**Chapter 1**

**History, Theories, and Methods**

**Chapter Overview**

This chapter provides the general introduction to the field of developmental psychology. It begins with a definition of child development and a discussion of the purposes and goals of theory and research in the field of developmental psychology. A brief survey of the pioneers in the field of developmental psychology, including John Locke, Jean-Jacques Rousseau, G. Stanley Hall, Alfred Binet, William Perry, and Gisella Labouvie-Vief, is followed by a description and evaluation of each of the major perspectives on child development—psychoanalytic, learning (behavioral and social cognitive theories), cognitive, biological, ecological, and sociocultural. Next, the nature-nurture, continuity-discontinuity, and active–passive controversies in the field of development are overviewed. Finally, research methods are described (naturalistic-observation, case study, correlation, experimental research, longitudinal research, cross-sectional studies, and cross-sequential research), including a presentation of the general idea behind the scientific method, ways of gathering information in child developmental science, the correlational method (and its limitations), and how to approach and design experiments. The chapter ends with an overview of the special methods needed to assess development over time, specifically longitudinal versus cross-sectional research and the ways in which the cross-sequential research design handles the advantages and disadvantages of each, as well as a discussion of the ethical issues in research with children.

**Chapter Learning Objectives**

Having read the chapter, students should be able to achieve the objectives given below.

* Explain what child development is
* Describe why it is important to study child development
* Discuss the history of child development
* Compare the different developmental views across time
* Compare the different major theories of child development
* Analyze the major controversies in the study of child development
* Identify and compare different research methods used in the study of child development
* Explain the purpose of each of the different research methods discussed in this chapter
* Describe the different ethical considerations when conducting developmental research

**Chapter Outline**

**I. The Development of the Study of Human Development**

* **Developmental psychology** is the discipline that studies the physical, cognitive, social, and emotional development of humans.
* In ancient times and in the Middle Ages, children often were viewed as innately evil and discipline was harsh.
* English philosopher John Locke (1632-1704) believed that the child came into the world as a *tabula rasa*—a “blanktablet” or clean slate—that was written on by experience.
* Jean-Jacques Rousseau (1712-1778), a Swiss-French philosopher, argued that children are inherently good and that, if allowed to express their natural impulses, they will develop into generous and moral individuals.
* G. Stanley Hall (1844-1924) is credited with founding child development as an academic discipline and bringing scientific attention to focus on the period of adolescence.
* French psychologist Alfred Binet (1857-1911), along with Theodore Simon (1872-1961), developed the first standardized intelligence test near the beginning of the 20th century.
* In the 20th century, psychologists began to take on a **life-span perspective**, in which they viewed human development as occurring throughout the individual’s lifetime.
* William Perry and Gisella Labouvie-Vief, for example, have studied the development of cognitive complexity from adolescence to late adulthood.
* K. W. Schaie and others have studied trends in various mental abilities throughout middle and late adulthood, showing that some abilities decline in middle and late adulthood, but others that represent the accumulation of decades of knowledge can advance into late adulthood.

**II. Theories of Development**

* John B. Watson (1878-1958), the founder of American **behaviorism**, viewed development in terms of learning theory.
* He generally agreed with John Locke that children’s ideas, preferences, and skills are shaped by experience.
* Arnold Gesell expressed the opposing idea that biological **maturation**—the unfolding of genetically determined traits, structures, and functions—was the main principal of development.

**A. The Psychoanalytic Perspective**

* A number of theories fall within the psychoanalytic perspective.
* Each owes its origin to Sigmund Freud and views children—and adults—as caught in conflict.
* The expression of basic drives, such as sex and aggression, conflict with parental expectations, social rules, moral codes, even laws.
* But the external limits—parental demands and social rules—are brought inside or *internalized.*
* Once internalization occurs, the conflict takes place between opposing *inner* forces.
* Freud’s theory of **psychosexual development** and Erik Erickson’s theory of psychosocial development are **stage theories** that see children developing through distinct periods of life.
* Each suggests that the child’s experiences during early stages affect the child’s emotional and social life at the time and later on.

**Sigmund Freud’s Theory of Psychosexual Development**

* Sigmund Freud’s (1856-1939) theory of psychosexual development focused on the following three parts of the personality.
  + - * + Id: It is present at birth and is *unconscious.*
* It represents biological drives and demands instant gratification, as suggested by a baby’s wailing.
  + - * + Ego: It curbs the appetites of the id and makes plans that are in keeping with social conventions so that a person can find gratification but avoid social disapproval.
        + Superego: It develops throughout infancy and early childhood.
* It brings inward the wishes and morals of the child’s caregivers and other members of the community.
* According to Freud, the following are the five stages of psychosexual development.
  + - * + Oral stage: During the first year of life, “oral” activities such as sucking and biting bring pleasure and gratification.
        + Anal stage: During this stage, gratification is obtained through control and elimination of waste products.
        + Phallic stage: During this stage, parent-child conflict may develop over masturbation, which many parents treat with punishment and threats.
        + Latency stage: By age five or six, Freud believed, children enter this stage during which sexual feelings remain unconscious, children turn to schoolwork, and they typically prefer playmates of their own sex.
        + Genital stage: The final stage of psychosexual developmentbegins with the biological changes that usher in adolescence.
* Adolescents generally desire sexual gratification through intercourse with a member of the other sex.

