Life Span Human Development 10th edition Sigelman Solutions Manual

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Solution and Answer Guide

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Chapter 1: Understanding Lifespan Human Development

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Checking Mastery

I How Should We Think of Development?

1. What is the difference between an age grade and an age norm?

   Answer: An age grade is an age group with certain rights and responsibilities; an age norm is an expectation about how to behave if you are a certain age.

2. When is the "emerging adulthood" phase of the life span and why has it come into existence?

   Answer: Emerging adulthood extends from about age 18 to age 25 or even 29 and was proposed as a stage of life because the need for advanced education to prepare for more complex jobs has postponed entry into adult roles.

3. What are two positive messages about old age in the seven themes of the life-span perspective?

   Answer: The themes that development is a lifelong process and that there is life-long plasticity are the most positive themes, but the theme that development is multidirectional and the theme that it involves gain and loss in every phase imply that old age involves improvement, not just decline and loss

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II What is the Science of Lifespan Development?

1. What are the two meanings of discontinuity in development?

   Answer: Discontinuity could involve (a) abrupt rather than gradual change, (b) qualitative rather than quantitative differences (i.e., differences in kind rather than degree), or (c) lack of carryover of traits from an early period to a later period.

2. What would be an example of a "nature" argument and what would be an example of a "nurture" argument about why boys are more physically aggressive on average than girls?

   Answer: A nature argument might focus on male-female biological differences (e.g., higher levels of the hormone testosterone in males). A nurture argument might focus on socialization of boys to compete with other boys and use aggression to gain status in male peer groups.

3. What are a couple of key differences between how cognitive-developmental theorist Jean Piaget and learning theorist B. F. Skinner view development?

   Answer:

   Piaget saw development as stagelike; Skinner saw it as a gradual learning process.

   Piaget saw development as leading toward more mature functioning; Skinner believed development could head in a variety of directions depending on experience.

   Piaget saw development as the outcome of an interaction of maturation and experience; Skinner saw it as the product of experience.

4. What basic question does evolutionary theory raise about development that other theories do not?

   Answer: Evolutionary theorists ask how characteristics and behaviors we commonly observe in humans today may have evolved—that is, how they may have helped our ancestors adapt to their environments and survive.

III How is Development Studied?

1. Focusing on the development over childhood of self-esteem, state a research question that illustrates each of four main goals of the study of life-span development.

   Answer: Description: What do children say about their sense of self-worth? Prediction: What is the relationship between gender and self-esteem? Explanation: What causes gender differences in self-esteem? Optimization: Can praise boost children's self-esteem?

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2. Design an experiment to determine whether a college's arranging for some freshmen to meet and interact online with their new roommates before they start college helps them get along with each other better than if they had only met at the start of the school year. Make it clear that your experiment is really an experiment that has the key features of an experiment and label the independent and dependent variables.

   Answer: Randomly assign a sample of freshmen to two groups to manipulate the independent variable, pre-college experience with roommate: either a "meet in advance online" treatment group or a control group receiving no such treatment. Later in the fall, measure the dependent variable, how well roommates get along with each other. All other treatment of students in the two groups would be kept the same to achieve experimental control.

3. You conduct a longitudinal study of the development of self-esteem in college students from age 18 to age 22. What would you be able to learn that you could not learn by conducting a cross-sectional study of the same topic?

   Answer: In a longitudinal study as opposed to cross-sectional study, you would learn about age changes (not just age differences). You would be able to correlate self-esteem at age 18 with self-esteem at age 22 in the sample to determine whether self-esteem is a consistent characteristic; you could look at differences between individuals in their trajectories of change over their college careers; and you could examine relationships between early experiences with parents or other factors (if you ask about them) and later self-esteem.

IV What Special Challenges Do Development Scientists Face?

1. How many of the characteristics of WEIRD people do you have?

   Answer: WEIRD people live in societies that are Western, Educated, Industrialized, Rich, and Democratic.

2. A researcher deceives research participants into thinking they are in a study of learning when the real purpose is to determine whether they are willing to inflict harm on people who make learning errors if told to do so by an authority figure. What ethical responsibilities does this researcher have? (Yes, this about the famous obedience research conducted by Stanley Milgram, featured in the recent film The Experimenter.)

   Answer: The researcher must debrief the participants afterward about the true purpose of the study and ensure that they do not leave feeling upset about how they behaved. In this study, the researcher might also need to be concerned about protection of participants from harm if some are stressed during the experience or upset afterward.

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Instructor Manual

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Chapter 1: Understanding Life-Span Human Development

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Purpose and Perspective of the Chapter

This chapter serves as an introduction to the course. It lays the groundwork for the remainder of the book by addressing some basic questions: How should we think about development and the influences on it? What is the science of life-span development? What theories and research strategies can help us understand development? And what are some of the special challenges in studying human development?

Cengage Supplements

The following product-level supplements provide additional information that may help you in preparing your course. They are available in the Instructor Resource Center.

