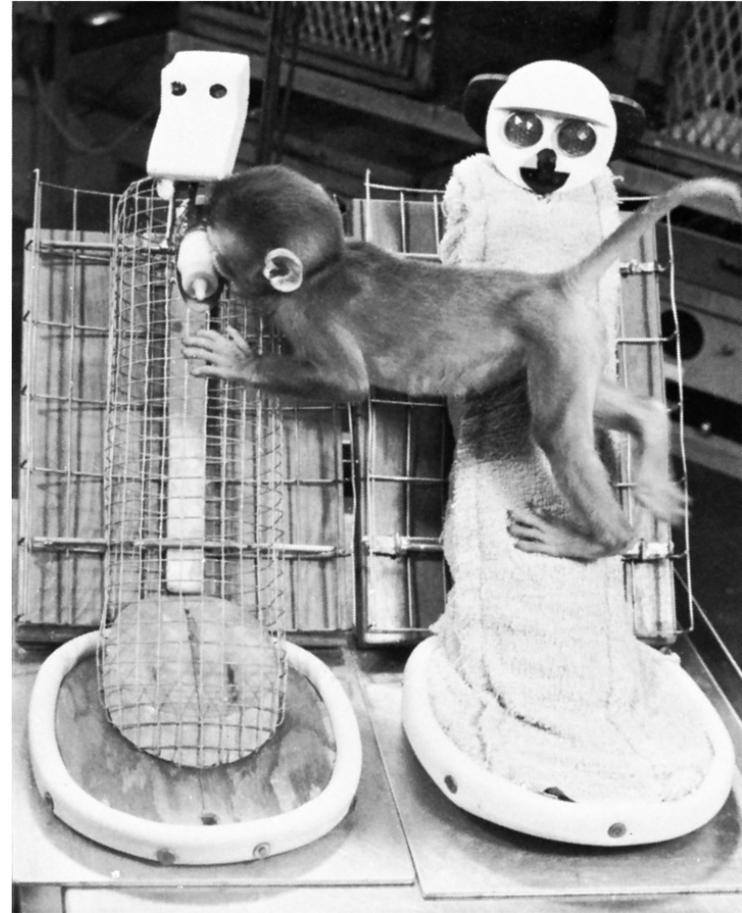
Social Development

- Harlow's Surrogate Mother Experiments
 - Monkeys preferred contact with the comfortable cloth mother, even while feeding from the nourishing wire mother



Origins of Attachment

Harlow (1971) showed that infants bond with surrogate mothers because of **bodily contact** and not because of nourishment.



Harlow Primate Laboratory, University of Wisconsin

Social Development



Monkeys raised by artificial mothers were terror-stricken when placed in strange situations without their surrogate mothers.

Harlow's Legacy



- Bond of attachment between parent and child
- A secure base from which to explore
- The need for security remains with us throughout our lives

Origins of Attachment

Like bodily contact, **familiarity** is another factor that causes attachment. In some animals (goslings), **imprinting** is the cause of attachment.



Alastair Miller

Social Development

- Imprinting

- the process by which certain animals form attachments during a critical period very early in life



Social Development



- Attachment (Mary Ainsworth)
 - an emotional tie with another person
 - shown in young children by their seeking closeness to the caregiver and displaying distress on separation
- Separation Anxiety
 - Emotional distress seen in many infants when separated from people with whom they have formed attachments.

Social Development

Attachment Differences: Temperament and Parenting

- Ainsworth's "strange situation"
 - Secure attachment
 - Insecure attachment



Social Development

Deprivation of Attachment

- Early deprivation of attachment
- Disruption of attachment
- Does day care affect attachment?



Attachment Differences

Placed in a strange situation, 60% of children express **secure attachment**, i.e., they explore their environment happily in the presence of their mothers. When their mother leave, they show distress.



The other 30% show **insecure attachment**. These children cling to their mothers or caregivers and are less likely to explore the environment.

Secure Attachment

Relaxed and attentive caregiving becomes the backbone of secure attachment.



Berry Hewlett

Insecure Attachment

Harlow's studies showed that monkeys experience great anxiety if their terry-cloth mother is removed.



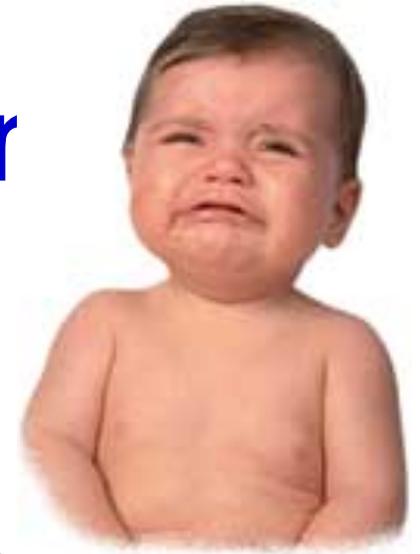
Harlow Primate Laboratory, University of Wisconsin

Attachment Differences: Why?

Why do these attachment differences exist?

Factor	Explanation
Mother	Both rat pups and human infants develop secure attachments if the mother is relaxed and attentive.
Father	In many cultures where fathers share the responsibility of raising children, similar secure attachments develop.

Forms of Attachment



- **Responsive Mothers**

- They notice what their babies are doing and respond appropriately.
- They tend to have securely attached children.

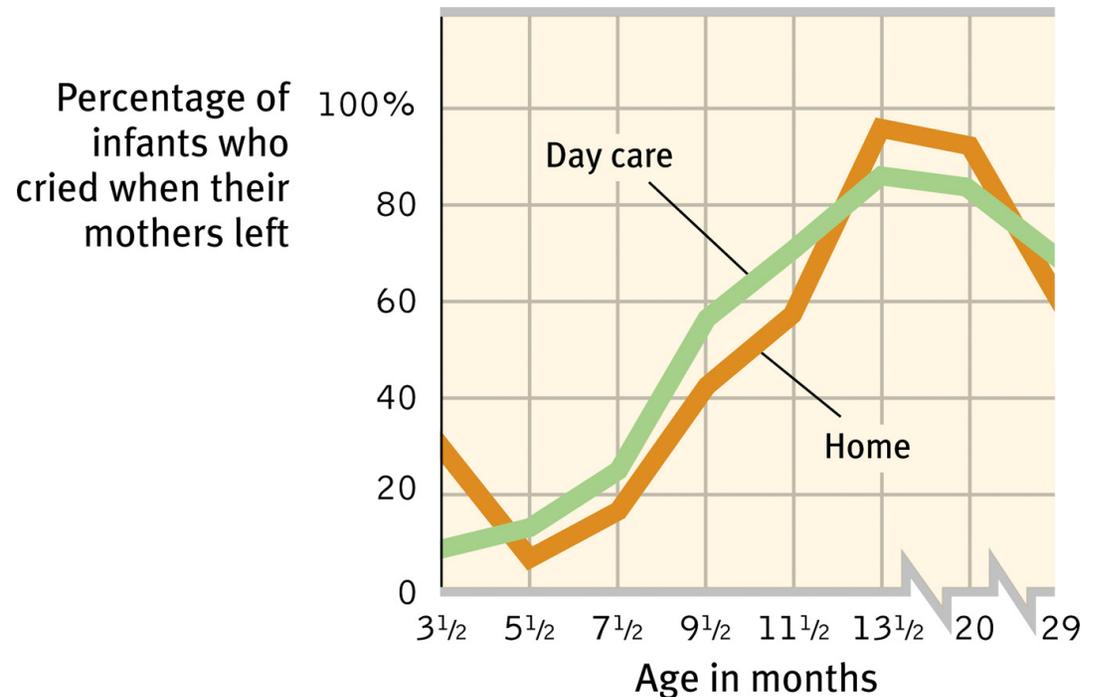


Forms of Attachment

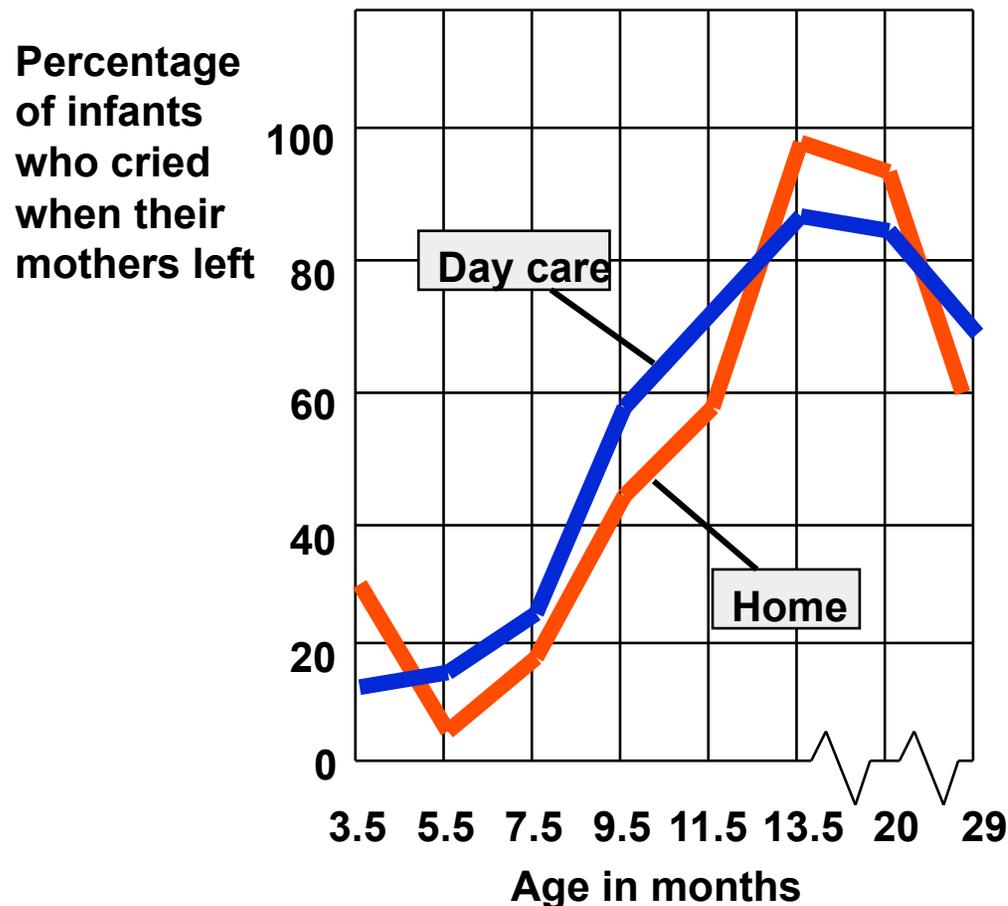
- **Avoidantly attached**— a form of insecure attachment in which child avoids mother and acts coldly to her
- **Anxious resistant attachment**
a form of insecure attachment where the child remains close to mother and remains distressed despite her attempts to comfort

Separation Anxiety

Separation anxiety peaks at 13 months of age, regardless of whether the children are home or sent to day care or sent to day care.



Social Development



- Groups of infants left by their mothers in a unfamiliar room (from Kagan, 1976).

Effects of Attachment

Secure Attachment Predicts Social Competence

- Securely attached infants became functioning more confidently than other toddlers.
- They were more enthusiastic and persistent; more outgoing and more persistent.

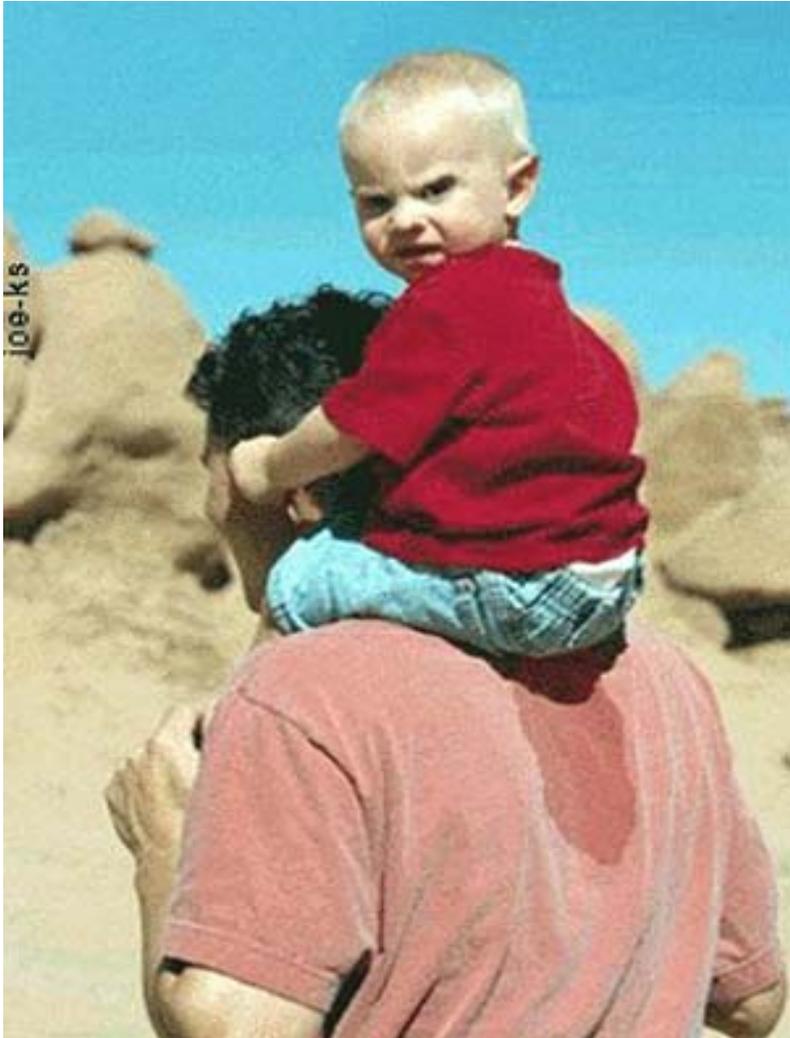
Deprivation of Attachment

What happens when circumstances prevent a child from forming attachments?