**Evaluation**

* Freud’s views about the anal stage have influenced child-care workers to recommend that toilet training not be started too early or handled punitively.
* His emphasis on the emotional needs of children has influenced educators to be more sensitive to the possible emotional reasons behind a child’s misbehavior.
* Freud’s work has also been criticized.
* For one thing, Freud developed his theory on the basis of contacts with adult patients (mostly women) (Henley, 2019), rather than observing children directly.
* Some of Freud’s own disciples, including Erik Erikson, believe that Freud placed too much emphasis on basic instincts and unconscious motives.

**Erik Erikson’s Theory of Psychosocial Development**

* Erik Erikson (1902-1994) modified Freud’s theory and extended it through the adult years.
* Erikson’s theory, like Freud’s, focuses on the development of the emotional life and psychological traits, but Erikson focuses on social relationships rather than sexual or aggressive instincts.
* Therefore, Erikson speaks of **psychosocial development** rather than of *psychosexual development.*
* Furthermore, Erikson places greater emphasis on the ego, or the sense of self.
* Erikson (1963) extended Freud’s five stages to eight to include the concerns of adulthood.
* Rather than label his stages after parts of the body, Erikson labeled them after the **life crisis**—an internal conflict that attends each stage of psychosocial development—that people might encounter during that stage.
* Early experiences affect future developments.
* Successful resolution of each crisis bolsters children’s sense of identity—of who they are and what they stand for—and their future expectation of future success.
* Erikson’s views, like Freud’s, have influenced child rearing, early childhood education, and child therapy.
* For example, Erikson’s views about an adolescent **identity crisis**—a period of inner conflict during which one examines one’s values and makes decisions about one’s life roles—have entered the popular culture and have affected the way many parents and teachers deal with teenagers.

**Evaluation**

* Erikson’s views are appealing in that they emphasize the importance of human consciousness and choice.
* There is also some empirical support for the Eriksonian view that positive outcomes of early life crises help put people on the path to positive development (Gfellner & Cordoba, 2017; Marcia, 2010).

**B. The Learning Perspective: Behavioral and Social Cognitive Theories**

**Behaviorism**

* John B. Watson argued that a scientific approach to development must focus on observable behavior only and not on things like thoughts, fantasies, and other mental images.
* **Classical conditioning** is a simple form of learning in which an originally neutral stimulus comes to bring forth, or elicit, the response usually brought forth by a second stimulus as a result of being paired repeatedly with the second stimulus.
* Behaviorists argue that much emotional learning is acquired through classical conditioning.
* In **operant conditioning**, children learn to do something because of its effects.
* B. F. Skinner introduced the key concept of **reinforcement**.
* Reinforcers are stimuli that increase the frequency of the behavior they follow.
* Skinner distinguished between positive and negative reinforcers.
* **Positive** **reinforcers** increase the frequency of behaviors when they are *applied.* Food and approval usually serve as positive reinforcers.
* **Negative** **reinforcers** increase the frequency of behaviors when they are *removed.* Fear acts as a negative reinforcer in that its removal increases the frequency of the behaviors preceding it.
* **Extinction** results from repeated performance of operant behavior without reinforcement.
* Punishments are aversive events that suppress or *decrease* the frequency of the behavior they follow.
* Operant conditioning is used every day in the *socialization* of young children.
* Parents and peers influence children to acquire behavior patterns they consider to be appropriate to their gender through the elaborate use of rewards and punishments.
* Boys may ignore other boys when they play with dolls and housekeeping toys, but play with boys when they use transportation toys. This type of conditioning is obviously restrictive and harmful when it counters the child’s personal desires.

**Social Cognitive Theory**

* **Social cognitive theorists** such as Albert Bandura (1986, 2011) have shown that much learning occurs by observing other people, reading, and viewing characters in the media.
* Observational learning occurs when children observe how parents cook, clean, or repair a broken appliance.
* In social cognitive theory, the people after whom one patterns one’s own behavior are termed *models.*

**Evaluation of Learning Theories**

* Learning theories allow people to explain, predict, and influence many aspects of behavior.
* Many of the teaching approaches used in educational TV shows are based on learning theory.

