# Chapter 1 The Study of Human Development

## Chapter Overview

This chapter offers a comprehensive discussion of the foundational principles regarding human development. As you read Chapter 1, you will see key terms highlighted, learning objectives clearly identified, questions to think about, and “Test Yourself Questions” at the end of each section to help reinforce learning. The authors have included personal connections to assist students with better understanding of the concept of human development. For example, students will see the connection between their own personal life experiences and how they relate to the process of human development.

Chapter 1 defines the study of human development and establishes it as the multidisciplinary study of how people change and how they remain the same over time. Beginning in this chapter and reappearing in subsequent chapters, students will read about three recurring issues in human development: (1) nature versus nurture; (2) continuity versus discontinuity; and (3) universal versus context-specific development. Because of the influence of nature and nurture on everything human, and the continuing debate regarding the influence of genetics versus environment on development, the authors have expanded this discussion. They also introduce readers to the biopsychosocial framework, which focuses on the four interactive forces that influence human development across the life span: biological forces, psychological forces, sociocultural forces, and life-cycle forces. The second part of Chapter 1 focuses on the developmental theories used in life-span research to help us address the “whys” for development. Although there are no truly comprehensive theories of human development, five general perspectives influence current research: psychodynamic theory, learning theory, cognitive theory, ecological and systems theory, and the life-span/selective optimization with compensation/life-course perspective. The latter part of the chapter focuses on conducting the developmental research and the various research methods used. The chapter ends with a discussion regarding the responsibilities of researchers in conducting ethical research and in communicating results from research findings. The authors also highlight the importance of research results in driving public policy.

Every subsequent chapter references the biopsychosocial framework, the different theoretical perspectives, and the different types of methods used to study life-span development. Thus, it is important that students are well grounded in both theory and methodology and fully understand the three recurring issues—nature and nurture, continuity and discontinuity, and universal and context-specific development—in human development.

A summary as well as a list of key concepts is provided to help reinforce information presented throughout the chapter. If students or the professor wants to learn more about these topics, a list of additional readings is provided, along with useful websites and a list of relevant videos. A comprehensive outline of the chapter is as follows.

## Chapter Outline

I. Thinking About Development

* 1. What Is Human Development?
     1. **Human development** is the multidisciplinary study of how people change and how they remain the same over time.
     2. The science of human development (1) reflects the complexity and uniqueness of each person and their experiences, (2) seeks to understand commonalities and patterns across people, (3) is firmly grounded in theory, and (4) seeks to understand human behavior.
  2. Recurring Issues in Human Development: Three fundamental issues dominate the study of human development.
     1. **Nature Versus Nurture** is the degree to which genetic influences (nature) or experiential/environmental influences (nurture) determine the kind of person you are. Despite the ongoing debate as to which influence is greater, theorists and researchers recognize that development is always shaped by both—nature and nurture are mutually interactive influences.
     2. **Continuity Versus Discontinuity** focuses on whether a particular developmental phenomenon represents a smooth progression throughout the life span (continuity) or a series of abrupt shifts (discontinuity).
     3. **Universal Versus Context-Specific Development** focuses on whether there is just one path of development or several. In other words, does development follow the same general path in all people, or is it fundamentally different, depending on the sociocultural context?
  3. Basic Forces in Human Development: The Biopsychosocial Framework. This framework emphasizes that these four forces are mutually interactive and that development cannot be understood by examining them in isolation. By combining the four developmental forces, we have a view of human development that encompasses the life span, yet appreciates the unique aspects of each phase of life.
     1. **Biological forces** include genetic and health-related factors that affect development. Some biological forces, such as puberty and menopause, are universal and affect people across generations, whereas others, such as diet or disease, affect people in specific generations or occur in a small number of people.
     2. **Psychological forces** include all internal perceptual, cognitive, emotional, and personality factors that affect development. Psychological forces are the ones used most often to describe the characteristics of a person and have received the most attention.
     3. **Sociocultural forces** include interpersonal, societal, cultural, and ethnic factors that affect development. Culture refers to the knowledge, attitudes, and behaviors associated with a group of people. Overall, sociocultural forces provide the context or backdrop for development. Consequently, there is a need for research on different cultural groups. Another practical problem is how to describe racial and ethnic groups.
     4. **Life-cycle forces** reflect differences in how the same event affects people of different ages. The influence of life-cycle forces reflects the influences of biological, psychological, and sociocultural forces at different points in the life span. The same event can have different effects depending on when it happens in a person’s life. Life-cycle factors provide a context for understanding how people perceive their current situation and its effect on them.
  4. Neuroscience: A Window into Human Development
     1. **Neuroscience** is the study of the brain and the nervous system, especially in terms of brain–behavior relationships. This helped reveal interactions between biological, psychological, sociocultural, and life-cycle forces.