In such circumstances children become:

1. Withdrawn
2. Frightened
3. Unable to develop speech

Prolonged Deprivation



If parental or caregiving support is deprived for an extended period of time, children are at risk for physical, psychological, and social problems, including alterations in brain serotonin levels.

Day Care and Attachment

Quality day care that consists of responsive adults interacting with children **does not** harm children's thinking and language skills.

However, some studies suggest that extensive time in day care can increase aggressiveness and defiance in children.



Disruption of Attachment

Day Care

Is day care bad for children-does it disrupt children's attachment to their parents?

For high quality day care programs, the answer is no.

Parent Care

Little quality time is received by children from parents, whether they are employed or not. One national survey revealed that employed mothers averaged only

11 minutes and dads **8 minutes** per weekday in child-centered activities.

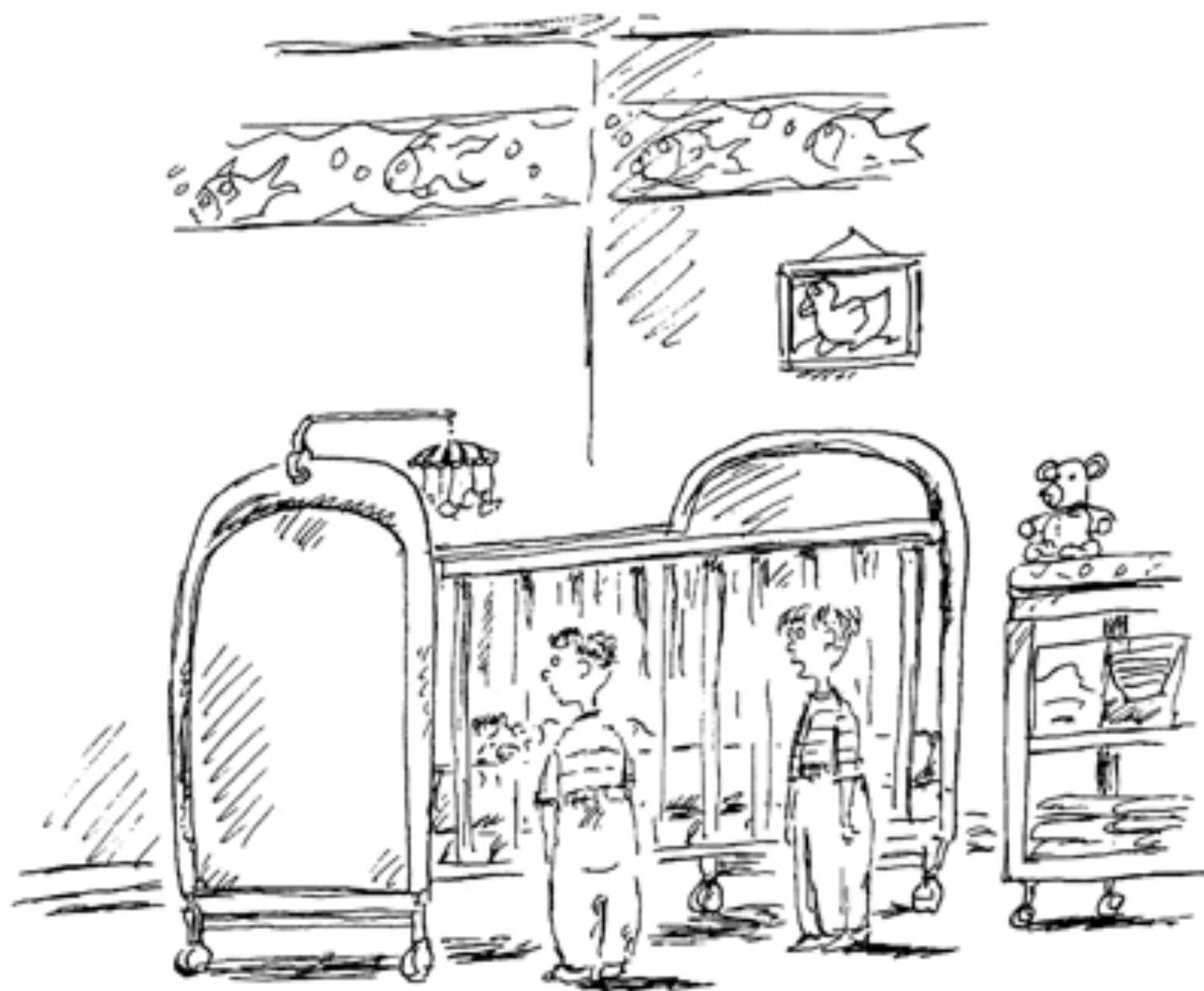
Homemaker mothers who took the same survey spent **30 minutes per day**.

What all children need is **a consistent, warm relationship with people whom they can learn to trust.**

Social Development

Attachment Differences: Temperament and Parenting

- Temperament
 - Easy, difficult & slow to warm up babies
- Erikson's Basic trust vs. Mistrust



B. S. A. L. L. O. R.

"Oh, he's cute, all right, but he's got the temperament of a car alarm."

Temperament



- Emotional reactivity and intensity
 - “Easy” (adaptable, positive mood, regular habits)
 - “Slow to warm up” (low activity, somewhat slow to adapt, generally withdraw from new situations)
 - “Difficult” (intense emotions, irritable, cry frequently)
 - “Average” (unable to classify) — 1/3 of all children

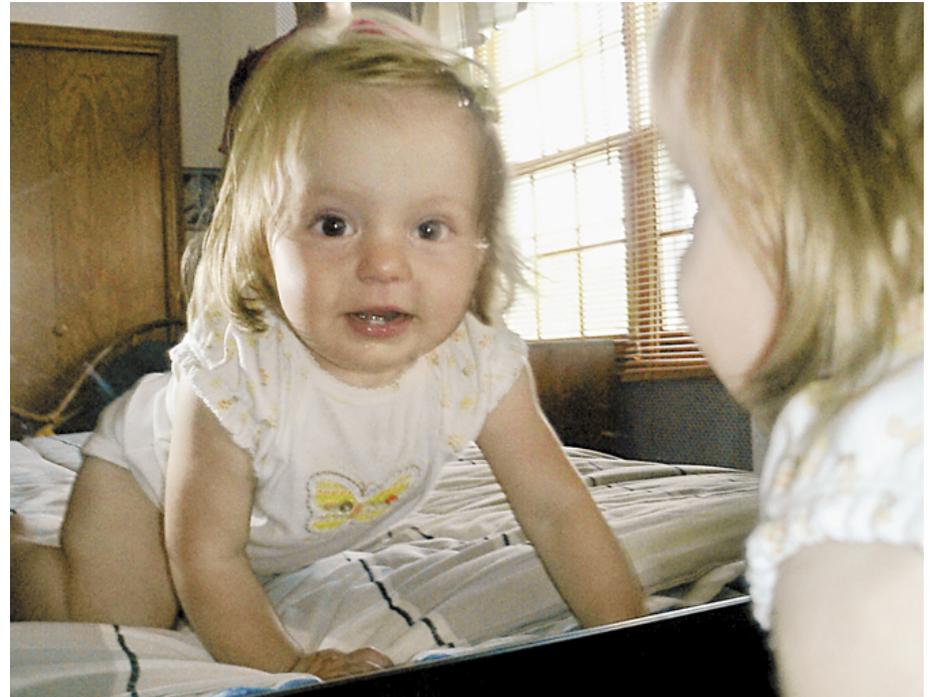
Social Development

- **Basic Trust (Erik Erikson)**
 - a sense that the world is predictable and trustworthy
 - said to be formed during infancy by appropriate experiences with responsive caregivers

Social Development

Self-Concept

- Self-concept
 - Self-esteem
 - Self-awareness



Self-Concept

Self-concept, *a sense of one's identity and personal worth*, emerges gradually

around

6 months. Around

15-18 months, children can recognize themselves in the mirror.

By 8-10 years, their self-image is stable.



Social Development

Parenting Styles

- Parenting styles (Baumrind)
 - **Authoritarian**
 - **Permissive**
 - **Authoritative**
- Correlation versus causation



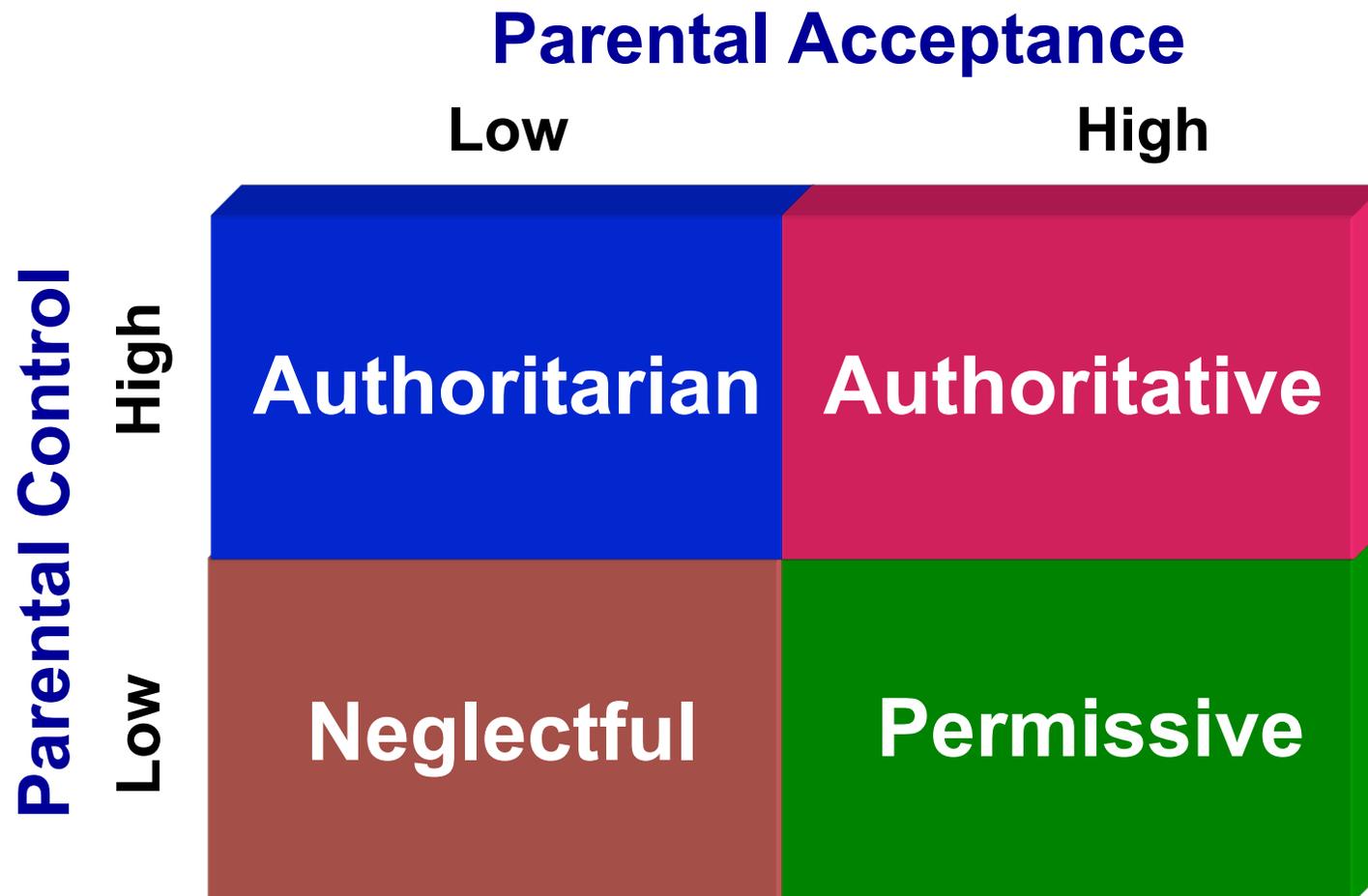
Child-Rearing Practices

Practice	Description
Authoritarian	Parents impose rules and expect obedience.
Permissive	Parents submit to children's demands.
Authoritative	Parents are demanding but responsive to their children.