**C. The Cognitive Perspective**

* Cognitive theorists focus on people’s mental processes.
* One cognitive perspective is **cognitive-developmental theory**, advanced by Swiss biologist Jean Piaget (1896-1980) and further developed by many theorists.
* This theory holds that the child’s abilities to mentally represent the world and solve problems unfold as a result of the interaction of experience and the maturation of neurological structures.

**Cognitive-Developmental Theory**

* Through his studies, Piaget realized that when children answered questions incorrectly, their wrong answers still often reflected consistent—although illogical—mental processes.
* Piaget used the following concepts to describe and explain cognitive development.
* **Schemes**: It is a pattern of action or mental structure that is involved in acquiring or organizing knowledge.
* **Adaptation**: It is the interaction between the organism and the environment. It consists of assimilation and accommodation, which occur throughout life.
* **Assimilation**: It is the process by which someone responds to new object or events according to existing schemes or ways of organizing knowledge.
* **Accommodation**: It is the modification of existing schemes to permit the incorporation of new events or knowledge.
* **Equilibration**: It is the creation of an equilibrium, or balance, between assimilation and accommodation.

**Piaget’s Stages of Cognitive Development**

* Piaget identified four major stages of cognitive development: *sensorimotor*, *preoperational*, *concrete operational*, and *formal operational*.
* Because Piaget’s theory focuses on cognitive development, its applications are primarily in educational settings.
* Piaget’s theory ends with formal operational thought.

**Evaluation**

* Many researchers, using a variety of methods, find that Piaget may have underestimated the ages when children are capable of doing certain things.
* It also appears that many cognitive skills may develop gradually and not in distinct stages.

**Information-Processing Theory**

* Many psychologists and educators speak of people as having working or short-term memory and a more permanent long-term memory (storage).
* Thus, many cognitive psychologists focus on information processing in people—the processes by which people encode (input) information, store it (long-term memory), retrieve it (place it in short-term memory), and manipulate it to solve problems.
* People’s strategies for solving problems are sometimes referred to as their “mental programs” or “software.”
* In this computer metaphor, people’s brains are the “hardware” that runs their mental programs.
* People’s brains—containing billions of brain cells called *neurons*—become their most “personal” computers.
* When psychologists who study information processing contemplate cognitive development, they are likely to talk in terms of the *size* of the person’s short-term memory and the *number of programs* she or he can run simultaneously.

**D. The Biological Perspective**

* The biological perspective directly relates to physical development: to gains in height and weight; development of the brain; and developments connected with hormones, reproduction, and heredity.

**Evolutionary Psychology and Ethology: “Doing What Comes Naturally”**

* Evolutionary psychology and ethology were heavily influenced by the 19th-century work of Charles Darwin and by the work of 20th-century ethologists Konrad Lorenz, and Niko Tinbergen.
* **Ethology**—study of behaviors that are specific to a species—is concerned with instinctive, or inborn, behavior patterns.
* The field of **evolutionary psychology** studies the ways in which adaptation and natural selection are connected with mental processes and behavior.
* One of the concepts of evolutionary psychology is that not only physical traits but also patterns of behavior, including social behavior, evolve and are transmitted genetically from generation to generation.
* The behavior patterns are termed *instinctive* or *species-specific* because they evolved within certain *species.*
* The nervous systems of most, and perhaps all, animals are “prewired” to respond to some situations in specific ways.
* These behaviors are “built in,” or instinctive.
* They are also referred to as inborn **fixed action patterns (FAPs)**—a stereotyped pattern of behavior that is evoked by a “releasing stimulus.”
* During prenatal development, genes and sex hormones are responsible for the physical development of female and male sex organs.
* Research into the ethological perspective suggests that instinct may play a role in human behavior.

**E. The Ecological Perspective**

* **Ecology** is the branch of biology that deals with the relationships between living organisms and the environment.
* The **ecological systems theory** of development addresses aspects of psychological, social, and emotional development as well as aspects of biological development.
* Ecological systems theorists explain development in terms of the interaction between people and the settings in which they live (Bronfenbrenner & Morris, 2006).
* According to Urie Bronfenbrenner (1917-2005), for example, people need to focus on the two-way interactions between the child and the parents, not just maturational forces (nature) or child-rearing practices (nurture).
* Bronfenbrenner suggested that people can view the setting or contexts of human development as consisting of multiple systems, each embedded within the next larger context (Bronfenbrenner & Morris, 2006; Losike-Sedimo, 2018).
* From narrowest to widest, Bronfenbrenner’s systems are as follows:
* **Microsystem**: This involves the interactions of the child and other people in the immediate setting, such as the home, the school, or the peer group.
* **Mesosystem**: This involves the interactions of the various settings within the microsystem. For instance, the home and the school interact during parent–teacher conferences.
* **Exosystem**: This involves the institutions in which the child does not directly participate but which exert an indirect influence on the child. For example, the school board is part of the child’s exosystem because board members put together programs for the child’s education, determine what textbooks will be acceptable, and so forth.
* **Macrosystem**: This involves the interaction of children with the beliefs, values, expectations, and lifestyles of their cultural settings.
* **Chronosystem**: This considers the changes that occur over time. For example, the effects of divorce peak about a year after the event, and then children begin to recover.