- Educator Guide (describes MindTap activities)
- PowerPoint (provides text-based lectures and presentations)
- Test Bank (contains assessment questions and problems)

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- Transition Guide (provides information about what's new from edition to edition)
- Guide to Teaching Online (provides information on how to teach virtually)

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Learning Objectives

The following objectives are addressed in this chapter:

1.1 How Should We Think about Development?

- Define development, aging, and their relationship to each other.
- Explain and illustrate the role played by age grades, age norms, and the social clock in making human development different in different historical, cultural, and subcultural contexts.
- Summarize the messages of the life-span perspective on development.

1.2 What Theories Have Guided the Science of Life-Span Development?

- Describe how the study of human development began.
- Explain three major issues addressed by theories of human development.
- Compare and contrast the main ideas of the five theoretical perspectives that have dominated the study of development: evolutionary, psychoanalytic, learning, cognitive-developmental, and bioecological systems theories.

1.3 How Is Development Studied?

- Summarize the four goals in research on human development.
- Describe the scientific method and the choices involved in selecting a sample and choosing data collection methods.
- Evaluate the strengths and weaknesses of the case study, experimental, and correlational methods.
- Evaluate the strengths and weaknesses of the cross-sectional, longitudinal, and sequential designs.

1.4 What Special Challenges Do Developmental Scientists Face?

- Discuss the challenges in conducting culturally sensitive research.
- Explain the four major ethical obligations of investigators to their research participants.

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Complete List of Chapter Activities and Assessments

For additional guidance refer to the Teaching Online Guide.

Chapter Objective	PPT slide	Activity/Assessment	Duration
	2	Icebreaker	10 minutes
Explain and illustrate the role played by age grades, age norms, and the social clock in making human development different in different historical, cultural, and subcultural contexts	14–15	Knowledge Check 1	3 minutes
Compare and contrast the main ideas of the five theoretical perspectives that have dominated the study of development: evolutionary, psychoanalytic, learning, cognitive-developmental, and bioecological systems theories.	17	Poll	2 minutes
Evaluate the strengths and weaknesses of the cross-sectional, longitudinal, and sequential designs.	38–39	Knowledge Check 2	3 minutes
Discuss the challenges in conducting culturally sensitive research.	46	Self-Assessment	5 minutes
MindTap Activities			
What Do You Think?			
Video Poll: General Theories of Human Development			
Mastery Training			

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Quiz: Theories of Human Development

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Key Terms

Adolescence: Transitional period between childhood and adulthood that begins with puberty and ends when the individual has acquired adult competencies and responsibilities; roughly ages 10–18 or later.

Age effects: In developmental research, the effects of getting older or of developing. Contrast with *cohort effects* and *time-of-measurement effects*.

Age grade: Socially defined age groups or strata, each with different statuses, roles, privileges, and responsibilities in society.

Aging: To most developmentalists, positive, negative, and neutral changes in the mature organism; different from biological aging.

Age norms: Expectations about what people should be doing or how they should behave at different points in the life span.

Baby biographies: Carefully recorded observations of the growth and development of children by their parents over a period; the first scientific investigations of development.

Bioecological systems theory: Bronfenbrenner's model of development that emphasizes the roles of both nature and nurture as the developing person interacts with a series of environmental systems (microsystem, mesosystem, exosystem, and macrosystem) over time (chronosystem).

Biological aging: The deterioration of organisms that leads inevitably to their death.

Case study: An in-depth examination of an individual (or a small number of individuals) typically carried out by compiling and analyzing information from a variety of sources such as observing, testing, and interviewing the person or people who know the individual.

Chronosystem: In Bronfenbrenner's bioecological approach, the system that captures the way changes in environmental systems, such as social trends and life events, are patterned over a person's lifetime.

Cognitive-developmental theory: Piaget's stage theory of cognitive development, where, through a combination of maturation and experience acting on the world, children "construct" more advanced modes of thinking that progress through four qualitatively different stages: sensorimotor, preoperational, concrete operational, and formal operational.

Cohort: A group of people born at the same time; a particular generation of people.

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Cohort effects: In cross-sectional research, the effects on findings that the different age groups (cohorts) being compared were born at different times and had different formative experiences. Contrast with *age effects* and *time-of-measurement effects*.

Continuity–discontinuity issue: The debate among theorists about whether human development is best characterized as gradual and continuous or abrupt and stage like.

Correlational method: A research technique that involves determining whether two or more variables are related. It cannot indicate that one thing caused another, but it can suggest that a causal relationship exists or allow us to predict one characteristic from our knowledge of another.

Correlation coefficient: A measure, ranging from +1.00 to –1.00, of the extent to which two variables or attributes are systematically related to each other in either a positive or a negative way.

Cross-sectional design: A developmental research design in which different age groups are studied at the same point in time and compared.