Social Development: Child-Rearing Practices

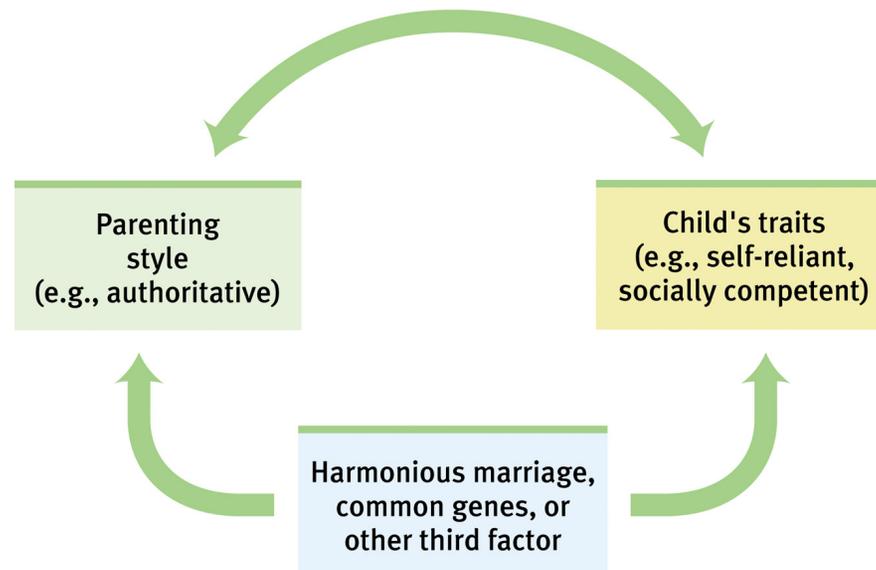
- **Authoritarian**
 - parents impose rules and expect obedience
 - “Don’t interrupt.” “Why? Because I said so.”
- **Permissive**
 - submit to children’s desires, make few demands, use little punishment
- **Authoritative**
 - both demanding and responsive
 - set rules, but explain reasons and encourage open discussion
- **Rejecting-Neglecting**
 - completely uninvolved; disengaged. Expect little and invest little

Social Development: Child-Rearing Practices



Authoritative Parenting

Authoritative parenting correlates with social competence — other factors like common genes may lead to an easy-going temperament and may invoke an authoritative parenting style.



Social Development

Culture and Child-Rearing

- Differences in child-rearing from culture to culture



Gender Development

- Gender
 - Influences on social development



Gender Development

Gender Similarities and Differences

- Gender and aggression

- Aggression

- Physical versus relational aggression
- Gender and social power
- Gender and social connectedness

Gender Development

The Nature of Gender

- Sex chromosomes
 - X chromosome
 - Y chromosome
- Sex hormones
 - Testosterone



Gender Development

The Nurture of Gender

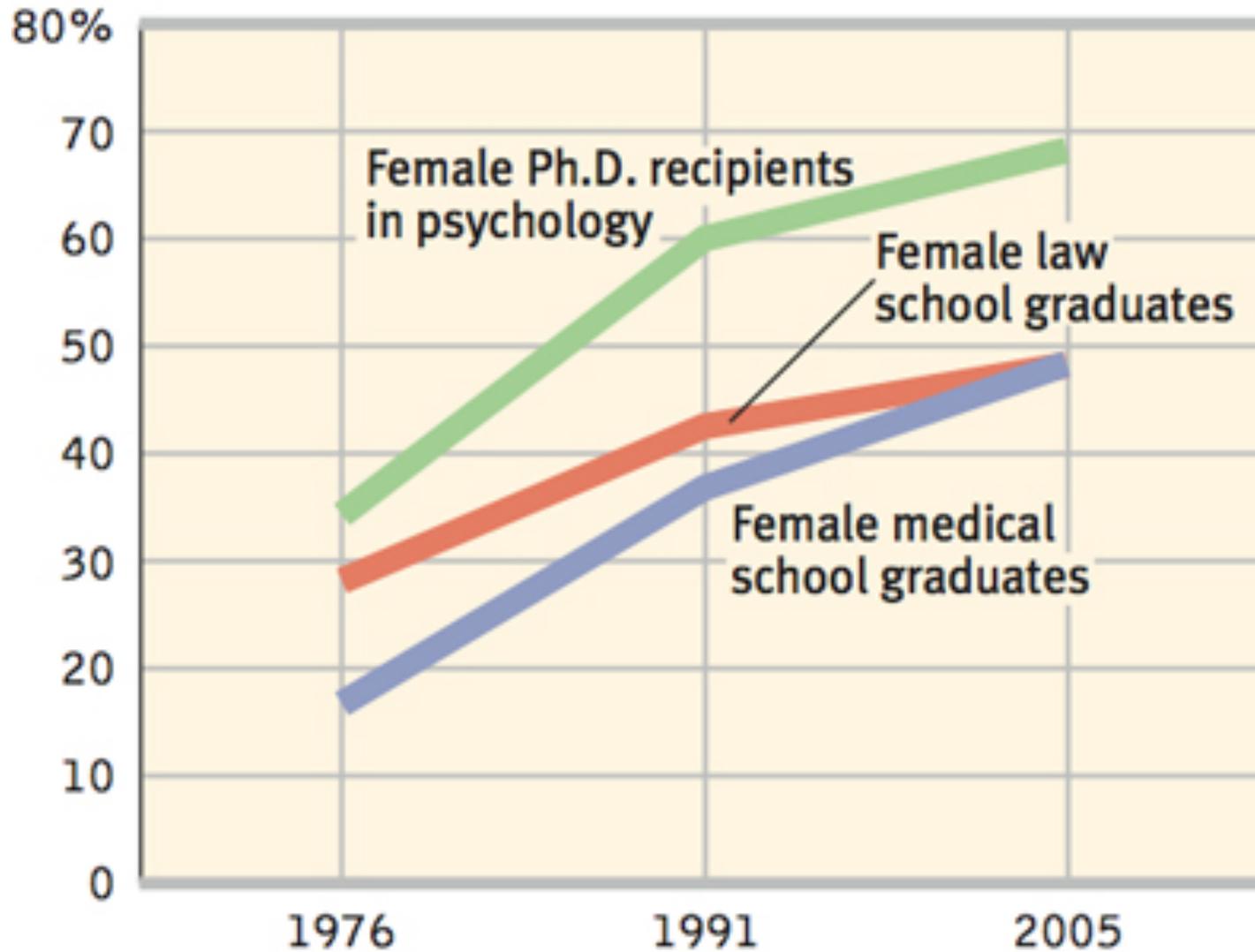
- Gender Role
 - Role
- Gender and child-rearing
 - Gender identity
 - Gender typing
- Social learning theory



"How is it gendered?"

Gender Development

The Nurture of Gender



Parents and Peers

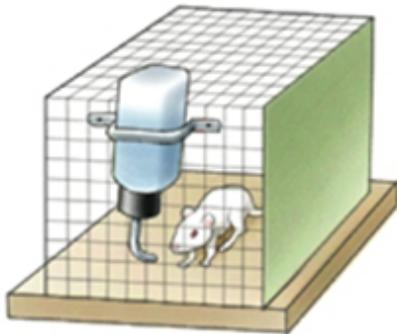


Parents and Early Experiences

- Experience and brain development

Parents and Early Experiences

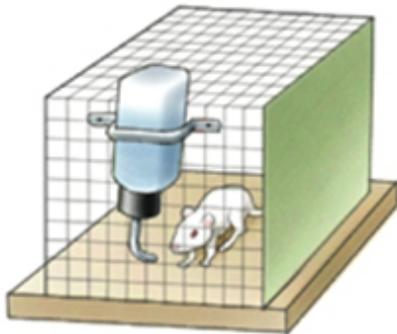
- Experience and brain development



**Impoverished
environment**

Parents and Early Experiences

- Experience and brain development



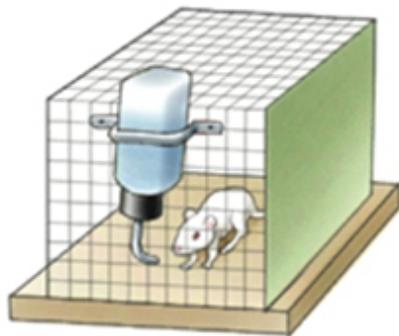
Impoverished environment



Impoverished rat brain cell

Parents and Early Experiences

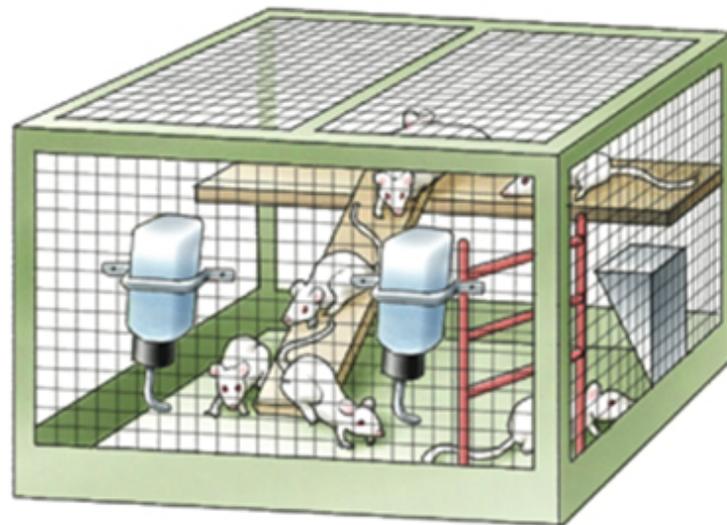
- Experience and brain development



Impoverished environment



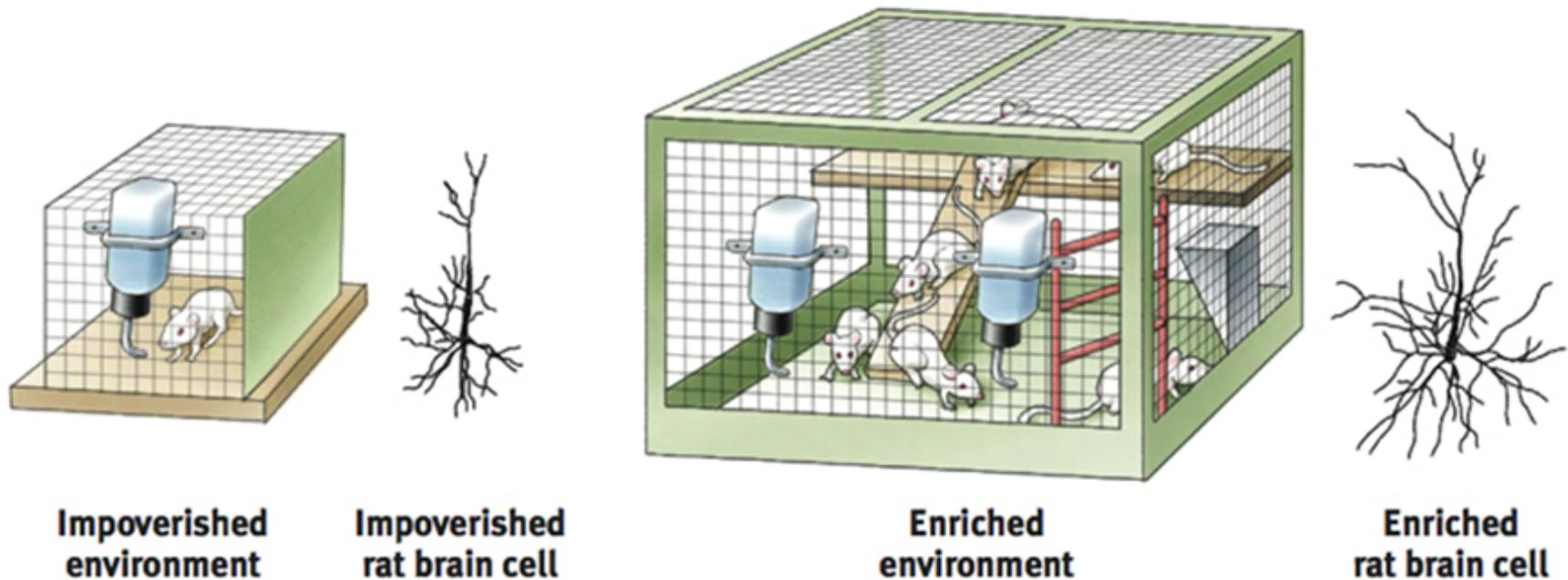
Impoverished rat brain cell



Enriched environment

Parents and Early Experiences

- Experience and brain development



Parents and Early Experiences

- How much credit (or blame) do parents deserve?



B. Smaller

"So I blame you for everything—whose fault is that?"

Peer Influence

- Peer influence



Adolescence



Introduction

- Adolescence



Physical Development

- Puberty
 - Primary sexual characteristics
 - menarche
 - Secondary sexual characteristics
 - Timing of sexual characteristics

Adolescence

- Adolescence

- the transition period from childhood to adulthood
- extending from puberty to independence



Adolescence

Many psychologists once believed that our traits were set during childhood. Today psychologists believe that development is a lifelong process.