**F. The Sociocultural Perspective**

* The sociocultural perspective teaches that people are social beings who are affected by the cultures in which they live.
* Developmentalists use the term *sociocultural* in a couple of different ways.
* One refers quite specifically to the *sociocultural theory* of Russian psychologist Lev Semenovich Vygotsky (1896-1934).
* The other addresses the effect of human diversity on people, including such factors as ethnicity and gender.

**Vygotsky’s Sociocultural Theory**

* Whereas genetics is concerned with the biological transmission of traits from generation to generation, Vygotsky’s (1978) theory is concerned with the transmission of information and cognitive skills from generation to generation.
* Like Piaget, Vygotsky sees the child’s functioning as adaptive, and the child adapts to his or her social and cultural interactions.
* Key concepts in Vygotsky’s theory include the following:
* **Zone of proximal development (ZPD)**: This refers to a range of tasks that a child can carry out with the help of someone who is more skilled, as in an apprenticeship.
* **Scaffolding**: This is Vygotsky’s term for temporary cognitive structures or methods of solving problems that help the child as he or she learns to function independently.

**G. Human Diversity**

* + - * The sociocultural perspective asserts that people cannot understand individuals without awareness of the richness of their diversity (Markus, 2016; Tatto et al., 2017).
* For example, people differ in their ethnicity (cultural heritage, race, language, and common history), their gender, and their socioeconomic status.
  + - * Studying diversity is important so that students have appropriate educational experiences.
* To teach students and guide their learning, educators need to understand children’s family values and cultural expectations.
  + - * Gender is another aspect of human diversity.
* It is the psychological state of being male or being female, as influenced by cultural concepts of gender-appropriate behavior.
* Expectations of females and males are often polarized by cultural expectations.
* Males may differ from females in some respects, but history has created more burdens for women than men as a result.
* Historically, females have been discouraged from careers in the sciences, politics, and business.
* Women today earn more than half of the undergraduate degrees in the so-called STEM field of biology, chemistry and mathematics (Cheryan et al., 2017).
* Women are making inroads into academic and vocational spheres such as medicine, law engineering, and the military—traditionally male fields.
* Most college students in the United States are female, but there remain many parts of the world in which women are prevented from obtaining an education (Yousafazi & Lamb, 2013).

**III. Controversies in Development**

**A. The Nature-Nurture Controversy**

* + - * Researchers are continually trying to sort out the extent to which human behavior is the result of **nature** (heredity) and of **nurture** (environmental influences).
* Scientists seek the natural causes of development in children’s genetic heritage, the functioning of the nervous system, and in maturation.
* Scientists seek the environmental causes of development in children’s nutrition, cultural and family backgrounds, and opportunities to learn about the world, including cognitive stimulation during early childhood and formal education.
  + - * Today, nearly all researchers agree that nature and nurture play important roles in nearly every area of development.

**B. The Continuity-Discontinuity Controversy**

* + - * Some developmentalists view human development as a continuous process in which the effects of learning mount gradually, with no major sudden qualitative changes.
* In contrast, other theorists believe that a number of rapid qualitative changes usher in new stages of development.
  + - * Stage theorists such as Sigmund Freud and Jean Piaget saw development as discontinuous.
* They saw biological changes as providing the potential for psychological changes.
  + - * Certain aspects of physical development do occur in stages.
* However, psychologists disagree on whether developments in cognition occur in stages.

**C. The Active-Passive Controversy**

* Historical views of children as willful and unruly suggest that people have generally seen children as active, even if mischievous (at best) or evil (at worst).
* John Locke introduced a view of children as passive beings (blank tablets); experience “wrote” features of personality and moral virtue on them.
* At one extreme, educators who view children as passive may assume that they must be motivated to learn by their instructors.
* At the other extreme, educators who view children as active may assume that they have a natural love of learning.
* These debates are theoretical.
* Scientists value theory for its ability to tie together observations and suggest new areas of investigation, but scientists also follow an **empirical** approach.
* That is, they engage in research methods to find evidence for or against various theoretical positions.

**IV. How do We Study Development?**

* Strong arguments or reference to authority figures are not evidence.
* Scientific evidence is obtained only by gathering sound information and conducting research.

**A. Gathering Information**

* Researchers use various methods to gather information.
* For example, they may ask teachers or parents to report on the behavior of children, use interviews or questionnaires with adults, or study statistics compiled by the government or the United Nations.

**Naturalistic Observation**

* **Naturalistic-observation** studies are conducted in “the field”; that is, in the natural, or real-life, settings in which they happen.
* In field studies, investigators observe the natural behavior of children in settings such as homes, playgrounds, and classrooms and try not to interfere with it.