Culture: A system of meanings shared by a population of people and transmitted from one generation to the next.

Dependent variable: The aspect of behavior measured in an experiment and assumed to be under the control of, or dependent on, the independent variable.

Development: Systematic changes in the individual occurring between conception and death; such changes can be positive, negative, or neutral.

Directionality problem: The problem in correlational studies of determining whether a presumed causal variable is the cause or the effect. See also *third variable problem*.

Emerging adulthood: Newly identified period of the life span extending from about age 18 to age 25 or even later, when young people are neither adolescents nor adults and are exploring their identities, careers, and relationships.

Environment: Events or conditions outside the person that are presumed to influence and be influenced by the individual.

Ethnicity: A person's classification in or affiliation with a group based on common heritage or traditions.

Ethnocentrism: The belief that one's own cultural or ethnic group is superior to others.

Evolutionary psychology: The application of evolutionary theory and its concept of natural selection to understanding why humans think and behave as they do.

Exosystem: In Bronfenbrenner's bioecological approach, settings not experienced directly by individuals that still influence their development (e.g., effects of events at a parent's workplace on children's development).

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Experiment: A research strategy in which the investigator manipulates or alters some aspect of a person's environment to measure its effect on the individual's behavior or development.

Experimental control: The holding of all other factors besides the independent variable in an experiment constant so that any changes in the dependent variable can be said to be caused by the manipulation of the independent variable.

Functional magnetic resonance imaging (fMRI): A brain-imaging technique that uses magnetic forces to measure the increase in blood flow to an area of the brain that occurs when that brain area is active. By having children and adults perform cognitive tasks while lying very still in a scanner, researchers can determine which parts of the brain are involved in particular cognitive activities.

Gerontology: The study of aging and old age.

Growth: The physical changes that occur from conception to maturity.

Hypotheses: A theory-based prediction about what will hold true if we observe a phenomenon.

Independent variable: The aspect of the environment that a researcher deliberately changes or manipulates in an experiment to see its effect on behavior; a causal variable. Contrast with *dependent variable*.

Learning: A relatively permanent change in behavior (or behavioral potential) that results from a person's experiences or practice.

Life expectancy: The average number of years a newborn baby can be expected to live; now about 78 years in the United States.

Life-span perspective: A perspective that views development as a lifelong, multidirectional process that involves gain and loss, is characterized by considerable plasticity, is shaped by its historical–cultural context, has many causes, and is best viewed from a multidisciplinary perspective.

Longitudinal design: A developmental research design in which one group of subjects is studied repeatedly over months or years.

Macrosystem: In Bronfenbrenner's bioecological approach, the larger cultural or subcultural context of development.

Maturation: Developmental changes that are biologically programmed by genes rather than caused primarily by learning, injury, illness, or some other life experience.

Mesosystem: In Bronfenbrenner's bioecological approach, interrelationships between microsystems or immediate environments (e.g., ways in which events in the family affect a child's interactions at a day care center).

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Meta-analysis: A research method in which the results of multiple studies addressing the same question are synthesized to produce overall conclusions.

Microsystem: In Bronfenbrenner's bioecological approach, the immediate settings in which a person functions (e.g., the family).

Naturalistic observation: A research method in which the scientist observes people as they engage in common everyday activities in their natural habitats. Contrast with *structured observation*.

Nature–nurture issue: The debate over the relative roles of biological predispositions (nature) and environmental influences (nurture) as determinants of human development.

Neuroplasticity: The brain's remarkable ability to change in response to experience throughout the life span, as when it recovers from injury or benefits from stimulating learning experiences.

Plasticity: An openness of brain cells or of the organism as a whole to positive and negative environmental influence; a capacity to change in response to experience.

Population: A well-defined group that a researcher studies a sample of and is interested in drawing conclusions about.

Psychoanalytic theory: The theoretical perspective associated with Freud and his followers that emphasizes unconscious motivations for behavior, conflicts within the personality, and stages of psychosexual development.

Random assignment: A technique in which research participants are placed in experimental conditions in an unbiased or random way so that the resulting groups are not systematically different.

Random sample: A sample formed by identifying all members of the larger population of interest and then selecting a portion of them in an unbiased or random way to participate in the study; a technique to ensure that the sample studied is representative or typical of the larger population of interest.

Research ethics: Standards of conduct that investigators are ethically bound to honor to protect their research participants from physical or psychological harm.

Rite of passage: A ritual that marks a person's "passage" from one status to another, usually in reference to rituals marking the transition from childhood to adulthood.

Sample: A group of individuals chosen to be the subjects of a study.

Scientific method: An attitude or value about the pursuit of knowledge that dictates that investigators must be objective and must allow their data to decide the merits of their theorizing.

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Sequential design: A developmental research design that combines the cross-sectional approach and the longitudinal approach in a single study to compensate for the weaknesses of each.

Social clock: A personal sense of when things should be done in life and when an individual is ahead of or behind the schedule dictated by age norms.

