Methods in Developmental Psychology

LEARNING OBJECTIVE: Describe cross-sectional, longitudinal, and retrospective research methods including the advantages and disadvantages of each.

Cross-Sectional Study

Longitudinal Study

Biographical Study

Advantages and Disadvantages of Different Types of Developmental Research Methods
Prenatal Development

The embryonic stage: Three months after conception, the developing organism is now called an embryo. During this time, all of the body's organs, tissues, and structures begin to develop, and some, like the heart, become functional.

First two weeks after conception: The fertilized egg (the zygote) divides repeatedly, and the cells begin to specialize.

Three months after conception to birth (the "fetal stage"): The developing organism roughly resembles a human being, although it is only 1 inch long at the beginning of this stage.

Factors Influencing Prenatal Development

1. Critical periods
2. Teratogens
3. Mother's nutrition
4. Level of stress
5. Quality of medical care

LEARNING OBJECTIVE: Explain how toxic agents, diseases, and maternal stress can affect an unborn child. Include the concept of critical period in your explanation.

The Newborn

Reflexes

LEARNING OBJECTIVE: Summarize the reflexes and perceptual abilities of newborns. Describe the four basic temperaments that are visible at birth, the extent to which these inborn temperaments remain stable over time, and the reasons for both stability and change.

Neonates (newborns) have many reflexes that help them to survive:• Stepping• Grasping• Swallowing• Sucking• Rooting
Temperament

Temperament: Characteristic patterns of emotional reactions and emotional self-regulation
- Easy
- Difficult
- Slow to warm up
- Shy child

Vision

At birth: Babies can see faces or objects 8 to 10 inches away.
By 8 months: They can see as well as the average young adult, though their visual system takes another 3 or 4 years to develop fully.

Perceptual Abilities

Depth Perception
The ability to see the world in three dimensions is well developed by the time a baby learns to crawl, between 6 and 12 months of age.
- This is demonstrated in a classic experiment using the visual cliff (Walk & Gibson, 1961).

Perceptual Abilities

Other Senses
Fetuses can hear sounds in utero, and after birth babies show signs that they remember sounds they heard in the womb. Newborns have clear preferences regarding taste and smell.

Infancy and Childhood

Neurological Development

LEARNING OBJECTIVE: Describe how the human brain changes during infancy and early childhood. Summarize the course of physical and motor development in childhood.

- The dendrites begin to bloom and branch out.
- The number of interconnections between neurons in the brain increases dramatically.
- There is rapid growth of myelin sheaths, which provide insulation and increase speed of conduction.
Physical Development

- Birth weight is doubled by 4 months and tripled by the first birthday.
- Rapid increases in height and weight will not occur again until early adolescence.

Motor Development

- Developmental norms: Average ages at which skills are achieved
  - Birth: Have grasping and stepping reflexes
  - 2 months: Can lift head and shoulders
  - 6 ½ months: Can sit up by themselves
  - 9 months: Can stand while holding onto something
  - 10 months: Begin crawling
  - 1 year: Begin walking

Cognitive Development

- Jean Piaget
  - Birth – 2 years
    - Object permanence
    - Mental representations

Preoperational Stage

- 2 – 7 years
  - Egocentrism
  - Representational thought
  - Fantasy play
  - Symbolic gestures

Synaptic Density in the Human Brain from Infancy to Adulthood


Physical Development

- On average, babies grow 10 inches and gain 15 pounds in the first year.
Piaget’s Stages of Cognitive Development

**7-11 years**
- Principle of conservation
- Complex classification

Criticisms of Piaget’s Theory

- Rather than distinct, sequential stages, cognitive development is a more gradual process resulting from slow acquisition of experience.
- Piaget underestimated what young infants could understand about the world.
- Piaget underplayed the importance of social interaction in cognitive development.