**The Case Study**

* The **case study** is a carefully drawn account of the behavior of an individual.
* Parents who keep diaries of their children’s activities are involved in informal case studies.
* In addition to direct observation, case studies may include questionnaires, **standardized tests**—a test in which an individual’s score is compared to the scores of a group of similar individuals—and interviews.

**B. Correlational: Putting Things Together**

* Researchers use the correlational method to determine whether one behavior or trait being studied is related to, or correlated with, another.
* **Correlation coefficient** is a number ranging from +1.00 and –1.00 that expresses the direction (positive or negative) and strength of the relationships between two variables.
* **Positive correlation** is a relationship between two variables in which one variable increases as the other increases.
* **Negative correlation** is a relationship between two variables in which one variable increases as the other variable decreases.

**Limitations of Correlational Information**

* + - * Correlational information can reveal relationships between variables, but it does not show cause and effect.
      * It may seem logical to assume that exposure to violent media makes people more aggressive, but it may also be that more aggressive people *choose* violent media.
* This research bias is termed a *selection factor.*

**C. The Experiment: Trying Things Out**

* The experiment is the preferred method for investigating questions of cause and effect.
* In the **experiment**, a group of research participants receives a treatment and another group does not.
* The subjects are then observed to determine whether the treatment changes their behavior.
* Experiments are usually undertaken to test a **hypothesis**—a proposition to be tested.

**Independent and Dependent Variables**

* + - * **Independent variable** is a variable whose presence is manipulated by the experimenters so that its effects can be determined.
      * **Dependent variable** is a measure of an assumed effect of an independent variable.

**Experimental and Control Groups**

* + - * Subjects in the **experimental group** receive the treatment, whereas subjects in the **control group** do not.
* All other conditions are held constant for both groups.

**Random Assignment**

* + - * Subjects should be assigned to experimental or control groups on a chance or random basis.
      * Ethical and practical considerations prevent researchers from doing experiments on the effects of many life circumstances, such as divorce or different patterns of child rearing.
      * When experiments cannot ethically be performed on humans, researchers sometimes carry them out with animals and try to generalize the findings to humans.

**D. Longitudinal Research: Studying Development over Time**

* In **longitudinal research**, the same people are observed repeatedly over time, and changes in development, such as gains in height or changes in mental abilities, are recorded.
* In **cross-sectional research**, children of different ages are observed and compared.
* It is assumed that when a large number of children are chosen at random, the differences found in the older age groups are a reflection of how the younger children will develop, given time.

**Longitudinal Studies**

* The Terman Studies of Genius, begun in the 1920s, tracked children with high IQ scores for more than 50 years.
* Male subjects, but not female subjects, went on to high achievements in the professional world.
* Contemporary studies of women show that women with high intelligence generally match the achievements of men and suggest that women of the earlier era were held back by traditional gender-role expectations.
* Most longitudinal studies span months or a few years, not decades.
* For example, briefer longitudinal studies have found that the children of divorced parents undergo the most severe adjustment problems within a few months of the divorce, peaking at about a year.
* Longitudinal studies have drawbacks.
* For example, it can be difficult to enlist volunteers to participate in a study that will last a lifetime.
* Many subjects fall out of touch as the years pass; others die.

**Cross-Sectional Studies**

* Because of the drawbacks of longitudinal studies, most research that compares children of different ages is cross-sectional.
* A major challenge to cross-sectional research is the **cohort effect**.
* A cohort is a group of people born at about the same time.
* As a result, they experience cultural and other events unique to their age group.
* In other words, children and adults of different ages are not likely to have shared similar cultural backgrounds.
* Children of past generations also grew up with different expectations about gender roles and appropriate social behavior.
* Women in the Terman study generally chose motherhood over careers because of the times.
* In longitudinal studies, researchers know that they have the same individuals as they have developed over 5, 25, even 50 years or more.
* In cross-sectional research, researchers can only hope that they will be comparable.

**Cross-Sequential Research**

* **Cross-sequential research** combines the longitudinal and cross-sectionalmethods so that many of their individual drawbacks are overcome.
* In the cross-sequential study, the full span of the ideal longitudinal study is broken up into convenient segments.
* Assume that researchers wish to follow the attitudes of children toward gender roles from the age of four through the age of 12.
* The typical longitudinal study would take eight years.
* Researchers can, however, divide this eight-year span in half by attaining two samples of children (a cross-section) instead of one: four-year-olds and eight-year-olds.
* An obvious advantage to this collapsed method is that the study is completed in four years rather than eight years.
* Still, the testing and retesting of samples provides some of the continuity of the longitudinal study.
* By observing both samples at the age of eight (a **time lag** comparison), researchers can also determine whether they are, in fact, comparable or whether the four-year difference in their birth date is associated with a cohort effect.