Social cognitive theory: Bandura's social learning theory, which holds that children and adults can learn more novel responses merely by observing that behavior of a model, making mental notes on what they have seen, and then using these mental representations to reproduce the model's behavior; more broadly, a theory emphasizing the importance of cognitive processing of social experiences.

Social learning theory: See *social cognitive theory*.

Socioeconomic status (SES): The position people hold in society based on such factors as income, education, occupational status, and the prestige of their neighborhoods.

Stage theory: A stage theory lays out a sequence of distinct phases of development, each characterized by a particular set of abilities, motives, emotions, or behaviors that form a coherent pattern.

Storm and stress: G. Stanley Hall's term for the emotional ups and downs and rapid changes that he believed characterize adolescence.

Structured observation: A research method in which scientists create special conditions designed to elicit the behavior of interest to achieve greater control over the conditions under which they gather behavioral data. Contrast with *naturalistic observation*.

Systems theories: Theories of development holding that changes over the life span arise from the ongoing interrelationships between a changing organism and a changing environment, both of which are part of a larger, dynamic system.

Theory: A set of concepts and propositions designed to organize, describe, and explain a set of observations.

Third variable problem: In correlation studies, the problem posed by the fact that the association between the two variables of interest may be caused by some third variable; see also directionality problem.

Time-of-measurement effects: In developmental research, the effects on findings of historical events occurring when the data for a study are being collected (e.g., psychological changes brought about by an economic depression rather than as a function of aging). Contrast with *age effects* and *cohort effects*.

Universality–context-specificity issue: The debate over the extent to which developmental changes are common to everyone (universal, as in most stage theories) or different from person to person (particularistic).

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WEIRD people: An acronym referring to people living in societies that are Western, Educated, Industrialized, Rich, and Democratic. The field of psychology has been characterized as the study of WEIRD people (e.g., American college students).

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What's New in This Chapter

The following elements are improvements in this chapter from the previous edition:

- Expansion of coverage of evolutionary theory as a major perspective on human development, including research on fast versus slow life history strategies
- Reduction and reorganization of material on behavioral genetics research findings
- More on epigenetic effects of the environment on gene expression, including intergenerational transmission of a learned fear from (mouse) father to his offspring

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Chapter Outline

I. How Should We Think about Development? (1.1 PPT Slide #5)
  A. Defining Development
    1. Development involves systematic changes and continuities that occur between conception and death.
      a. The systematic changes and continuities of interest to those who study human development fall into three broad domains:
        i. Biological/Physical development—growth of body, physiological change
        ii. Cognitive development—changes and continuities in perception, language, learning, memory, problem solving, and other mental process
        iii. Psychosocial development—changes and carryover personal and interpersonal aspects of development, i.e., motives, emotions, personality traits, familial and societal roles
    2. Growth—physical changes that occurs from conception to maturity
    3. Biological aging—deterioration of organisms (including humans) that leads inevitably to their death
    4. Aging—as developmental scientists define it, involves more than biological aging, it refers to a range of physical, cognitive, and psychological changes, positive and negative, in the maturing organism
    5. Developmental change involves gains, losses, neutral changes, and continuities in each phase of the life span, and aging is part of it
  B. Conceptualizing the Life Span
    1. Emerging adulthood is a recent addition to the life span.
    2. Culture impacts the recognized periods of the life span.
      a. Each socially defined age group in a society—called an age grade—is assigned different statuses, roles, privileges, and responsibilities.
      b. A rite of passage is a ritual that marks a person's "passage" from one status to another, most often the transition from childhood to adulthood.
      c. Age norms are society's way of telling people how to act their age.
      d. The social clock is a person's sense of when things should be done and when they are ahead of or behind the schedule dictated by age norms.
  C. Subcultural differences impact development.
    1. Ethnicity is people's classification or affiliation with a group based on common heritage or traditions.

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2. Socioeconomic status (SES) is one's standing in society based on occupational prestige, education, and income.
3. Poverty can be damaging to human development. In the United States, one in every five children, and one in every three children of color, lives in poverty.
4. Poverty is associated with lower academic achievement, poorer mental health and well-being, and increased stress.

D. Historical Changes: Meaning of childhood, adolescence, and adulthood change with historic period.
1. In Western society, during the 17th century, children came to be viewed as distinct from adults.
2. In medieval times, children were expected to grow up as fast as possible.
3. Adolescence was recognized as a separate period in the late 19th and early 20th centuries.
4. The need for an educated workforce and compulsory schooling helped to lead to adolescence being viewed as a distinct period of life.
5. Emerging adulthood become defined in the late 20th and early 21st centuries.
6. Middle age emerged as a distinctive stage of life in the 20th century.
7. Old age also became a unique time period in the 20th century; period of retirement.