Piaget’s Stages of Cognitive Development

**Adolescence to adulthood**
- Abstract and hypothetical thought

Moral Development

Lawrence Kohlberg

Proposed a 3-level theory of moral development:
- **Preconventional level**
- **Conventional level**
- **Postconventional level**

Levels of Morality

**Preconventional**
- Preadolescent children
- Consequences determine morality: Reward = good, punishment = bad

**Conventional**
- Arrival of adolescence: Right behavior is what pleases others
- Mid-adolescence: Shift toward abstract social virtues and respecting authority

**Postconventional**
- Emphasis on abstract principles (i.e. justice, liberty, equality)
- Morality is decided upon by individual, may conflict with societal rules and laws

SUMMARY TABLE

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<tr>
<th>Stage</th>
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Criticisms of Kohlberg’s Theory

Critics
- Many adolescents and adults fail to progress into the postconventional level of moral reasoning.
- The theory does not account for cultural differences in moral values.
- The theory is sexist because of an emphasis on “justice” rather than compassion and caring.

Theories of Language Development

Language Acquisition Device
Noam Chomsky
- Internal mechanism “wired into” the human brain
- Facilitates language learning, making it universal
- Enables young children to detect general patterns of grammar in adult speech
- Permits children to quickly learn the words and rules of any language to which they are exposed

Language Development

2 months: Cooing
3-4 months: Babbling
4-6 months: Intonation, basic sounds of native language
6 months: Recognition of commonly used words (own name, Mommy, Daddy)
12 months: First word
18-20 months: One-word sentences (holophrases)
2nd year of life: Possessive words, naming
3rd year of life: Two- and three-word sentences
After 3 years: Filled in sentences
Increased language production
5 or 6 years: Vocabulary of over 2500 words
Sentences of 6-8 words

Theories of Language Development

Language Instinct
Steven Pinker
- Shaped by natural selection, forming circuitry in the brain
- Predisposes infants and young children to focus on relevant aspects of speech, attach meaning to words

Bilingualism

Learning a Second Language
- Young children learn more quickly, speak more fluently
  - Supports the idea of a critical period
- Long-term effects on the brain
  - Increased neuroplasticity
  - Greater neural density in language centers

Theories of Language Development

B.F. Skinner
Parents listen to infant’s cooing and babbling, reinforce sounds most like adult speech
Social Development

LEARNING OBJECTIVE: Distinguish imprinting from attachment. Describe the nature of parent–child relationships in the first 12 years of life with specific reference to Erikson’s stages of development. Describe how peer relationships develop during childhood and the importance of non-shared environments.

Attachment: Emotional bond that develops in the first year of life that makes human babies cling to their caregivers for safety and comfort

- Signs of attachment: 6 months or earlier
- Stranger anxiety: Fear of unfamiliar people which usually emerges around 7 months, reaching its peak at 12 months and declining during the second year

Imprinting

“Young animals of many species follow their mothers because of imprinting. Shortly after they are born or hatched, they form a strong bond to the first moving object they see. In nature, this object is most often the mother...but, in laboratory experiments, certain species of animals, such as geese, have been hatched in incubators and have imprinted on decoys, mechanical toys, and even human beings.”

– Page 307 (Morris & Maisto)

Trust vs. Mistrust

Birth–1 year

Challenge: Developing a sense that the world is safe and good

Autonomy vs. Shame and Doubt

1–3 years

Challenge: Realizing that one is an independent person with the ability to make decisions

Erikson’s Psychosocial Stages

Erik Erikson proposed a theory of eight psychosocial stages of development:

- Trust vs. Mistrust
- Autonomy vs. Shame and Doubt
- Initiative vs. Guilt
- Industry vs. Inferiority
- Identity vs. Role Confusion
- Intimacy vs. Isolation
- Generativity vs. Stagnation
- Integrity vs. Despair

Initiative vs. Guilt

3 – 6 years

Challenge: Developing a willingness to try new things and to handle failure
Industry vs. Inferiority

6 years – adolescence

Challenge:
Learning competence in basic skills and to cooperate with others

Erikson's Eight Psychosocial Stages with Corresponding Freudian Stage Indicated

Baumrind's Parenting Styles

Relationships with Other Children

Children in peer groups
• Give one another emotional and social support
• Help one another learn how to engage in cooperative activities
• Help one another learn how to negotiate the social roles of leader and follower

Non-shared Environments

Non-shared environments
• Have a major impact on development
• Show that crucial environmental influences are "specific to each child, rather than general to an entire family" (Plomin & Rende, 1991, p. 180)

Sex-Role Development

Television, Video Games, and Children

LEARNING OBJECTIVE: Summarize the research on the effects of television and video games on children.