**E. Ethical Considerations**

* Researchers adhere to ethical standards that are intended to promote the dignity of the individual, foster human welfare, and maintain scientific integrity.
* These standards also ensure that they do not use methods or treatments that harm subjects.
* Researchers are not to use methods that may do physical or psychological harm.
* Participants (and parents, if participants are minors) must be informed of the purposes of the research and about the research methods.
* Participants must provide voluntary consent to participate in the study.
* Participants may withdraw from the study at any time, for any reason
* Participants should be offered information about the results of the study.
* These guidelines present researchers with a number of hurdles to overcome before proceeding with and while conducting research, but because they protect the welfare of participants, the guidelines are valuable.

**Discussion Topics**

***Nature or Nurture?***

Few traits are influenced purely by nature or nurture. Nature seems to dictate predominantly physical characteristics, such as blood type and eye color. By contrast, nurture influences learned abilities such as the specific language that one speaks. Babies are born with the ability to understand all the phonemes in the world’s languages. But by six months, they can only distinguish the phonemes in the languages being spoken around them. Most characteristics are influenced by a combination of nature and nurture. Point out to students that most psychological traits are influenced by both of these forces, but physical characteristics may also be a result of nature and nurture. For instance, weight is influenced by a person’s genetic makeup and by the diets in their environment.

***Everyday Examples of Classical Conditioning and Operant Conditioning***

Help students understand how classical conditioning affects their behavior by pointing out a few everyday examples. This can also help students master the confusing terminology associated with classical conditioning. Point out that this is really a learning of association. Following are some examples.

* Thunderstorms
* US = loud clap of thunder
* UCR = jump or tense up
* CS = lightning
* UCR = tense up
* Fast-food commercial
* US = picture of juicy, delicious burger
* UCR = hunger or salivation
* CS = commercial jingle or song
* UCR = hunger

*Note*: Unlearned or unconditioned stimulus (US), unlearned or unconditioned response (UCR, learned or conditioned stimulus (CS)

Operant conditioning is learning the effects that a particular behavior incurs, whether that is a reinforcement or a punishment. Stress that reinforcements increase the frequency of a behavior and can be positive (something added) or negative (something taken away). Explain that the positive and negative should be associated with addition or subtraction, not with good or bad. The following are some everyday examples.

* Positive reinforcement: A teenager cleans her room to earn allowance.
* Negative reinforcement: A teenager cleans her room to stop the annoying nagging of her parents. Punishments decrease the frequency of a behavior and can be either positive or negative.
* Positive punishment: A teenager is given additional chores for failing to clean her room.
* Negative punishment: A teenager is grounded for failing to clean her room, that is, her social life is removed. Note that a student who is sent to his room that is filled with gadgets, such as a TV, a computer, and an iPod, may not be experiencing a punishment.

# ***Vygotsky vs. Piaget in Teaching***

The developmental theories of Piaget and Vygotsky have implications for education. Have students discuss the following questions in terms of the perspectives of each theorist: Would Piaget or Vygotsky see the value of peer tutoring? How much teacher intervention should occur in discovery learning? Which theorist provides a basic framework for helping teachers to know what level of educational material is appropriate to teach to children of various ages? What are the strengths of this perspective, and what are its limitations?

***Collecting Data***

While studying development, researches use various methods to gather information. According to the text, researchers might ask the parents about the behavior of their children. Also, information about the development can be achieved by observation. What other methods can researchers use to gather relevant data, while studying development? Can they use survey methods? What would be the targeted audience for such a survey? Does the data from already available research stay true to the changing conditions and trends in the society? Can one rely on the information that is already there? Discuss the different methods that are available for collecting data and their advantages over the ones discussed in this chapter.

**Class Activities and Projects**

# ***Designing Studies***

There are many ways to examine issues of interest to child development. One issue that has often been investigated is the theory that watching violent TV shows causes aggression in children. Have students (either individually or in small groups) explain how they would study this using the methods given below.

1. Naturalistic observations: Where would you conduct these observations? What behaviors would you look for?
2. Case study: What kinds of behaviors would interest you?
3. Correlational study: What are the variables you are correlating? What would a positive correlation indicate? What would a negative correlation indicate?
4. Experimental study: What is the independent variable (IV)? What is the dependent variable (DV)? What is the experimental group? What is the treatment group?

Make sure students discuss what evidence would support and contradict the theory, as well as the pros and cons of each methodology.

***Modifying Child Behavior Using the Principles of Operant Conditioning***

Have students write a short paper making recommendations to a parent dealing with their two-year-old’s temper tantrums to get a cookie in the grocery store. Make sure students identify parent responses that would reinforce the tantrums and make them increase (e.g., giving attention to the child or giving him or her the cookie), as well as behaviors that would extinguish the behavior (e.g., ignoring them). Also, have students include a section on the possible consequences of spanking in this situation. A review by E. Gershoff (2002) is available in *Psychological Bulletin, 128(4),* 539-579 which students can use for this activity.