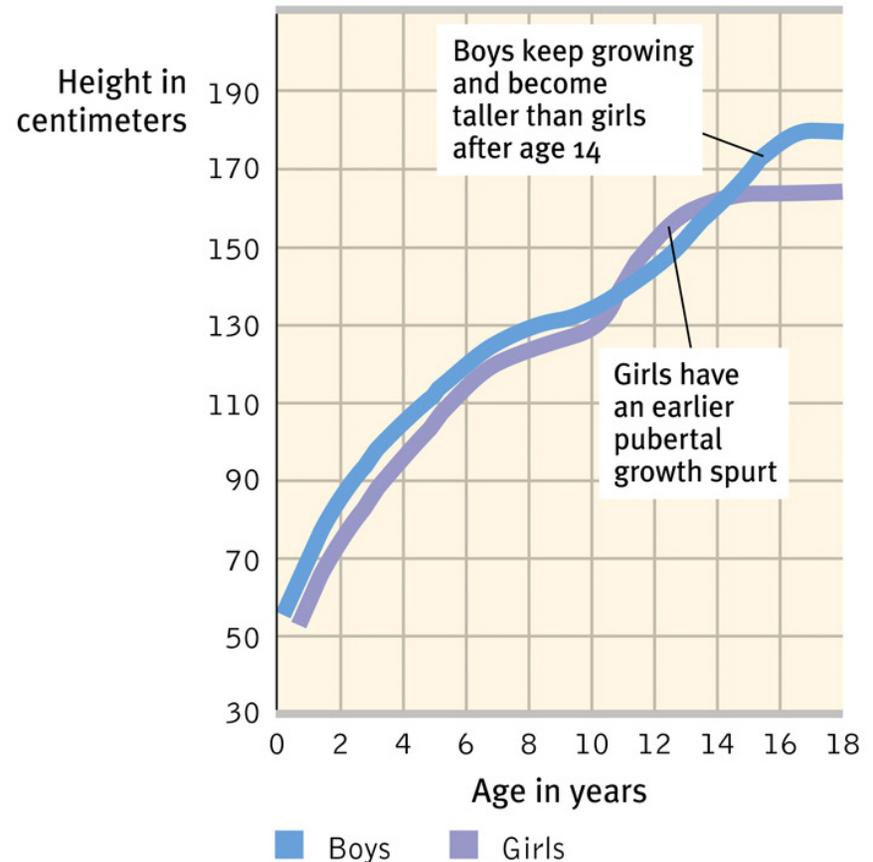
Adolescence is defined as a *life between childhood and adulthood.*



AP Photo/ Jeff Chiu

Physical Development

Adolescence begins with **puberty** (*the period of sexual maturation when a person becomes capable of reproduction*). Puberty occurs earlier in females (11 years) than males (13 years). Thus height in females increases before males.



Primary Sexual Characteristics

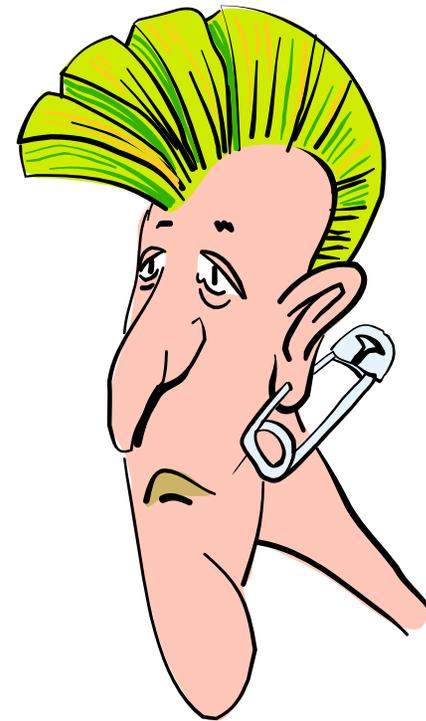
During puberty **primary sexual characteristics** — the reproductive organs and external genitalia — develop rapidly.



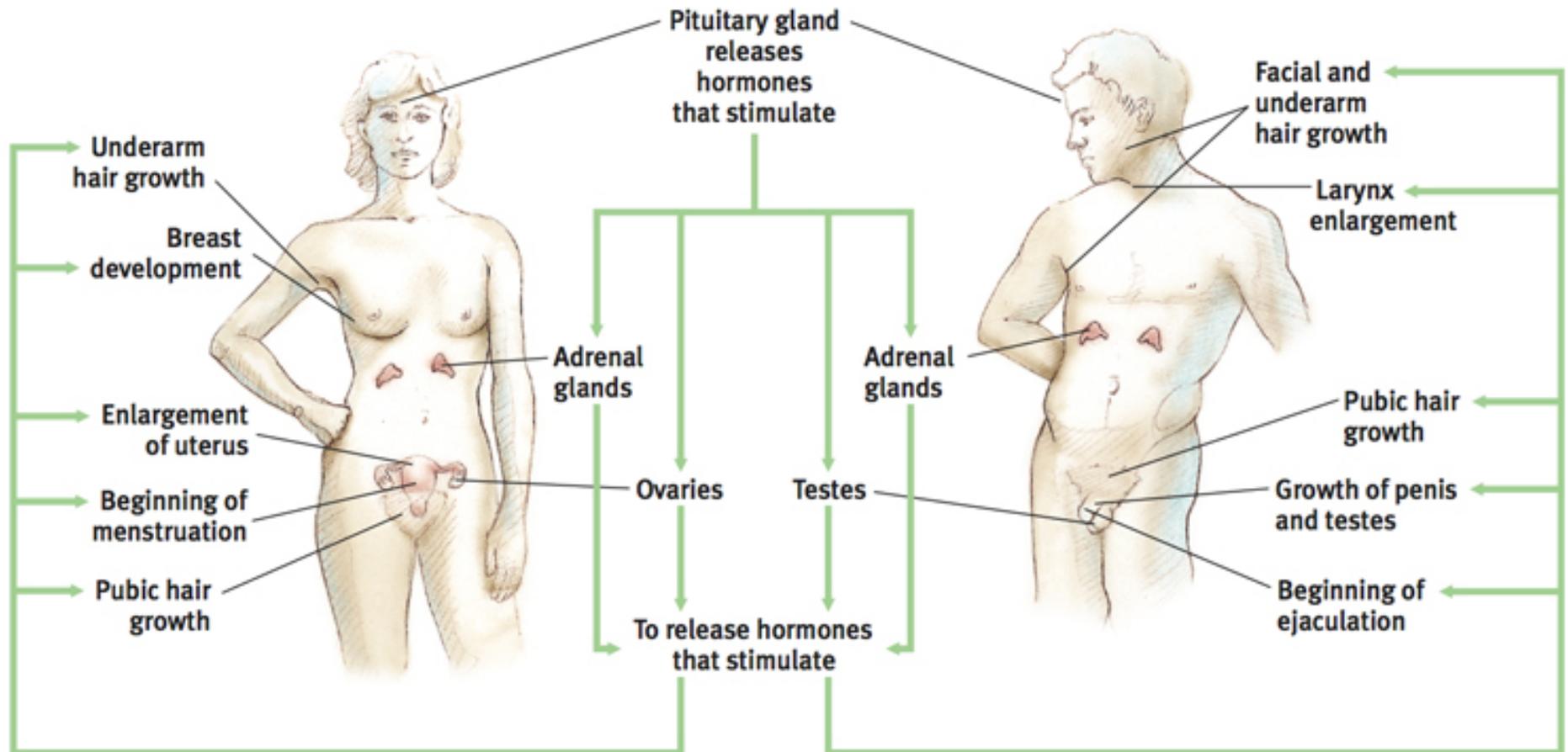
Ellen Senisi/ The Image Works

Adolescence

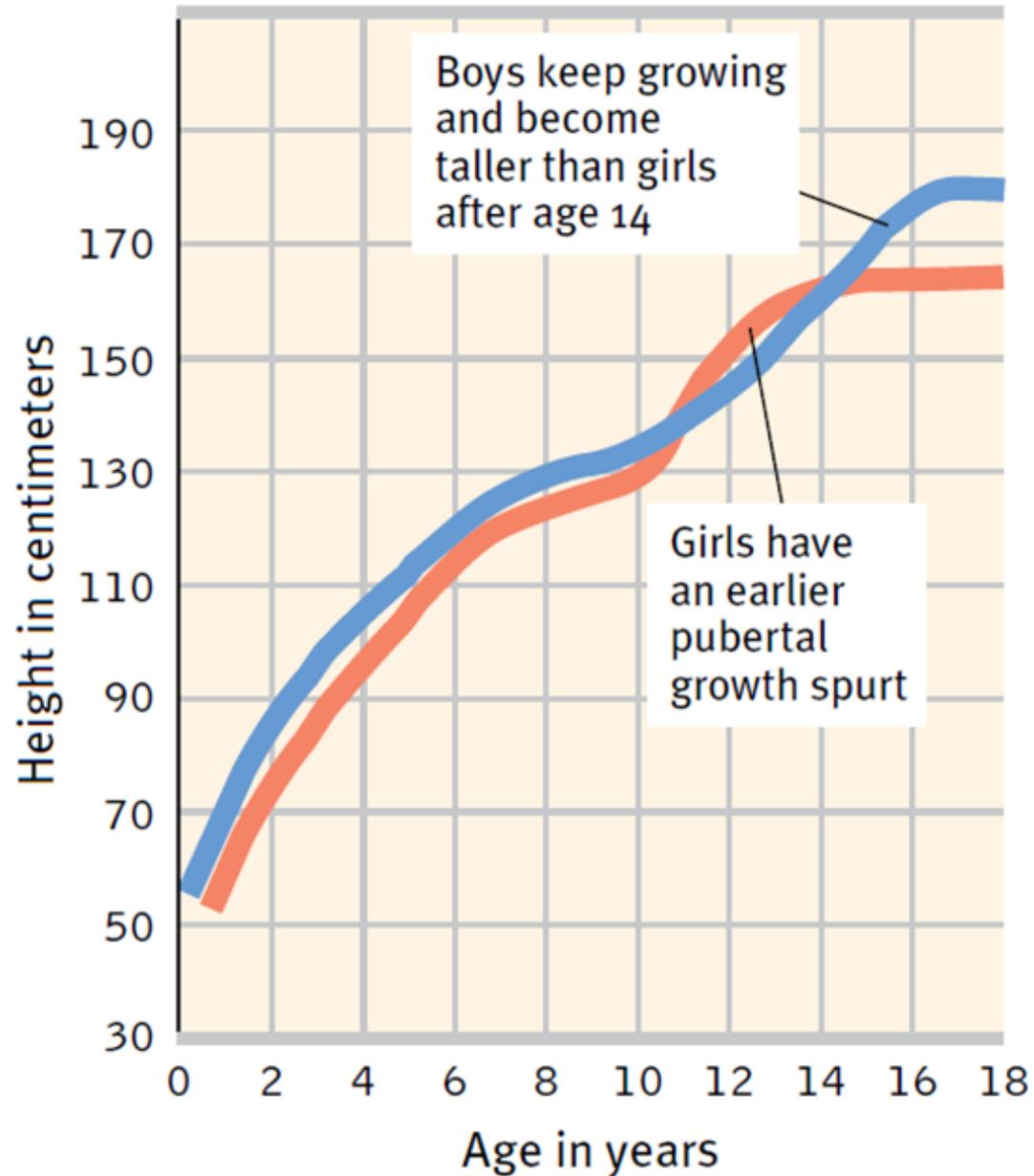
- **Primary Sex Characteristics**
 - body structures that make sexual reproduction possible
 - ovaries--female
 - testes--male
 - external genitalia
- **Secondary Sex Characteristics**
 - nonreproductive sexual characteristics
 - female--breast and hips
 - male--voice quality and body hair
- **Menarche (meh-NAR-key)**
 - first menstrual period