E. Developmentalists try to predict the future.
1. In early 21st century, life expectancy is 79 years, compared to 47 in 1900.
2. By 2030, 20% of U.S. population will be 65 and older.
3. Gerontology is the study of aging and old age.

F. The life-span perspective views development as lifelong.
1. Development is lifelong and multidirectional, involves gains and losses, is plastic, is shaped by the historical-cultural context, is multiply influenced, and is multidisciplinary.

II. What Theories Have Guided the Science of Life-Span Development? (1.2 PPT Slide #15)
1. Baby biographies—Scholars observe the growth and development of their own children.
2. G. Stanley Hall is the founder of developmental psychology and termed adolescence "storm and stress."

A. The Nature of Theories
1. A theory is a set of ideas to describe and explain a certain phenomenon.

B. The Issues Theories of Development Address

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1. Nature–Nurture
   a. Maturation (nature)—biological unfolding of plan contained in genes (hereditary material from parents)
   b. Environment (nurture) —external physical and social conditions, stimuli, and events
2. Continuity–discontinuity—focuses on whether the changes people undergo over the life span are gradual or abrupt and quantitative or qualitative
   a. Continuity theorists: Developmental changes are gradual and quantitative.
   b. Discontinuity theorists: Changes are abrupt and qualitative as in developmental stages.
3. Universality-context specificity focuses on the extent to which developmental changes are common to all humans (universal) or are different across cultures, subcultures, or other contexts (context specific).

C. Influential Developmental Theories
1. Evolutionary theory looks to the evolution of the human species for explanations of why humans are as they are and develop as they do.
2. Psychoanalytic theory focused on the development and dynamics of the personality. Here, people are driven by motives and emotional conflicts, unaware of these motives and conflicts, and are shaped by their earliest experiences in the family.
3. Erikson's psychosocial theory included less emphasis on sexual urges and on the unconscious, irrational, and selfish id and more emphasis on social influences, rational ego, and on development after adolescence when compared to Freud's theory.
4. The social cognitive theory viewed humans are cognitive beings whose active processing of information plays a critical role in their learning, behavior, and development.
   a. Observational learning is learning by observing the behavior of other people.
5. Piaget viewed intelligence as a process that helps an organism adapt to its environment. In his view children are not born with innate ideas about reality and are not filled with information by adults.
6. Systems theories propose that changes over the life span arise from ongoing transactions in which a changing organism and a changing environment affect one another. With this view, development can take several paths depending on the complex interplay of multiple influences.
   a. Bronfenbrenner's bioecological model viewed the developing person is embedded in a series of environmental systems: (1)

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microsystem, (2) mesosystem, (3) exosystem, (4) macrosystem, and (5) chronosystem.

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III. How Is Development Studied? (1.3 PPT Slide #21)

A. The goals of studying development are:
   1. Describing development: normal development and individual difference or variations in development
   2. Predicting development
   3. Explaining development
   4. Optimizing development

B. The Scientific Method
   1. Scientific method—a method and an attitude of systematic observation (or data)
      a. Believe the data, which is the findings of the research.
   2. Theory—set of concepts and propositions intended to describe and explain certain phenomena
   3. Hypotheses—specific predictions generated from theories

C. Sample Selection
   1. Research sample—a group of individuals being studied
   2. Population—a well-defined group from which sample is drawn and about which researchers want to draw conclusions
   3. Random sample—a sample formed by identifying all members of a larger population, by random means, selecting a portion of the population to be studied
      a. Random sampling from population increases confidence in the representative nature of the sample and makes generalization possible.

D. Data Collection: Three major methods of collection are verbal reports, behavioral observations, and physiological measures.
   1. Verbal Reports
      a. Often standardized interviews, questionnaires, surveys, ability and achievement tests, and personality scales
      b. Cannot be used on infants, those who cannot read, the cognitively impaired, or the elderly
      c. Age differences may lead individuals to comprehend or interpret questions differently, which can affect the results
      d. Respondents may falsely present themselves in positive manner
   2. Behavioral Observations
      a. Naturalistic observation—behaviors observed in everyday life
         i. Greatest advantage is it is the only technique that can reveal what children and adults do in everyday life.
         ii. Three limitations: some behaviors occur too infrequently and unexpectedly to observe; difficult to pinpoint cause of behavior; presence of observer may influence behavior.
      b. Structured observation—researcher creates conditions to elicit a behavior.