***Child Rearing Over Three Generations***

Have students interview their parents and grandparents about their experiences as children. Include in the interview such parenting practices as sleeping arrangements, infant feeding, discipline, household chores and responsibilities, after school activities, and rules for dating in adolescence. Encourage students to be creative when they think about other changes and/or differences for how children experienced childhood, even in recent times. Have students organize their findings into a chart; list their experiences down the left-hand side of the paper and their three generations across the top. Have students highlight the differences that surprised them the most.

# ***Scaffolding in Real Life: Assembling Puzzles with Children***

If possible, invite children of various ages to class (i.e., a two-year-old, four-year-old, and six-year-old). Have students help the children put together age-appropriate puzzles. Then have students discuss the ways in which they helped to scaffold the children’s thinking. Students will notice that the degree of assistance given to the younger children was more (perhaps showing them where the pieces go) when compared with the older children (perhaps only suggesting to start with the outside edges). This can also work as a class discussion if child participants are not available.

***Demonstration of Classical Conditioning: 3, 2, 1, POP!***

A simple demonstration can help students grasp the concepts involved in classical conditioning. Kohn and Kalat (1991) discussed an activity involving several air-filled balloons and a long dart or pin. To replicate this activity, students should inflate the balloons as much as possible so they will easily pop. Tape the balloons to a table in front of the class. Ask students to pay attention to their responses as you conduct the demonstration. Then, count down “3, 2, 1,” and pop the first balloon (if you are in a large auditorium, try doing this activity near a microphone so that the loud pop produces a startle response). Repeat this for the next few balloons. On the last balloon, count down, but then miss the balloon. Most students will actually not flinch to the last countdown. Ask the students to describe their responses. Then, help students to identify the aspects of classical conditioning: UCS = loud popping sound, UCR = flinching or other startle reaction, CS = countdown or hand movement, UCR = clinching muscles to prevent flinching. Students may have trouble identifying these components.

***Correlational Research and the Effects of Divorce on Children***

Have students work through the following research questions concerning the effects of divorce on children. This activity can be used as a way of expanding their understanding of research design and related concepts (naturalistic, correlational, experimental designs, developmental change investigation, independent and dependent variables, cause and effect, confounds, and ethical considerations).

1. Why do we think there might be consequences of divorce on child development? What kinds of naturalistic observational research may have supported these conclusions?
2. What might be some of the specific consequences of divorce on child development? What kinds of correlational studies might be conducted by developmental psychologists to examine whether or not there were reliable and valid relationships between divorce and these consequences? What are the possible confounding variables in this type of research?
3. What might be some of the issues concerning age differences in relationships between divorce and negative consequences? How could these be examined?
4. What kind of evidence might suggest that divorce causes negative consequences? What other explanations might there be for any correlational findings between negative consequences and divorce? What kind of research needs to be conducted to determine cause and effect in this case? In this research, what is (are) the independent variable(s), and what is (are) the dependent variable(s)?
5. In regard to ethical concerns, would any of this research be questionable? What might those be, and how should a researcher deal with them?

***Theoretical Positions of Developmental Theories***

One way for students to appreciate the similarities and differences of the many developmental theories presented in this chapter is to examine the stance each theory takes on the controversies of child development (i.e., nature**-**nurture, active-passive, and continuity-discontinuity). The theories can be discussed in small groups or as a class.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Nature-Nurture** | **Active-Passive** | **Continuity-Discontinuity** |
| **Freud’s Theory of Psychosexual Development** | Both | Passive | Discontinuous |
| **Erikson’s Theory of Psychosocial Development** | Both | Active | Discontinuous |
| **Watson’s Behaviorism** | Nurture | Passive | Continuous |
| **Bandura’s Social Cognitive Theory** | Nurture | Active | Continuous |
| **Piaget’s Cognitive-Developmental Theory** | Both | Active | Discontinuous |
| **Information-Processing Theory** | Both | Active | Continuous |
| **Lorenz’s Ethology** | Both (primarily nature but early experience is necessary) | Passive | Discontinuous (due to early critical period) |
| **Bronfenbrenner’s Ecological Systems Theory** | Both | Active | Continuous |
| **Vygotsky’s Sociocultural Theory** | Both | Active | Continuous |

***Conducting Research***

Ask students to select some negative (coming late to the class) and positive (taking notes in the class) behaviors that are common among students. After selecting certain types of behaviors, ask students to make a note of the governing factors of such behaviors. What methods would they use to assess such behaviors? If time permits, students should conduct a survey in their class or in groups to identify the governing factors of the behaviors chosen.