1. Developmental Theories
   1. A **theory** is an organized set of ideas designed to explain development.
      1. Theories organize knowledge in order to provide testable explanations of human behaviors and the ways in which they change over time.
      2. There are no truly comprehensive theories of human development to guide research.
   2. **Psychodynamic theories** hold that development is largely determined by how well people resolve the conflicts they face at different ages. This perspective can be traced to Sigmund Freud’s theory that personality emerges from conflicts experienced in childhood. Building on Freud’s idea, Erik Erikson proposed the first comprehensive life-span view of psychosocial development, in which he identified eight universal stages, each characterized by a particular struggle. The sequence of Erikson’s theory is based on the *epigenetic principle*, which means that each psychosocial strength has its own special period of particular importance. The psychodynamic perspective emphasizes that the trek to adulthood is difficult because the path is strewn with challenges.
   3. **Learning theory** focuses on how learning influences a person’s behavior. This perspective emphasizes the role of experience and that people learn from watching others around them. Two influential theories in this perspective are behaviorism and social learning theory.
      1. Behaviorism focuses on the work of John B. Watson, who believed babies were born a “blank slate,” and B. F. Skinner, who focused on ***operant conditioning*.** Operant conditioning is based on the notions of reinforcement, punishment, and environmental control of behavior.
      2. Social learning theory proposes that people learn by observing others in what is called ***imitation or observational learning***.
      3. Albert Bandura based his social cognitive theory on both cognitive and social aspects. He believed that ***self-efficacy***—people’s beliefs about their own abilities and talents—helps determine when people will imitate others.
   4. **Cognitive-developmental theory** focuses on thought processes and the construction of knowledge. From this perspective, the key is how people think and how thinking changes over time. This theory involves three distinct approaches:
      1. **Piaget’s theory** proposes a four-stage universal sequence of cognitive development in which the child constructs knowledge in a new way in each stage.
      2. **Information-processing theory** proposes that human cognition consists of mental hardware and software. Mental hardware refers to cognitive structures, and mental software includes organized sets of cognitive processes.
      3. **Vygotsky’s sociocultural theory** focuses on the ways that adults convey to children the beliefs, customs, values, and skills of their culture. Vygotsky was one of the first theorists to emphasize that children’s thinking is influenced by the sociocultural context in which they grow up.
   5. The **ecological and systems approach** proposes that human development is inseparable from the environmental contexts in which a person develops. Two examples of the ecological and systems approach are Bronfenbrenner’s ecological model and the competence–environmental press framework.
      1. **Urie Bronfenbrenner**, one of the best-known ecological theorists, proposed that development occurs in the context of a series of complex interconnected systems. Bronfenbrenner identified four levels of the environment: (1) microsystem, (2) mesosystem, (3) exosystem, and (4) macrosystem.
      2. **Competence–environmental press theory** suggests that there is an optimal “best fit” between one’s abilities and the demands placed on a person by the environment. People adapt most effectively when there is a good match between their competence or abilities, and the environmental press, or the demands put on them by the environment.
   6. **Life span, selective optimization with compensation, and life-course perspectives** view development in terms of where a person has been and where he or she is heading.
      1. The ***life-span perspective*** argues that human development is multiply determined and cannot be understood within the scope of a single framework. Its basic premise is that aging is a lifelong process of growing up and growing old, beginning with conception and ending with death. Paul Baltes and colleagues identified four key features of the life-span perspective:
         1. *Multidirectionality*—development involves both growth and decline.
         2. *Plasticity—*one’s capacity is not predetermined or carved in stone.
         3. *Historical context—*development occurs within a particular set of circumstances determined by the historical time period and the culture in which we grew up.
         4. *Multiple causation—*how we develop results from biological, psychological, sociocultural, and life-cycle forces.