Physical Development



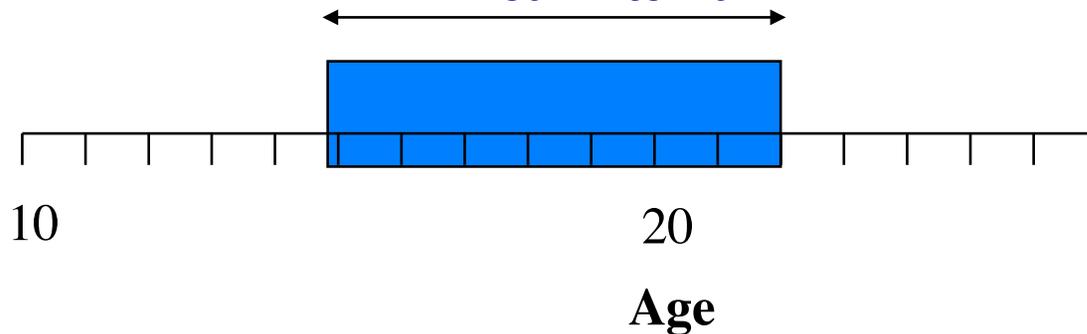
Physical Development



Adolescence

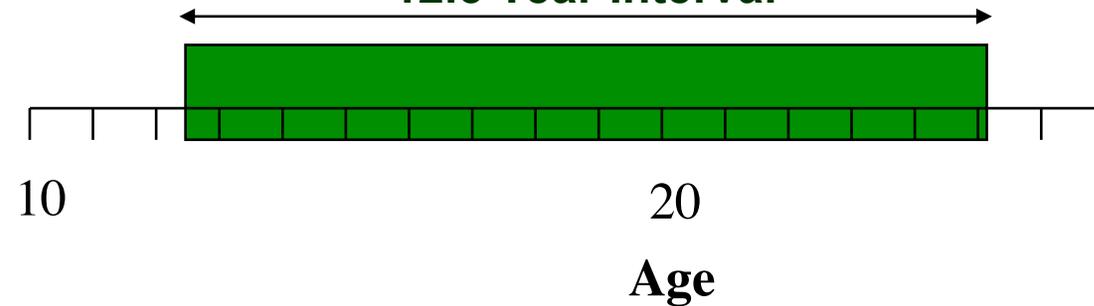
1890, Women

7.2 Year Interval



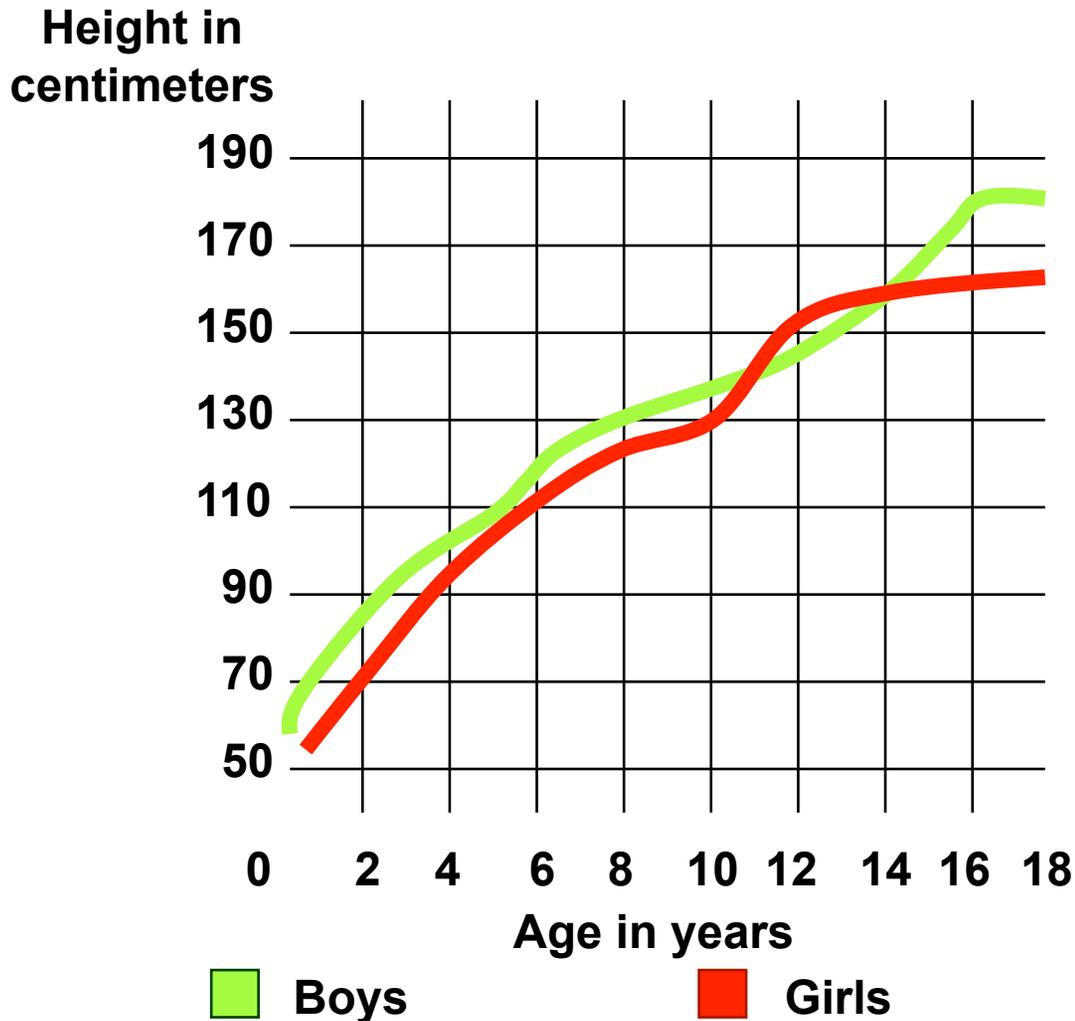
1995, Women

12.5 Year Interval



- In the 1890's the average interval between a woman's menarche and marriage was about 7 years; now it is over 12 years

Adolescence



- Throughout childhood, boys and girls are similar in height. At puberty, girls surge ahead briefly, but then boys overtake them at about age 14.

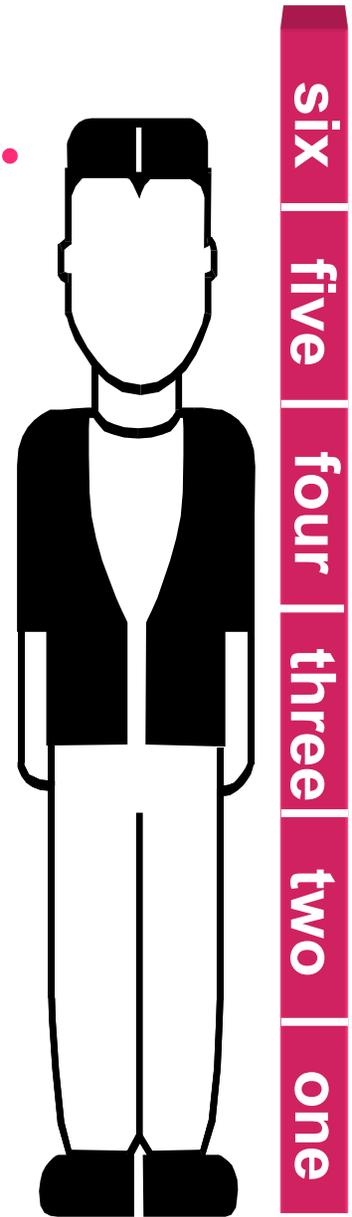
Growth Changes

.....

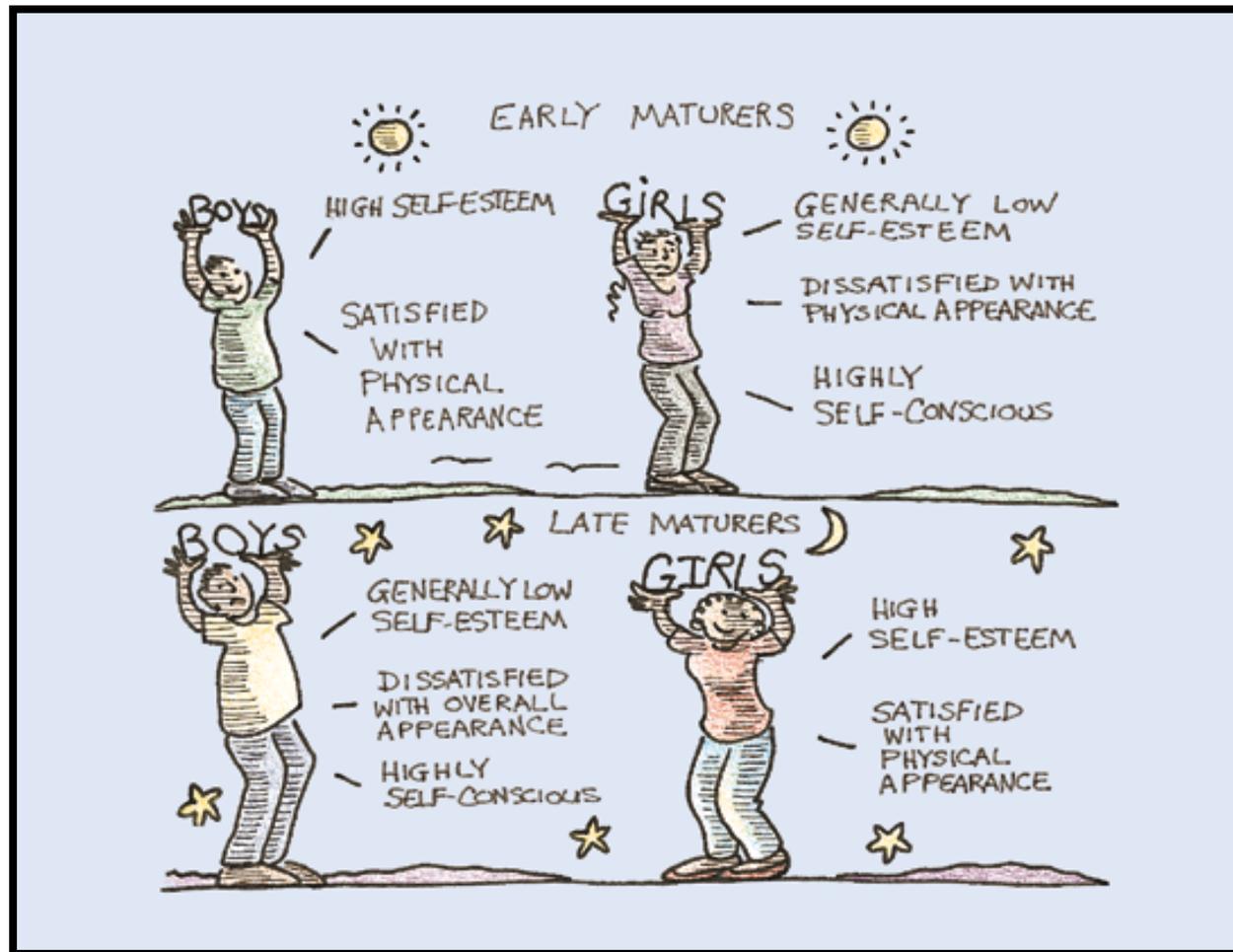
There is rapid growth at this time called a growth spurt. Unfortunately, arms, hands, and legs don't all grow in proportion. Young people may feel clumsy because of the uneven growth.

Growth spurts occur earlier in adolescence for girls than for boys. Boys usually exhibit this growth between the ages of 11-15 years.

Girls will grow as much as three inches while boys grow four inches during a growth spurt.



Early and Late Maturation Changes

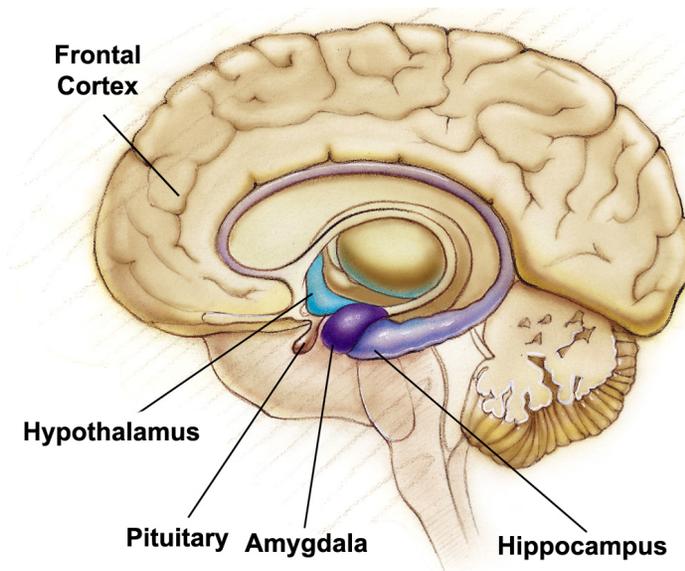


Brain Development

Until puberty, neurons increase their connections. However, at adolescence, selective pruning of the neurons begins. Unused neuronal connections are lost to make other pathways more efficient.

Frontal Cortex

During adolescence, neurons in the frontal cortex grow myelin, which speeds up nerve conduction. The frontal cortex lags behind the limbic system's development. Hormonal surges and the limbic system may explain occasional teen impulsiveness.



Cognitive Development

Adolescents' ability to reason gives them a new level of social awareness. In particular, they may think about the following:

1. Their own thinking.
2. What others are thinking.
3. What others are thinking about them.
4. How ideals can be reached. They criticize society, parents, and even themselves.

Cognitive Development

Developing Reasoning Power

- Piaget's formal operations



Cognitive Development

Developing Morality

- Lawrence Kohlberg
 - Preconventional morality
 - Conventional morality
 - Postconventional morality
- Moral feeling
- Moral action



ERIKSON'S STAGES OF PSYCHOSOCIAL DEVELOPMENT

Stage (approximate age)	Issue	Description of Task
Infancy (to 1 year)	Trust vs. mistrust	If needs are dependably met, infants develop a sense of basic trust.
Toddlerhood (1 to 3 years)	Autonomy vs. shame and doubt	Toddlers learn to exercise their will and do things for themselves, or they doubt their abilities.
Preschool (3 to 6 years)	Initiative vs. guilt	Preschoolers learn to initiate tasks and carry out plans, or they feel guilty about their efforts to be independent.
Elementary school (6 years to puberty)	Industry vs. inferiority	Children learn the pleasure of applying themselves to tasks, or they feel inferior.
Adolescence (teen years into 20s)	Identity vs. role confusion	Teenagers work at refining a sense of self by testing roles and then integrating them to form a single identity, or they become confused about who they are.

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Young adulthood (20s to early 40s)	Intimacy vs. isolation	Young adults struggle to form close relationships and to gain the capacity for intimate love, or they feel socially isolated.