AGGRESSION
• According to research, short-term exposure to media violence increases aggressive thoughts, emotions, and behavior.
• Childhood exposure is linked to aggression later in life.

EDUCATION
• Children can learn worthwhile things from watching television and playing educational video games.

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• Children can learn worthwhile things from watching television and playing educational video games.

Sexual Development

Girls:
• First sign is the beginning of the growth spurt
• Breasts begin to develop, pubic hair appears
• First menstrual period (menarche) occurs about a year later
  – Age 12½ for the average American girl

Boys:
• First sign is the growth of the testes at approx. age 11½
• Growth spurt and enlargement of the penis about a year later
• Development of pubic hair, followed by facial hair
• Deepening of the voice: one of the last noticeable changes

Adolescence

LEARNING OBJECTIVE: Describe the physical and cognitive changes that occur during adolescence.

Physical Changes

Growth spurt: Rapid increase in height and weight
• Begins, on average, at about age 10½ in girls and 12½ in boys
• Reaches its peak at ages 12 and 14, respectively
• Adult height: Reached about 6 years after the start of the growth spurt

Sex Among High School Students

The percentage of high school students who have had sex has decreased since the early nineties.
Teenage Pregnancy and Childbearing

United States: Highest teen birth rate in the industrialized world
- Ignorance of basic facts concerning reproduction
- Sense of invulnerability

Cognitive Changes

- Ability to reason abstractly for most
- Even so, often fail to apply this level of reasoning to their problems
- Egocentrism

Relationships with Peers and Parents

- Peers
  - Provide a network of social and emotional support
  - Cliques
  - Mixed-sex groups
  - Couples

- Parents
  - Most difficult point in parent-child relationship usually occurs during puberty

Erikson’s Psychosocial Stages: Identity vs. Role Confusion

Adolescence

Challenge: Developing a coherent, integrated sense of inner self

Marcia’s Identity Crisis

1. Identity Achievement
2. Identity Foreclosure
3. Moratorium
4. Identity Diffusion

Personality and Social Development

How "Stormy and Stressful" is Adolescence?

- Early 20th century:
  - Adolescence was considered a time of instability, strong emotions
- Recent research:
  - Storm-and-stress view greatly exaggerates experiences of most teenagers

Learning Objective: Summarize the research on whether adolescence is, indeed, a period of "storm and stress" for most teenagers. In your discussion include identity achievement, identity foreclosure, moratorium, identity diffusion, relationships with both peers and parents, self-esteem, depression, and violence.
Some Problems of Adolescence

- Depression and Suicide
- Declines in Self-Esteem
- Youth Violence

Adulthood

Forming Partnerships

- Almost 90% of Americans eventually get married, but those who do are waiting longer.
- Cohabitation is an increasingly popular partnership among young and older adults.
- The characteristics for a successful relationship apply equally to heterosexual and homosexual relationships.

Parenthood

- Having children is both fulfilling and stressful.
- Parenting changes a couple’s relationship and impacts marital satisfaction.
- It may also heighten conflicts between pursuit of careers and responsibilities at home.

Ending a Relationship

- U.S. divorce rate: Nearly 50% of marriages end in divorce
- Separation usually initiated by one partner
- Negative short- and long-term effects on children, which can be buffered by:
  - A good support system
  - The parents maintaining a good post-divorce relationship
  - Maintaining sufficient financial resources

LEARNING OBJECTIVE: Explain Erikson’s concept of intimacy versus isolation in young adulthood, the kinds of partnerships that adults form, parenthood, and the difficulties of ending intimate relationships.