      2. The ***selective optimization with compensation (SOC) model*** is based on the assumption that three processes (selection, compensation, and optimization) form a system of behavioral action that generates and regulates development and aging. The selection occurs for two main reasons: elective selection and loss-based selection. Compensation occurs when a person’s skills have decreased, and optimization involves minimizing losses and maximizing gains.
      3. The ***life-course perspective*** describes the ways in which various generations experience the biological, psychological, and sociocultural forces of development in their respective historical contexts. The key feature of the life-course perspective is the dynamic interplay between the individual and society, which involves three major factors: the individual timing of events; the synchronization of individual transitions; and the impact of earlier life events.
2. Doing Developmental Research
3. Measurement in Human Development
4. **Systematic observation** involves watching people and recording what they do in a natural setting, naturalistic observation, or in a setting created by the researcher for structured observation.
5. **Sampling behavior** **with tasks** is used when a behavior cannot be observed directly. A task is created to sample the behavior of interest.
6. **Self-reports** are people’s answers to questions about the topic of interest.
7. **Physiological measures** involve measuring people’s physiological responses (i.e., heart rate and cortisol levels) to focus on a particular aspect of a person’s behavior.
8. **Reliability and validity** refer to the extent to which a measure provides a consistent index of a characteristic (reliability) and whether it really measures what we think it measures (validity).
9. **Representative sampling** must reflect the characteristics of the population of interest.
10. General Designs for Research
11. **Correlational studies**allow the researcher to investigate relationships between variables. A ***correlation coefficient*** expresses the strength and direction of a relation between two variables. The size or strength of a relation is measured by how much the correlation differs from 0 to +1(positive) or -1(negative).
12. **Experimental studies** involve systematically manipulating key factor(s) that the investigator thinks causes a particular behavior.
13. ***Independent variable*** is the variable being manipulated (cause).
14. ***Dependent variable***is the behavior being observed (effect or outcome).
15. The **qualitative research method** involves gaining in-depth understanding of behavior and what governs it by attempting to uncover reasons underlying various aspects of it.
16. Designs for Studying Development
    * 1. **Longitudinal studies** observe or test the same individuals (a single cohort) repeatedly at different points in their lives. This approach studies development over time and is the most direct way to watch development occur. These studies have several limitations, such as participant dropout and repeated testing effects.
      2. **Cross-sectional designs** compare groups of people varying in age at one point in time. These studies only uncover age differences and are subject to the cohort effect.
      3. **Cohort effects** are problems with cross-sectional designs in which differences between age groups (cohorts) may result as easily from environmental events as from developmental processes.
      4. **Sequential designs** are multiple cross-sectional or longitudinal studies.
      5. **Meta-analysis** is a tool that allows researchers to synthesize the results of many studies to estimate relations between variables.
17. Conducting Research Ethically
18. Minimize risks to research participants.
19. Describe the research to potential participants.
20. Avoid deception.
21. Make results anonymous or confidential.
22. Communicating Research Results
23. When a researcher completes a study, a report will be written describing it. This report will be submitted for publication to one of several scientific journals that specialize in human development research.
24. Applying Research Results: Social Policy
25. Research on human development has an influence on social policy.
26. These connections are broad ranging and include areas that many of us may take for granted. For example, some states in the United States are changing the way older drivers are screened when they renew their driving license because research on human development played a role in establishing these laws and regulations.
27. Research on human development provides many insights into what makes people do the things they do and provides ways to improve quality of life.
28. Stem cell research is a very controversial topic that has far-reaching implications.