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i. Can study behaviors that rarely occur in natural settings
ii. Concern about if participants will behave naturally and concern about ability to generalize to natural settings

3. Physiological Measures
   a. Assess physiological responses (e.g., hormone levels, heart rate, or other indicators of arousal) to assess emotions
   b. Functional magnetic resonance imaging (fMRI)—brain-scanning technique using magnetic forces and measuring blood flow
      i. Can determine which part of brain involved in cognitive activity
   c. Difficult to fake
   d. Sometimes unclear as to what is being assessed
   e. Multiple approaches used to study behavior; three approaches to studying anger and aggression)

E. The Case Study, Experimental, and Correlational Methods
   1. The Case Study
      a. In-depth examination of an individual (or small group)
      b. Multiple sources of information (e.g., observation, interview, testing)
      c. Useful in studying people with rare conditions
      d. Can be a good source of hypotheses
      e. Conclusions cannot be generalized
   2. The Experimental Method
      a. Independent variable—manipulated by experimenter
      b. Dependent variable—behavior affected by independent variable
      c. Three critical features of any true experiment:
         i. Random assignment to experimental conditions ensures treatment groups are like each other
         ii. Quasi-experiment—nonrandom assignment to treatment groups
         iii. Manipulation of independent variable needed to establish cause
         iv. Experimental control—hold factors constant
      d. Experiments: strength
         i. Can be used to determine cause
   3. The correlational method (generally involves determining whether two or more variables are related in a systematic way)
      a. Correlation coefficient assesses extent that individuals' scores on one variable are systematically related to scores on another
      b. Involves calculation of correlation coefficient
         i. Correlation coefficient (*r*) score (extent to which scores on one variable are associated with scores on another variable) with ranges from +1.0 to −1.0

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ii. High positive (+) correlation indicates the variables vary together in same direction (e.g., +0.9)
iii. High negative (−) correlation indicates the variables vary together in opposite direction (e.g., -0.9)
iv. Correlation near 0 indicates no relationship between variables
v. Direction of causality may be reversed (e.g., slow language development could cause video viewing)
vi. Third variable may cause observed association (e.g., lack of parent motivation for interaction causing video usage and delayed language development)
vii. Ambiguity means that a correlation cannot be used to establish cause

c. Numerous studies, including both experimental and correlational studies, with convergent findings best way to establish cause–effect relationships
d. Meta-analysis—study in which results from multiple studies is synthesized
i. Meta-analysis results indicate that watching violent programs is related to roughhousing and more serious violent displays.

F. Developmental Research Designs
1. Cross-Sectional Designs
a. Cross-sectional designs study different age groups (cohorts) measured at the same time
i. Cohort is a group of individuals born at the same time (either the same year or within a span of years).
b. Cross-sectional design—provides information about age differences
c. Age and cohort effects and limitations to cross-sectional designs
i. Age effect—relationship between age and a particular aspect of development
ii. Cohort effect—effect of being born in one particular historical context
iii. Age and cohort effects are confounded or entangled.
iv. Cross-sectional designs observe an individual at only one point, so they do not measure development of the individual
2. Longitudinal design—studies same group (cohort) measured repeatedly over time
a. Longitudinal design provides information on age changes versus age differences and the direction or path of change
b. Limitations of longitudinal designs
i. Time of measurement effects—historical events and trends' effects on development

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ii. In longitudinal designs, time of measurement effects and age effects are confounded.
iii. Unsure if change is due to aging or the result of sociocultural effects
iv. Method is costly and time-consuming
v. Measures may become dated
vi. Loss of participants leads to smaller, less representative sample
vii. Participants can be affected by repeated testing

c. Although both cross-sectional and longitudinal designs have weaknesses, they are both valuable research tools

3. Sequential Designs: The Best of Both Worlds
a. Sequential designs combine cross-sectional and longitudinal approaches
b. Advantages of sequential designs
i. Can identify age-related trends regardless of cohort
ii. Can identify cohort effects
iii. Can identify time of measurement effects
c. Limitations of sequential design
i. Method complex and extremely costly

IV. Conducting culturally sensitive research (1.4 PPT Slide #40)
A. Baltes's life-span perspective emphasizes that development is shaped by its cultural context.
1. Most developmental research is WEIRD: people living in societies that are Western, Educated, Industrialized, Rich, and Democratic
a. Ethnocentrism can impact research.

B. Protect the Rights of Research Participants
1. Research ethics—standards of research conduct that researchers are ethically bound to honor

C. Informed Consent
1. Informed about all aspects of research that might affect participation
2. Those studying "vulnerable" populations must obtain assent or agreement from participant and someone who can decide on their behalf
3. Age, mental impairments, and culture should be considered when obtaining informed consent

D. Debriefing
1. Tell participants about the study afterward if they are not told everything in advance or are deceived
2. Explain the true purpose of the study
3. Obligation to make sure that participants do not leave feeling upset

E. Protection from Harm
1. Researcher may not harm participant physically or psychologically.

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2. Investigators must try to anticipate and prepare to deal with any harm.
3. If harm likely, then another way of answering the question should be explored.
4. Federal regulations provide extra protection from harm to children.

F. Confidentiality
1. Keep collected information confidential.
2. Participants must give explicit permission to have information about them shared (except in rare cases, this is required by law).

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Discussion Questions/Projects

You can assign these questions several ways: in a discussion forum in your LMS, as whole-class discussions in person, or as a partner or group activity in class.