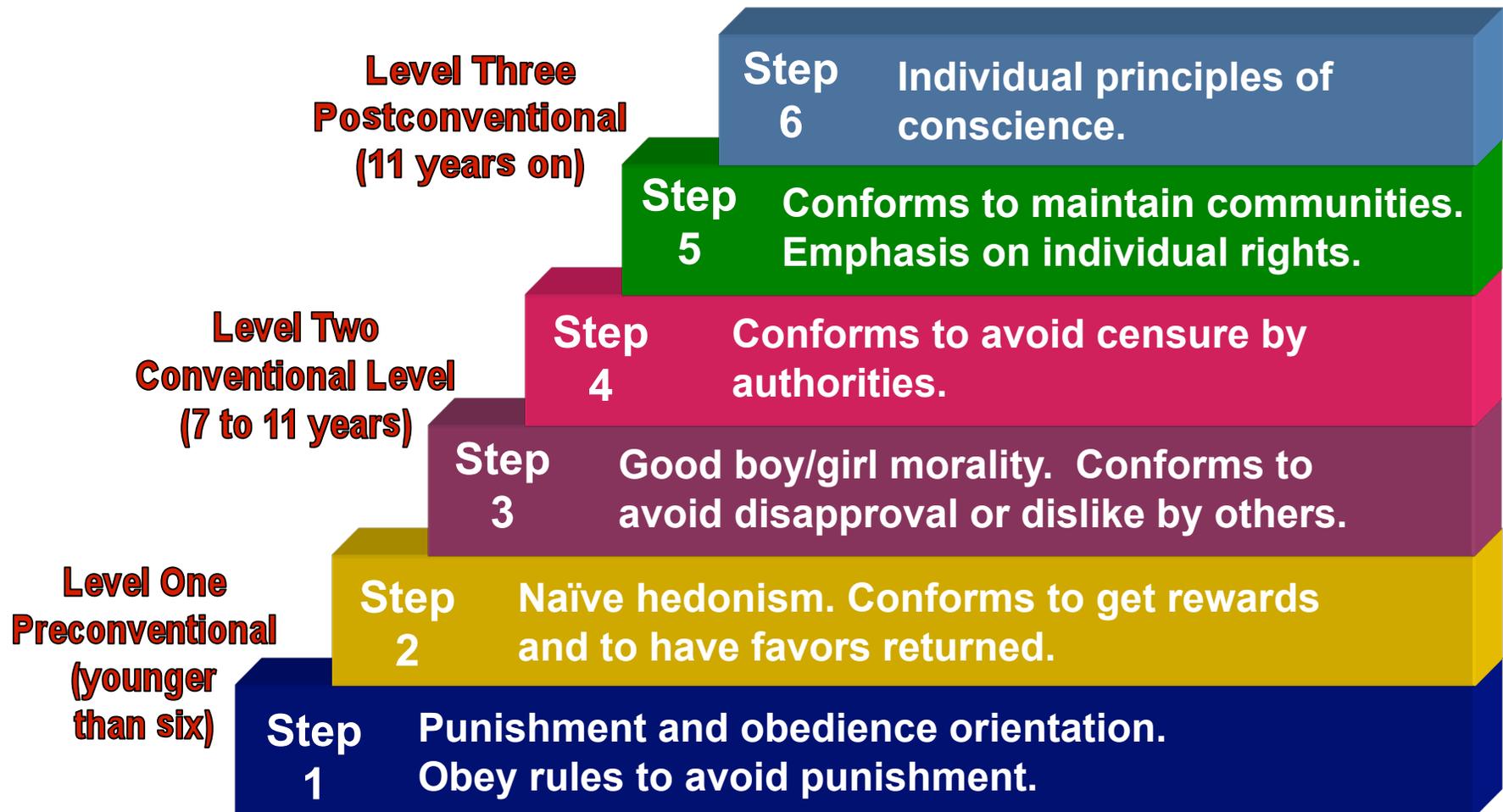
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Middle adulthood (40s to 60s)	Generativity vs. stagnation	In middle age, people discover a sense of contributing to the world, usually through family and work, or they may feel a lack of purpose.
Late adulthood (late 60s and up)	Integrity vs. despair	Reflecting on his or her life, an older adult may feel a sense of satisfaction or failure.

Kohlberg's Theory of Moral Development



Social Development

- Forming an identity
 - [Identity](#)
 - [Social identity](#)
 - [Intimacy](#)
- Parent and peer relationships

Emerging Adulthood

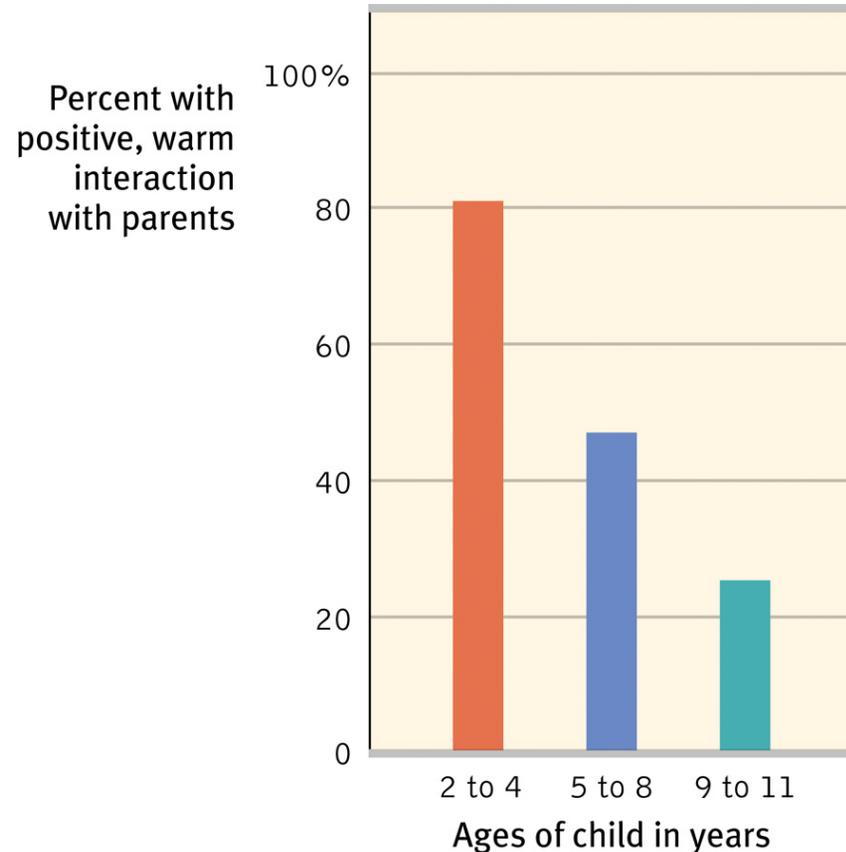
- Emerging adulthood



"When I was your age, I was an adult."

Parent and Peer Influence

Although teens become independent of their parents as they grow older, they nevertheless relate to their parents on a number of things, including religiosity and career choices. Peer approval and relationships are also very important.



Adolescence: Social Development

- **Separating from parents**— as adolescents seek to form their own identities, they begin to separate themselves from their parents. By adolescence, arguments occur more often, usually over mundane things. From early to late adolescence, parent adolescent conflicts become less frequent but temporarily more intense.
- **Empty-Nest Syndrome?**



Adolescence:

Social Development

- **Carol Gilligan** – Gilligan believes females differ from males both in being less concerned viewing themselves as separate individuals and in being more concerned with making connections.
- Males=individualistic
- Females=relationship-oriented

Adulthood



Physical Development

- Physical changes in middle adulthood
 - [Menopause](#)
- Physical changes in later life
 - Life expectancy
 - Sensory abilities
 - Health
 - Dementia and Alzheimer's Disease

Cognitive Development

Aging and Memory

- Recall versus recognition
- Prospective memory



Cognitive Development

Aging and Intelligence

- Cross-Sectional Evidence

- Cross-sectional study

- Longitudinal Evidence

- Longitudinal study

- It all depends

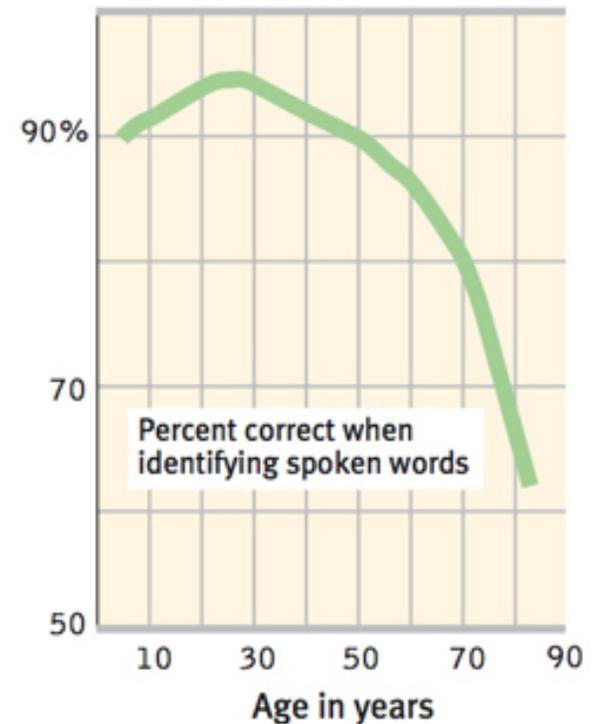
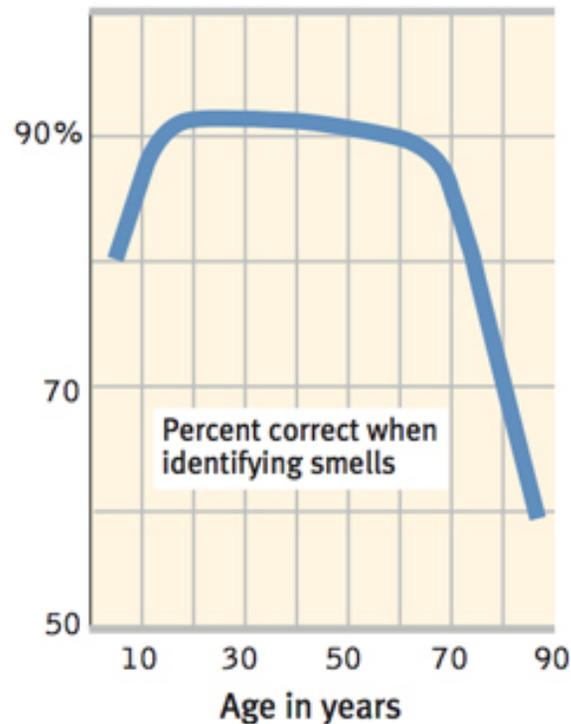
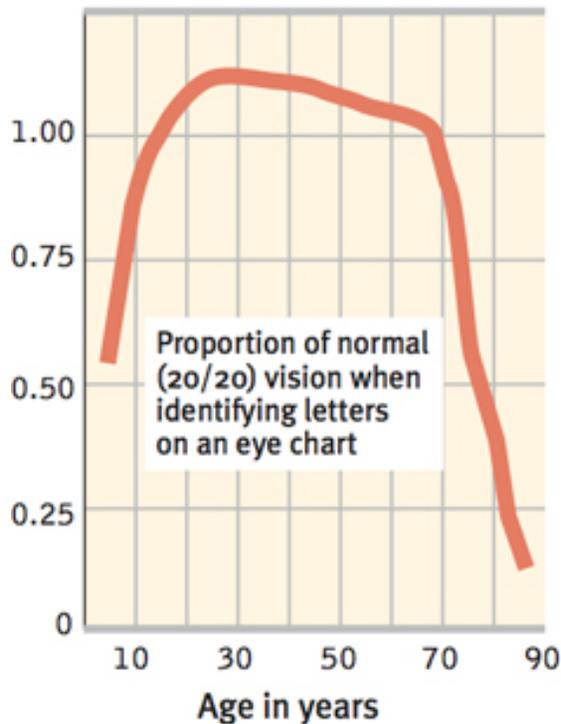
- Crystallized intelligence