## Learning Objectives

*Thinking About Development*

* What fundamental issues of development have scholars addressed throughout history?
* What are the basic forces in the biopsychosocial framework? How does the timing of these forces affect their impact?
* How does neuroscience enhance our understanding of human development?

*Developmental Theories*

* What is a developmental theory?
* How do psychodynamic theories account for development?
* What is the focus of learning theories of development?
* How do cognitive-developmental theories explain changes in thinking?
* What are the main points in the ecological and systems approach?
* What are the major tenets of life-span and life-course theories?

### Doing Developmental Research

* How do scientists measure topics of interest in studying human development?
* What research designs are used to study human development?
* How do researchers integrate results from multiple studies?
* What ethical procedures must researchers follow?
* How do investigators communicate results from research studies?
* How does research affect public policy?

## Critical Thinking Discussion Questions

### Knowledge

1. Define human development.
2. What are the three recurring themes in human development?
3. What is the biopsychosocial framework?
4. Discuss Erikson’s psychosocial theory. How is this theory related to the epigenetic principle?
5. What are the two influential theories associated with the learning theory perspective?

### Comprehension

1. Provide an example of a cohort effect.
2. Explain the role of biological, psychological, and sociocultural forces in the life cycle.
3. Explain why conducting research ethically is so important.
4. Explain the ethical concerns and potential medical implications of stem cell research.

### Application

1. How might parents use social learning theory to understand their teen-aged child’s interest in spending large amounts of time on his or her social media page?
2. What type of research method would be best to use if you wanted to assess developmental change? Why is this method beneficial?
3. If you had to choose a theory that best represents your own viewpoint of human development, would you choose a single theory? If so, which one would you choose and why? Or, would you prefer to select certain components of several theories? Explain.
4. You are a Peace Corps worker in Rwanda for six months, and you are interested in studying how special needs children experience daily life in different cultures. Which research method should you use? Explain.

### Analysis

1. Compare and contrast the learning approach with the cognitive-developmental approach.

### Synthesis

1. Design an experiment to study the effects of cell phone usage by using a cross-sectional, longitudinal, and cross-sequential design. Discuss the pros and cons of each design in terms of how it can address the research question.
2. How might Piaget’s theory be integrated into Bronfenbrenner’s ecological and systems approach?
3. Two high school students were arrested for selling methamphetamine in the school’s parking lot before class. . How would the biopsychosocial framework explain the course of development of the two teens, and how would it explain what caused the teens to commit this crime? How would each of the five developmental theories explain why these teens would commit this crime?

### Evaluation

1. How should ethical standards be set?

* What criteria should be used to evaluate the validity of each theory presented in this chapter?

## Instructional Goals and Teaching Summaries

Breadth Versus Depth of Coverage: Your coverage of this chapter may depend on the level of exposure your students have had to other psychology courses. It may be necessary to review the basic tenets of each theory and provide some distinctions among them. By assigning one or more out-of-class exercises, you can cover all the theories in less than one class. Students who have had little or no exposure to research methods will need to understand the definitions of many of the terms used to describe the various research methods and will also need to see the application of these concepts through examples. If time is short, you may define important terms and assign one of the exercises on research methods described further.

A brief review of this chapter would use the biopsychosocial framework as an organizing theme. From there, you could define each theory in terms of the framework and describe how different research methods address different aspects of the framework.

Social Policy Implications: The lecture expander on cultural influences on research methods provides an excellent social policy focus. It is important for students to understand that research on human development has many real-life applications, thus potential biases have implications for public policy and education.

Focus on Theory: The chapter provides excellent coverage of theory, if you choose to organize your class time around this material. You will want to emphasize the role of theory in formulating research questions, determining the appropriate method, and providing the framework for interpreting results. You can focus your lecture on theory and definitions of aging by using the lecture expander, *Centenarians: Development from a Biopsychosocial Framework.*

Clinical or Applied Perspectives: Your lecture on theory can be made livelier by adding clinical and applied examples drawn from each theory. In addition to the obvious example of Erikson’s psychodynamic theory, you might elaborate on the uses of behavior theory to develop behavioral therapies for autistic and intellectually disabled children, the extension of cognitive theory to clinical depression and cognitive therapy, or the application of a sociocultural perspective to develop culturally sensitive clinical interventions. You may also want to view “Fathers and Autism” video featuring Dr. Robert Naseef on **https://www.youtube.com/watch?v=1r3W-RScxR4** or “Poor Kids” video on **http://www.pbs.org/wgbh/pages/frontline/poor-kids/** (which explores what poverty means to children in America). You can add a clinical or applied focus to the section on research methods by using examples of evaluation research (applied) or adding some discussion of case study methods (clinical). Viewing the videos can be used as means of expanding the lecture and giving students an opportunity to critically think about these relevant and very personal issues. Additional lecture expanders are provided next.