Young adulthood

Challenge:
Establishing ties to another in a trusting, loving relationship.
Applying Psychology

Resolving Conflicts in Intimate Relationships

1) Carefully choose the time and place for an argument.
2) Be a good listener.
3) Give feedback regarding your understanding of the other person’s grievance.
4) Be candid. Level with your partner about your feelings.
5) Use “I” rather than “you” statements.
6) Focus on behavior, not on the person.
7) Don’t overstate the frequency of a problem or overgeneralize about it.
8) Focus on a limited number of specific issues.
9) Don’t find scapegoats for every grievance against you.
10) Suggest specific, relevant changes to solve a problem.
11) Be open to compromise.
12) Don’t think in terms of winner and loser.

The World of Work

LEARNING OBJECTIVE: Describe gender differences in the world of work and the demands of dual-career families.

Percentage of women in the paid labor force:
- 35% in 1955
- 56% in 2008

Often difficult to balance the demands of career and family, especially for women
- “Double shift”

Erikson’s Psychosocial Stages: Generativity vs. Stagnation

Middle adulthood

Challenge:
Finding meaning in career, family, and community via productive work

Cognitive Changes

LEARNING OBJECTIVE: Describe the changes and challenges of midlife including Erikson’s notion of generativity versus stagnation and the concept of midlife crisis as opposed to midlife transition.

Ways in which adult and adolescent thinking differ:

Adolescents
Able to test alternatives and to arrive at what they see as the “correct” solution to a problem

Adults
Gradually come to realize that there isn’t a single correct solution to every problem—there may be no correct solution, or there may be several
**Late Adulthood**

**Learning Objective:** Describe the factors that affect life expectancy, the physical changes that occur in late adulthood, and the possible reasons for these physical changes. Include in your description an answer to the question “What kind of lifestyle and sex life can be expected after age 65?”

**Life Expectancy**
- During the 20th century, the percentage of Americans over 65 more than tripled.
- Women live longer than men and Whites live longer than African Americans, although this gap is closing.

**Population Age Structure, 2000**


**Physical Changes**
- Hair thins, turns white or gray
- Bones become more fragile
- Circulation slows
- Blood pressure rises
- Lungs hold less oxygen, resulting in less energy
- Vision, hearing, sense of smell become less acute

**Theories of the Causes of Aging**

- Telomeres
- Genetics
- Free radicals

**Social Development**

- **Most older adults have an independent lifestyle and engage in activities that interest them.**
- **Generally older people:**
  - Interact with fewer people
  - Perform fewer social roles
  - Become less influenced by social rules and expectations
  - Realize there is a limit to their capacity for social involvement, and learn to live comfortably with those restrictions

- **Individual reactions to retirement vary widely,** partly because society has no clear idea of what retirees are supposed to do.
Research reveals that older adults remain sexually active, although rates of sexual activity and sexual responsiveness do decline with age.

Erikson’s Psychosocial Stages: Ego Integrity vs. Despair

Late adulthood

Challenge:
Viewing one’s life as satisfactory and worth living

Cognitive Changes

Healthy intellectually active people usually maintain a high level of mental functioning, although changes include the following:

• Certain types of memories are more difficult to store and retrieve.
• The ability to process and attend to information gradually declines.

Alzheimer’s Disease

Alzheimer’s disease: A neurological disorder characterized by progressive losses in memory and cognition and by changes in personality
About 10% of adults over age 65 and nearly half of adults over age 85 have Alzheimer’s disease.

Risk Factors for Alzheimer’s Disease

• Being genetically predisposed
• Having a family history of dementia (a general decline in physical and cognitive abilities)
• Having been born to a woman over age 40
• Suffering a head trauma (especially one that caused unconsciousness)
• Experiencing prolonged levels of emotional stress during one’s lifetime
• Being inactive (both physically and intellectually) during their middle years

LEARNING OBJECTIVE: Describe Kübler-Ross’s stages of dying and the criticisms of her model. Discuss the burden of widowhood and whether it falls more heavily on men or women.

Kübler-Ross described a sequence of five stages people pass through as they react to their own impending death:

1. Denial
2. Anger
3. Bargaining
4. Depression
5. Acceptance

Facing the End of Life
Widowhood

“The burden of widowhood is heavy for both men and women... but because women have a longer life expectancy, there are many more widows than widowers. Thus, men have a better chance of remarrying. More than half the women over 65 are widowed, of whom half will live another 15 years without remarrying.”

— Page 329 (Morris & Maisto)