**Answer Key: *Truth or Fiction?***

As an introduction to each chapter, several statements are presented for students’ consideration. This is an excellent first class activity. For each question, you can ask students how confident they are about their answers and, if they were confident (especially about questions they got wrong), ask them where they thought their knowledge about the topic came from—personal experience, another person, an expert perhaps, intuition, or common sense. Use this discussion to highlight the importance of investigation and hypothesis testing in developmental psychology for accurate understanding of behavioral phenomena.

Use of the scientific method involves collecting data on more than one person. The observations need to be made by an unbiased observer, and reliable and valid measurement instruments need to be used. In addition, care needs to be taken to control for confounding influences. Many times over the course of the semester, students will feel they already “know” something about a topic in child development only to find that the research does not support their position. Remind them about this discussion early and often**.**

1. During the Middle Ages, children were often treated as miniature adults.

**Truth.** This does not mean that they were given more privileges, however. Instead, more was expected of them (1-2).

1. Nail biting and smoking cigarettes are signs of conflict experienced during early childhood.

**Fiction.** Actually, there is no evidence that nail biting and smoking cigarettes are signs of conflict experienced during early childhood. The statement must therefore be considered “fiction” (1-2a).

1. Research with monkeys has helped psychologists understand the formation of attachment in humans.

**Truth.** Researchers have exposed monkeys and other nonhuman animals to conditions that would be unethical to use with humans (1-4c).

1. To learn how a person develops over a lifetime, researchers have tracked some individuals for more than 50 years.

**Truth.** It is true that researchers have tracked some individuals for more than 50 years to learn how a person develops over a lifetime. The Terman study did just that. What are the advantages and disadvantages of longitudinal research as compared with cross-sectional research? (1-4d)

**Additional Reading Material**

Kohn, A. & Kalat, J.W. (1992). Preparingfor an important event: Demonstrating the modern view of classical conditioning. *Teaching of Psychology, 19(2),* 100–102.

# **Video Suggestions**

*Theories of Development* (1997, Insight Media, 29 minutes)

This video provides an overview of the cognitive, psychosexual, psychosocial, behaviorist, social-learning, and sociocultural theories of child development.

*Piaget’s Developmental Theory: An Overview* (1989, Davidson Films, 25 minutes)

This video provides a good introduction or review of basic concepts, including interviews with children by David Elkind.

*Erik Erikson: A Life’s Work* (1991, Films Media Group, 38 minutes)

This video integrates biographical information about Erikson with an overview of his eight-stage psychosocial theory of human development.

*B. F. Skinner: A Fresh Appraisal* (1999, Davidson Films, 40 minutes)

This video includes both archival and recent footage and is narrated by Murray Sidman. It clarifies some myths about behaviorism in the context of presentation of his theory and research.

*His Own Best Subject: A Visit to B.F. Skinner’s Basement* (2000, Davidson Films, 20 minutes)

This video consists of Skinner’s daughters discussing their father’s affection toward them and the kind of attention he gave to them. They also give a tour of the basement in which he used to write.

*Vygotsky’s Developmental Theory: An Introduction* (1994, Insight Media, 28 minutes)

This video provides a presentation of the basic concepts and vocabulary of Vygotsky’s constructivist educational approach to development.

*Innocence: What is a Child?* (1997, Films for the Humanities and Social Sciences, 54 minutes) This video provides historical perspectives on the construct of childhood innocence from the late nineteenth century to the present.

*Total Baby* (1995, Filmakers Library, 59 minutes)

This video discusses childrearing as a reflection of societal and cultural views of the era and examines ideas about children by different theorists (Aristotle, Dr. Spock).

*Research Methods for the Social Sciences* (1995, Insight Media, 33 minutes)

This video provides an overview of the key concepts of experimental design and reviews the different steps of the scientific method.

*Research Methods in Psychology* (2001, Insight Media, 28 minutes)

This video provides an overview of the observational and descriptive research designs (uses example of correlational findings on aggressive behavior and video games).

## **Key Terms**

Developmental psychology

Life-span perspective

Behaviorism

Maturation

Psychosexual development

Stage theory

Psychosocial development

Life crisis

Identity crisis

Classical conditioning

Operant conditioning

Reinforcement

Positive reinforcer

Negative reinforcer

Extinction

Social cognitive theory

Cognitive-developmental theory

Scheme

Adaptation

Assimilation

Accommodation

Equilibration

Ethology

Evolutionary psychology

Fixed action pattern (FAP)

Ecology

Ecological systems theory

Microsystem

Mesosystem

Exosystem

Macrosystem

Chronosystem

Zone of proximal development (ZPD)

Scaffolding

Nature

Nurture

Empirical

Naturalistic observation

Case study

Standardized tests

Correlation coefficient

Positive correlation

Negative correlation

Experiment

Hypothesis

Independent variable

Dependent variable

Experimental group

Control group

Longitudinal research

Cross-sectional research

Cohort effect

Cross-sequential research

Time lag