1. **Eight Life Stages** (1.1, PPT Slide #11): To introduce the issue of a "life-span" current perspective on developmental psychology and to illustrate that there are different views of the life span, students might be asked how they would distinguish the life span into the eight distinct stages (e.g., infancy, middle age). Follow-up questions could include: (1) What characteristics would you use to describe each of these age groups? (These descriptions can be somewhat depressing to instructors who find that students view them as being in an older age category than they view themselves.) (2) Into which group would you classify yourself? (3) What are the best and worst stages of life? Some of these might be discussed on this day; others might be referred to when the appropriate section is reached during the semester. This project could be done as a class, in small groups, or as a take-home assignment.

2. **Modern Life-Span Perspective** (1.1, PPT Slide #12): This exercise assists students in understanding the six components that define human development: lifelong, multidimensional, multidirectional, plastic, multicultural, and multiply influenced. Have the students explore the interplay of these six components on development. They will first consider the complexity of human development and the concerns of individuality. Then ask them to examine how gains or losses in development may affect the quality of life from young adulthood through old age. This project can be done individually or in small groups and is guaranteed to generate discussion.

3. **Developmental Research Design** (1.3, PPT Slide #33–37): Have students design a study to test a research question such as one of those listed below. Ask them to identify the specific independent and dependent variable(s) they would use and how they would actually collect the data. Also, have them discuss the advantages/disadvantages of using a cross-sectional, longitudinal, or a sequential design.

- What impact does school have on moral development?
- Do racial attitudes vary across cultures and history?

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- Do memory abilities change across the life span?
- Do men and women perceive their retirements differently?

4. **Obtaining a Sample Group** (1.3, PPT Slide #24): A major hurdle in conducting research is obtaining a representative sample. Discuss or have students brainstorm ways to obtain study participants of different ages and abilities. This is more difficult than students usually think. They may say they would obtain participants from the local school district, not realizing that many schools have tight restrictions on research. Other recruitment techniques include soliciting participants from an after-school program or going through newspaper birth announcements and calling parents. Older subjects might be recruited at a bingo night or an adult day care program. Once students have generated ways of obtaining a sample, they might discuss whether these samples would be representative of the population. For example, is there something different about older adults who play bingo versus those who do not?

5. **Obtaining Informed Consent** (1.4, PPT Slide #43): Another important research issue is that of informed consent. Discuss or hand out American Psychological Association (APA) or Society for Research in Child Development (SRCD) guidelines (available on their website) for use of humans in research. Have students, individually or in small groups, write permission letters for different populations (e.g., parent of a preschooler, parent of an adolescent, guardian of an adult with an intellectual disability, or elderly person). Again, the studies devised in the exercises above might be useful, as students will need to have a study in mind so they can provide the hypothetical research participant with enough information to make an informed decision. Have students exchange letters and decide: a) if they received this letter, would they give permission, and b) if the letter meet APA/SRCD guidelines?

6. **Ethical Treatment in Research** (1.4, PPT Slide #44): Present students with the following fictitious "research abstract":

A first-grade teacher is informed that all of their students would have to participate in a study designed to assess the relationship between punishment and learning. Class members were randomly assigned to one of three experimental conditions (high shock, medium shock, low shock). Each child then read a list of 50 foreign words and was asked to recall the words in the correct order. Whenever a child made a correct response, the researcher said, "Correct." Whenever a child made an incorrect response they received the following negative feedback: high shock condition = 500 volts for 10 seconds, medium shock = 250 volts for 5 seconds, and low shock = 10 volts for 1 second. The task lasted until students got all 50 words correct. During the task, students were reminded that they had to participate ("no quitting") and that their responses were a measure of their overall intelligence.

Have students give their overall reaction to the study with particular focus on their perception of the treatment of the participants. Then review the current APA guidelines for

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ethical treatment of participants and have students decide whether this study could be conducted ethically.

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Suggested Films and Videos

49 Up (2005 Feature Film): A documentary film presenting interviews with individuals who have been interviewed every seven years of their lives starting at age seven.

The Ecology of Development (1992, Insight Media, DVD 30 minutes): Profiling children from twelve families in five countries, this DVD examines the ways in which genetic and environmental factors affect a child's development. It considers the influences of family and peer relationships, schooling, culture, and history on development.

Child Development (2008, Insight Media, DVD 111 minutes): This set provides detailed information about and examples of aspects of child development, including emotional, social, and intellectual development, from infancy through four years of age. It also looks at child care facilities, explores positive discipline techniques, and examines issues specific to children with special needs.

Discovering Psychology Updated Edition**:** *Understanding Research* (2001, Annenberg/CPB Multimedia Collection, DVD, 30 Minutes): This program examines the scientific method and the ways in which data are collected and analyzed—in the lab and in the field—with an emphasis on sharpening critical thinking in the interpretation of research findings. With Dr. Christina Maslach of the University of California, Berkeley, and Dr. Daryl Bem of Cornell University.