- Fluid intelligence

Social Development

Adulthood's Ages and Stages

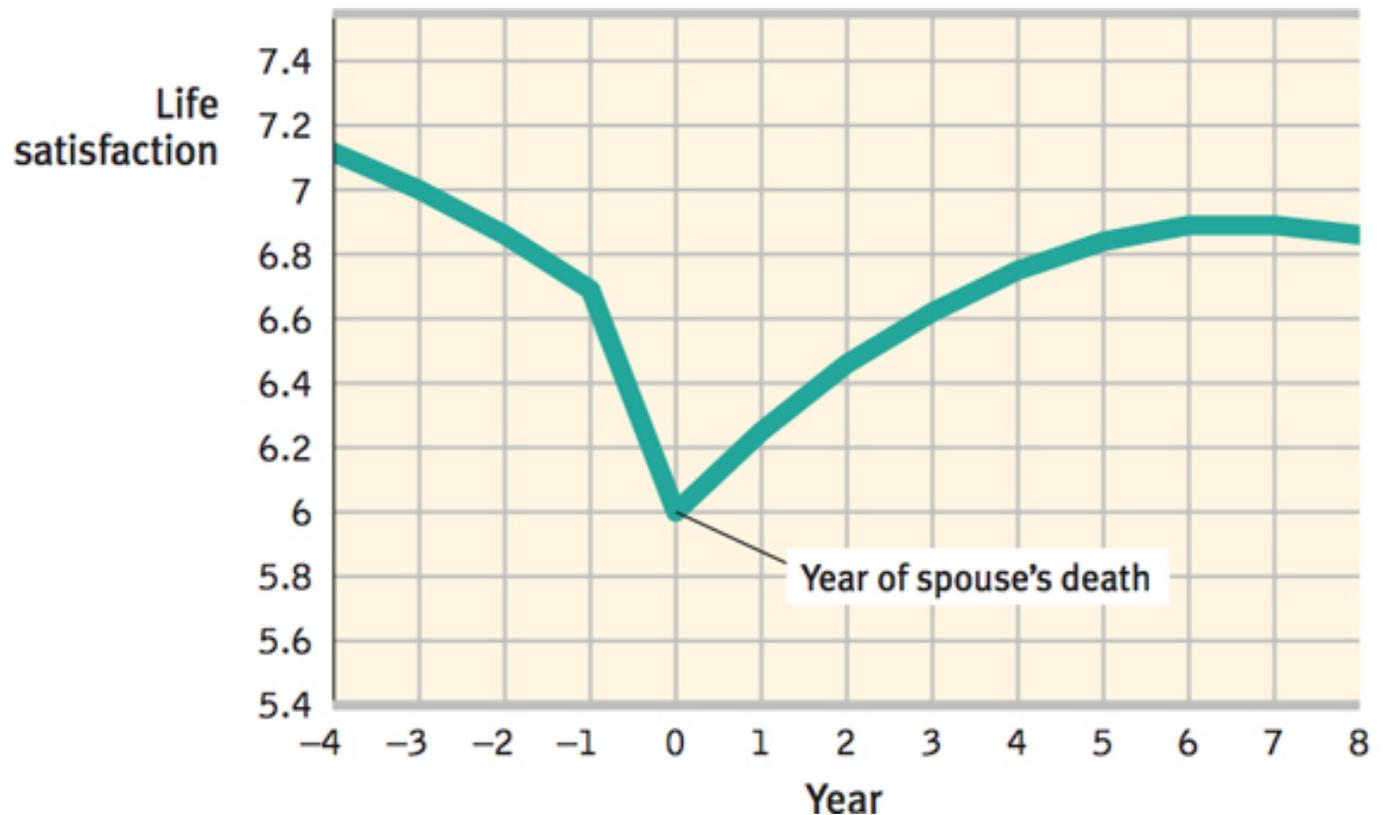
- Midlife transition
- Social clock



Social Development

Adulthood Commitments

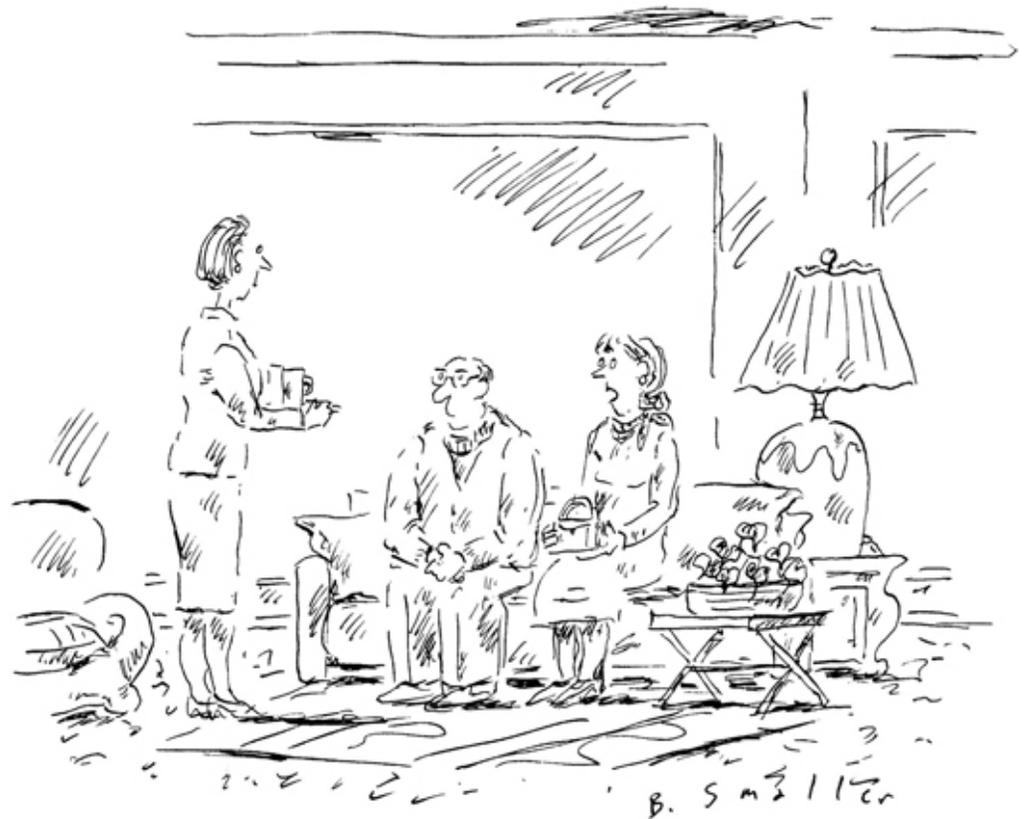
- Love
- Work



Social Development

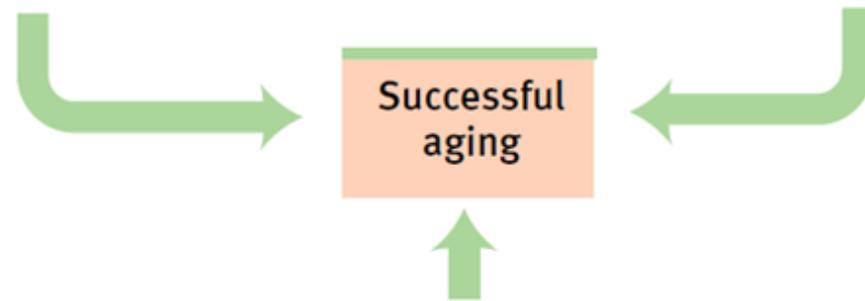
Well-Being Across the Life Span

- Well-being across the life span
- Death and dying

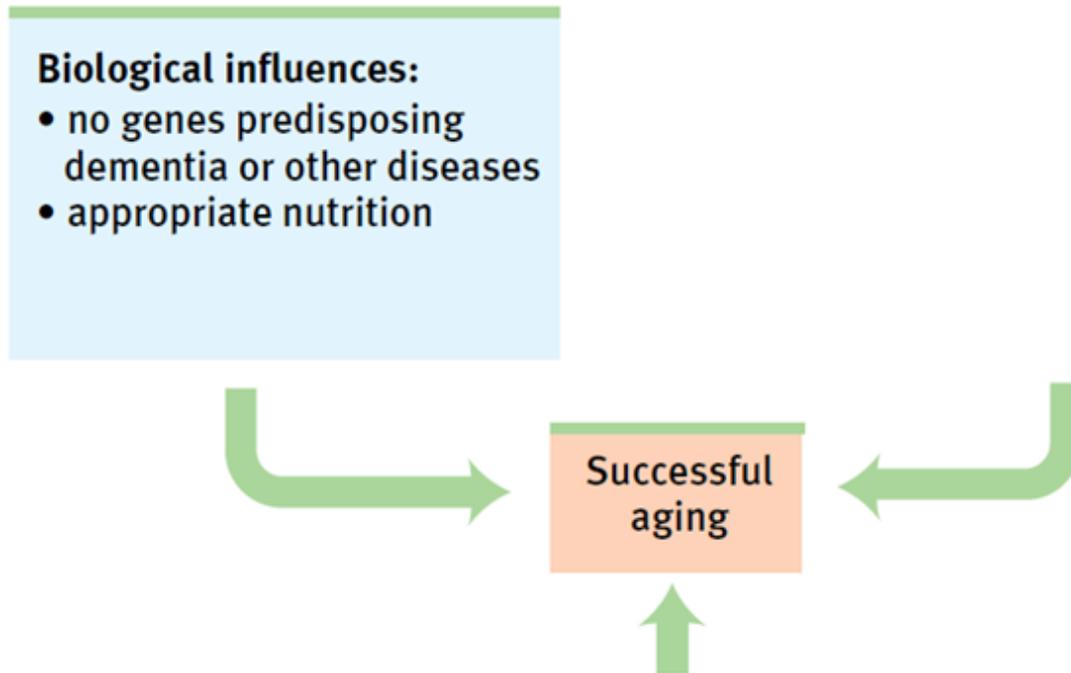


"Donald is such a fatalist—he's convinced he's going to grow old and die."

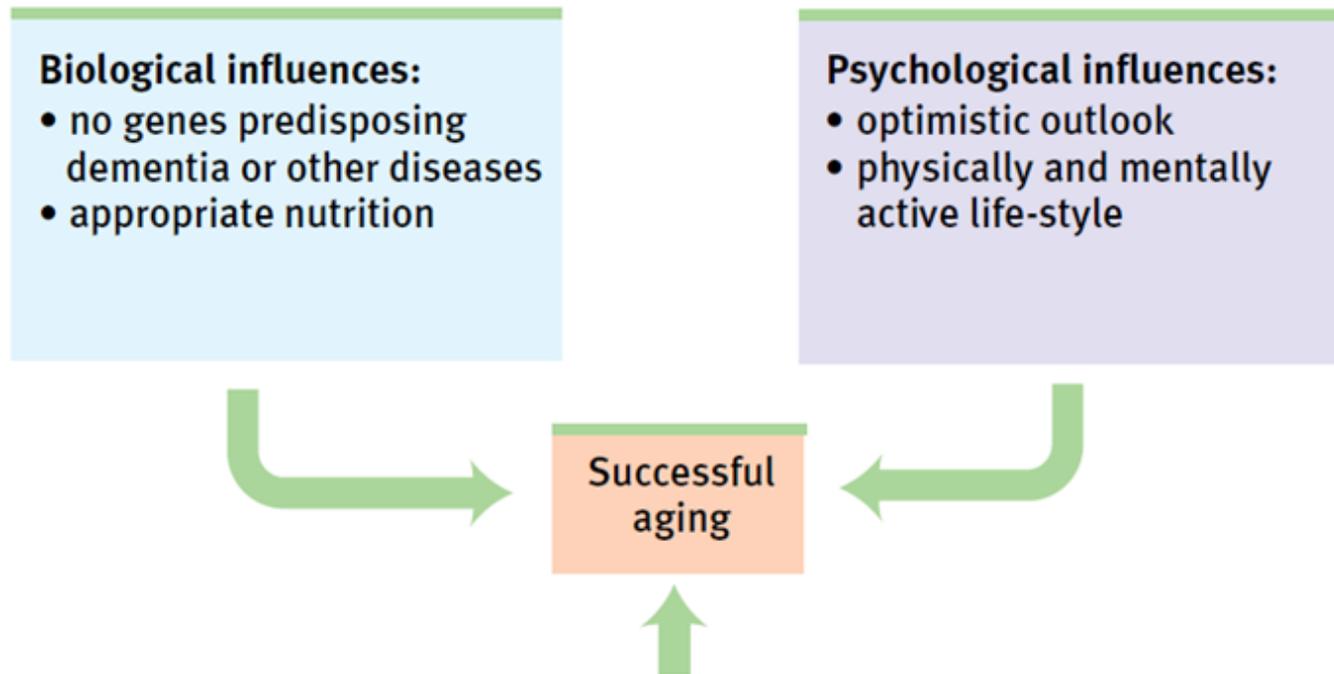
Biopsychosocial Influences on Successful Aging



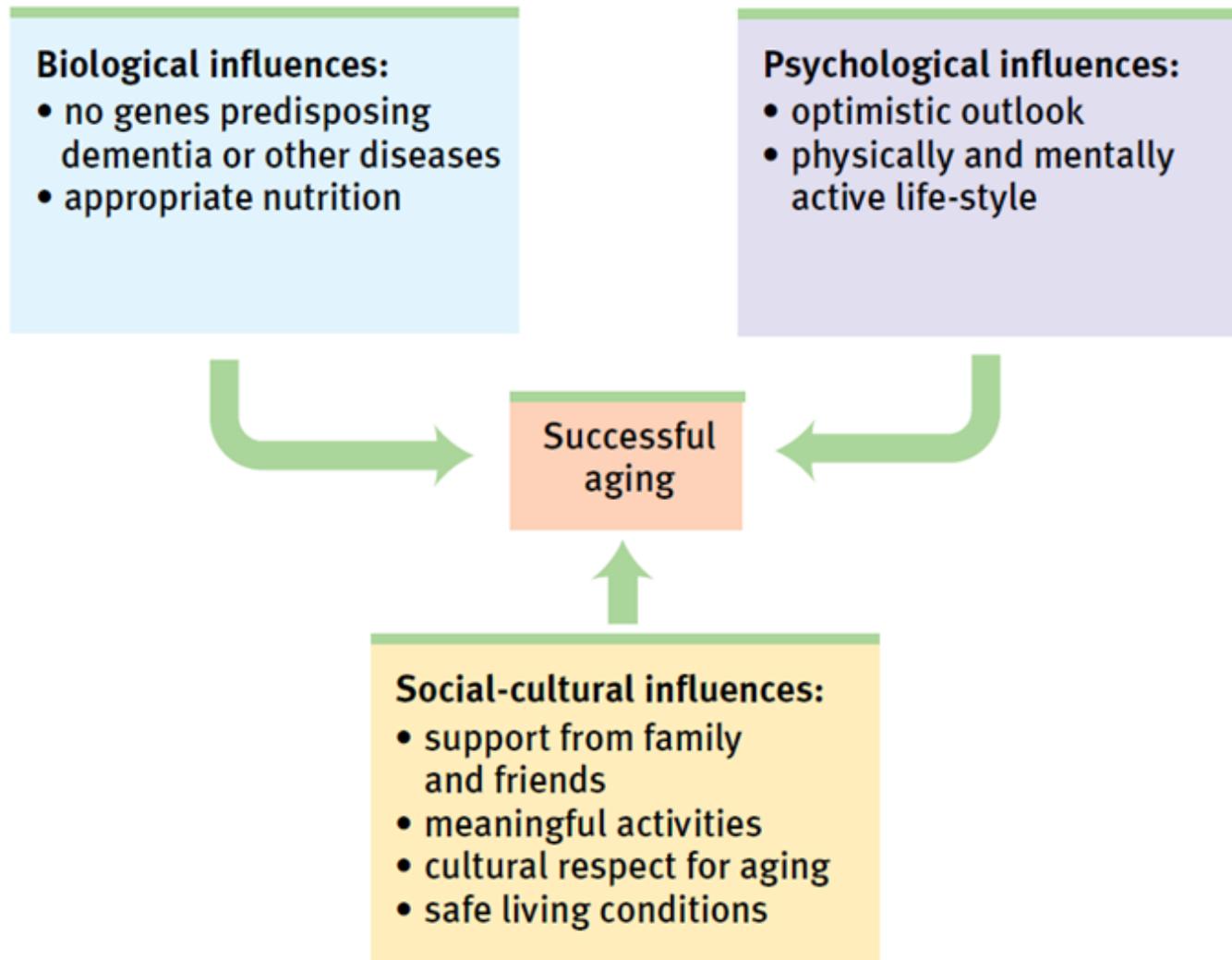
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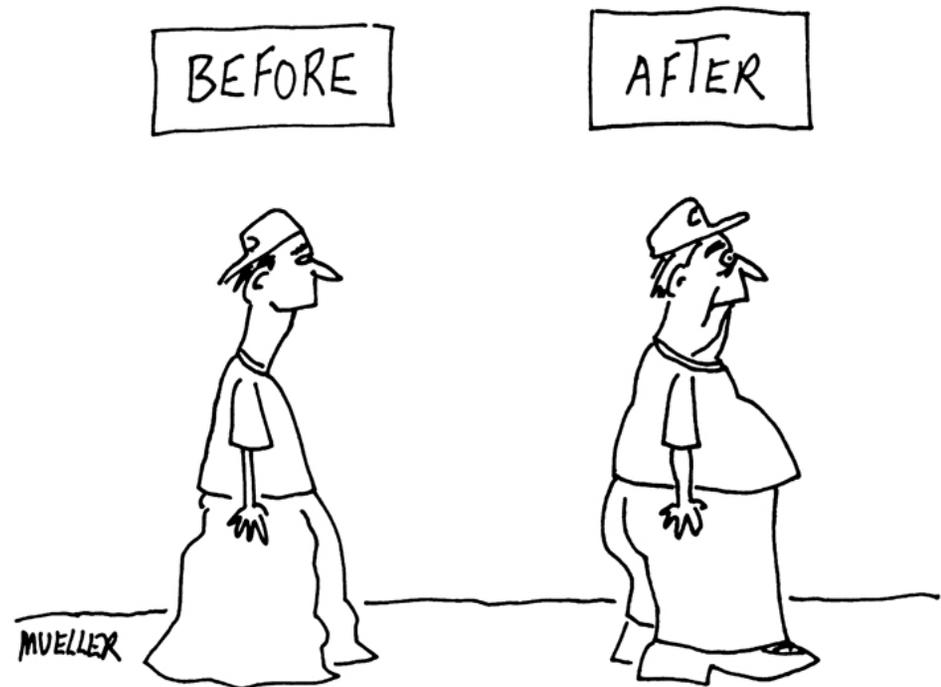


Reflections on Two Major Developmental Issues

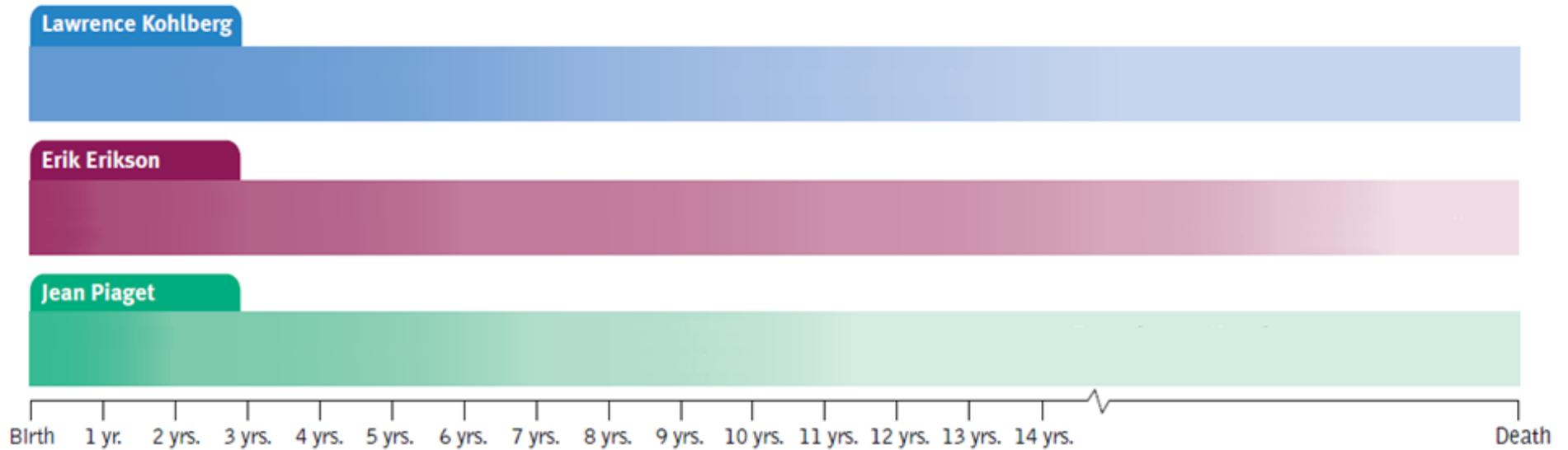


Three Major Developmental Issues

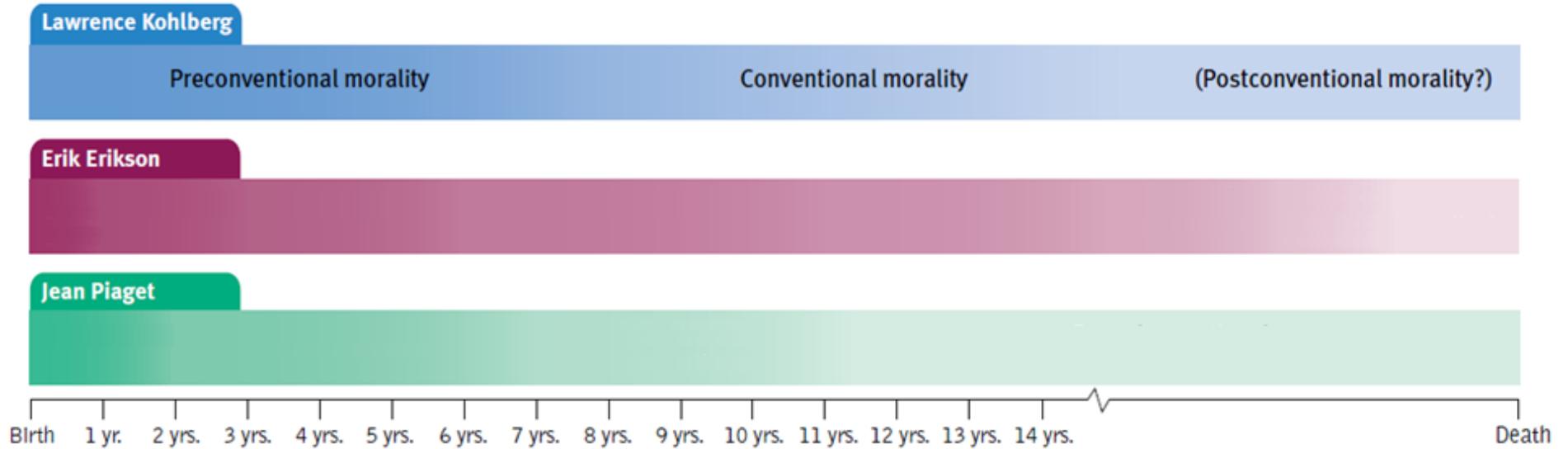
- Nature versus nurture
- Continuity and stages
- Stability and change



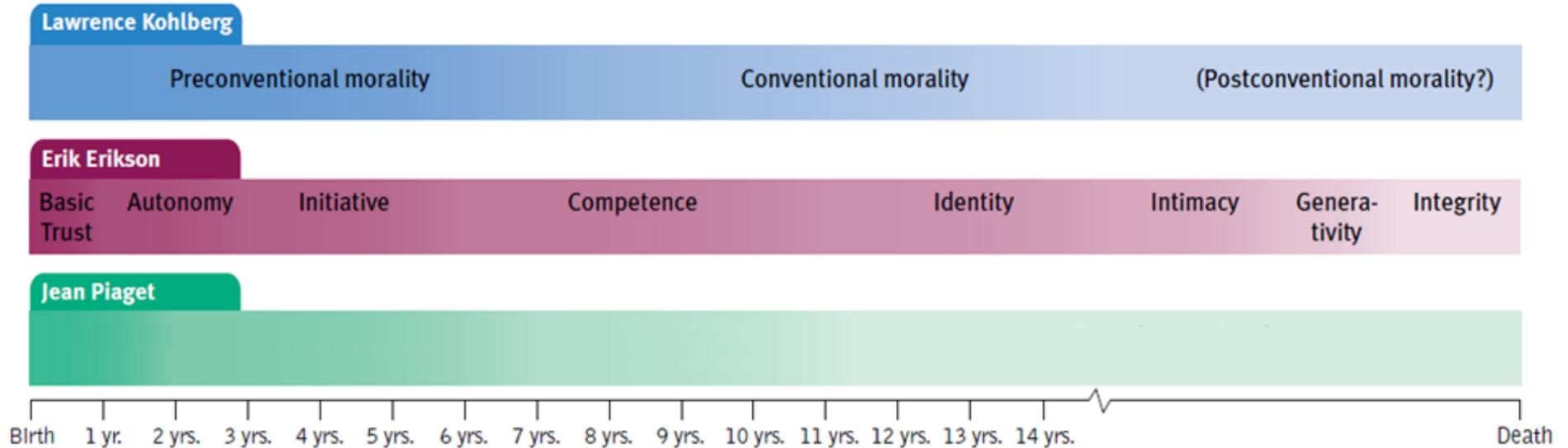
Continuity and Stages



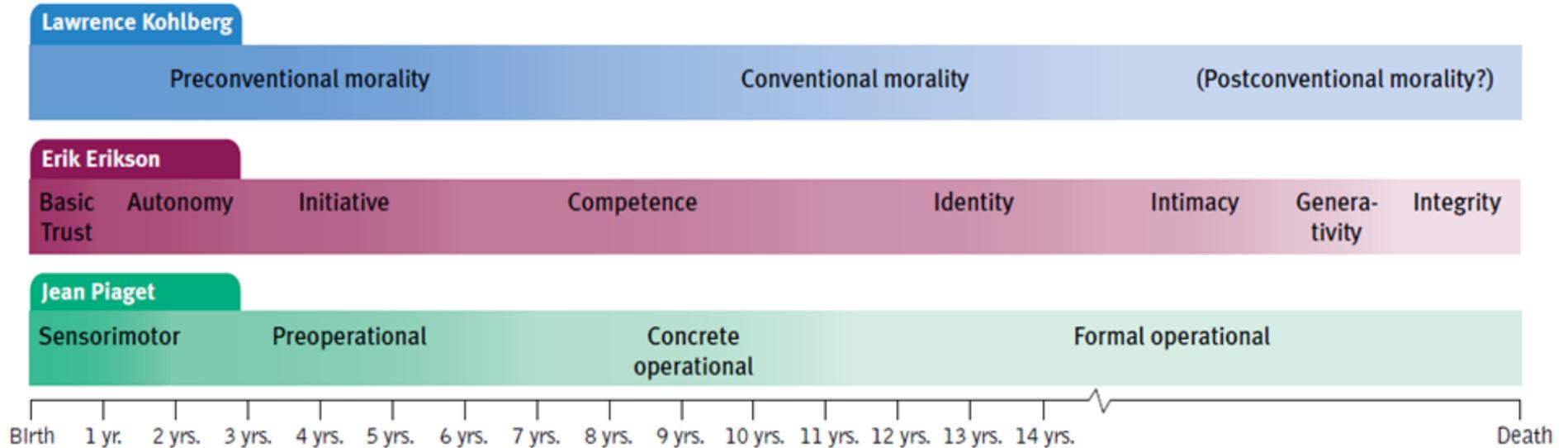
Continuity and Stages



Continuity and Stages



Continuity and Stages



The End