Discovering Psychology Updated Edition**:** *The Developing Child* (2001, Annenberg/CPB Multimedia Collection, DVD, 30 Minutes): This program traces the nature vs. nurture debate, revealing how developmental psychologists study the contributions of both heredity and environment to child development. With Dr. Renee Baillargeon of the University of Illinois and Dr. Judy De Loache of the University of Illinois.

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Suggested Websites

American Psychological Association Division 7 (Developmental Psychology): **Developmental Psychology (Division 7) (apadivisions.org)**

Division seven promotes research, exchange of information, enhances education, and promotes the use of scientific knowledge.

American Psychological Association Ethical Standards: Ethical principles of psychologists and code of conduct (apa.org)

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This site displays the ethical principles of psychologists and the expected code of conduct for psychologists.

Psychology Research on the Net: [Psychological Research on the Net (hanover.edu)]

This site provides links to psychological research available on the Internet, which are organized by topic and chronology.

Society for Research in Child Development: [Welcome to SRCD | Society for Research in Child Development SRCD]

The society promotes multidisciplinary research in the field of human development and offers a portal for the exchange of information.

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Suggested Readings

Brummel, B. J. (2010). Development of role-playing scenarios for teaching responsible conduct of research. *Science and Engineering Ethics*, *16*(3), 573–589.

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed method Aapproaches* (3rd ed.). London, England: Sage Publishing.

Freeman, M., & Mathison, S. (2009). *Researching children's experiences: Approaches and methods*. New York: The Guilford Press.

Jeanes, R., & Kay, T. (2013). Negotiating Ethical Challenges in Youth Research. New York: Routledge, An imprint of the Taylor & Francis Group.

Ramcharan, P. (2006). Ethical challenges and complexities of including vulnerable people in research: Some pre-theoretical considerations. *Journal of Intellectual & Developmental Disability*, *31*(3), pp. 183–185.

Rutter, M. (2006). *Genes and behavior: Nature-nurture interplay explained*. Malden, MA: Blackwell Publishing.

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Appendix

Generic Rubrics

Providing students with rubrics helps them understand expectations and components of assignments. Rubrics help students become more aware of their learning process and progress, and they improve students' work through timely and detailed feedback.

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Customize these rubric templates as you wish. The writing rubric indicates 40 points and the discussion rubric indicates 30 points.

Standard Writing Rubric

Criteria	Meets Requirements	Needs Improvement	Incomplete
Content	The assignment clearly and comprehensively addresses all questions in the assignment. 15 points	The assignment partially addresses some or all questions in the assignment. 8 points	The assignment does not address the questions in the assignment. 0 points
Organization and Clarity	The assignment presents ideas in a clear manner and with strong organizational structure. The assignment includes an appropriate introduction, content, and conclusion. Coverage of facts, arguments, and conclusions are logically related and consistent. 10 points	The assignment presents ideas in a mostly clear manner and with a mostly strong organizational structure. The assignment includes an appropriate introduction, content, and conclusion. Coverage of facts, arguments, and conclusions are mostly logically related and consistent. 7 points	The assignment does not present ideas in a clear manner and with strong organizational structure. The assignment includes an introduction, content, and conclusion, but coverage of facts, arguments, and conclusions are not logically related and consistent. 0 points
Research	The assignment is based upon appropriate and adequate academic literature, including peer reviewed journals and other scholarly work. 5 points	The assignment is based upon adequate academic literature but does not include peer reviewed journals and other scholarly work. 3 points	The assignment is not based upon appropriate and adequate academic literature and does not include peer reviewed journals and other scholarly work. 0 points
Research	The assignment follows the required citation guidelines. 5 points	The assignment follows some of the required citation guidelines. 3 points	The assignment does not follow the required citation guidelines. 0 points
Grammar and Spelling	The assignment has two or fewer grammatical and spelling errors. 5 points	The assignment has three to five grammatical and spelling errors. 3 points	The assignment is incomplete or unintelligible. 0 points

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Standard Discussion Rubric

Criteria	Meets Requirements	Needs Improvement	Incomplete
Participation	Submits or participates in discussion by the posted deadlines. Follows all assignment. instructions for initial post and responses. 5 points	Does not participate or submit discussion by the posted deadlines. Does not follow instructions for initial post and responses. 3 points	Does not participate in discussion. 0 points
Contribution Quality	Comments stay on task. Comments add value to discussion topic. Comments motivate other students to respond. 20 points	Comments may not stay on task. Comments may not add value to discussion topic. Comments may not motivate other students to respond. 10 points	Does not participate in discussion. 0 points
Etiquette	Maintains appropriate language. Offers criticism in a constructive manner. Provides both positive and negative feedback. 5 points	Does not always maintain appropriate language. Offers criticism in an offensive manner. Provides only negative feedback. 3 points	Does not participate in discussion. 0 points

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