## Lecture Expanders

### **Centenarians: Development from a Biopsychosocial Framework**

The biopsychosocial framework discussed in this chapter can be used to examine the process of aging in those over 100, as observed by Thomas Perls (1995). His data called into question the notion that aging is accompanied by inexorable decline and debility. Instead, he provided a fascinating portrait of a surprisingly robust and active population. According to the biopsychosocial model, biological, psychological, and social factors all interact in a context of the life cycle to explain human development.

Projections based on the health and cognitive status of those in their 80s suggest that the ninth decade and beyond would be one of ill health and mental decline. One mortality estimate was that 50% of those in their 90s, and 70% of those over 100, would have Alzheimer’s disease. However, Perls observed in one sample that the actual rate of Alzheimer’s patients over age 100 was 25%.

Perls further noted that those in their 90s and 100s show lower rates of chronic disease than would be predicted. They are more likely to die of a short-term acute illness than their younger counterparts, thus they are able to remain healthy and active until a short-lived illness brings about their death. In his medical practice as a geriatrician, Perls treats many active and healthy people over the age of 95. His explanations for these surprising findings fit nicely with the biopsychosocial framework.

It may be that unusually healthy, very old individuals are evidence of a mechanism of selective survival. This concept has been applied to subpopulations that show surprising longevity. For example, although the death rates for African Americans compared to European Americans are higher at every age, beyond age 75, African Americans have, on average, a longer projected life span. Perls and others speculate that a vigorous genetic make-up provides protection against illnesses that usually accompany aging. This selective survival may also explain the relative good health of the very old. Additionally, important lifestyle considerations can interact with genetic factors. Those with extraordinarily long life spans make lifestyle choices that maximize their genetic potential for longevity. They are less likely than younger counterparts to smoke, more attentive to nutrition, and more physically active. Such individuals also tend to show resilience to stress and exhibit effective coping strategies for grief. Finally, at a social level, Perls observed that a surprising number of the very old defer retirement and may work into their 90s; they are also more likely than would be expected to be sexually active, enjoy outdoor activities, and live a full social life.

Not only does this description of aging beyond 90 provide an illustration of the biopsychosocial model but also the reality of life through age 100 may prove surprising to your students. The traditional definition of aging as a decline toward ill health, disability, and death may need to be replaced with an image of active and vital individuals with great potential for a full life until death.

Perls, T.T. (1995), The Oldest Old, *Scientific American*, 272, pp. 70–75.

### **Cultural Influences on Research Methods**

The authors provide a framework for understanding research methods based on the model presented by K. Warner Schaie (1984) of the effects of age, cohort, and time of measurement. You may want to expand your coverage of this model by looking at the effects of culture on research methods. A well-known book by David Matsumoto (1994) offers an excellent review of the influence of culture on research methods and statistics.

Matsumoto begins with the premise that culture often places boundaries on the “truths” gained from research. This is related to the theme of context-specific versus universal phenomena of development described in Chapter 1. What may be thought of (or sometimes taught) as universal aspects of development may well be culture-specific. According to Matsumoto, ethnocentric biases can influence all aspects of the research process: hypothesis generation, choice of method, data analysis, and interpretation. Especially important are measurement issues such as the operationalization of constructs, the equivalence of measurement across cultural groups, the validity of constructs across cultures, and language and translation issues. These issues are especially pertinent to developmentalists who face the same challenges in studying phenomena across age spans or cohorts.

As students read research reports, they should ask themselves several questions: What population does this sample of subjects represent? If the research compares cultures, is each sample representative of the population it represents? Do the variables measured have the same meaning for each cultural group? Would underlying psychological dimensions, such as individualism versus collectivism, aid the interpretation of a cultural difference?

Matsumoto, D. (1994). *Cultural Influences on Research Methods and Statistics,* Pacific Grove, CA: Brooks/Cole.

***Interesting Statistics Regarding Children in America***

Visit **http://www.childrensdefense.org/** and view some of the various statistical data regarding America’s children. For example, consider the “Moments in America for Children” (<http://www.childrensdefense.org/library/moments-in-america.html>).Ask students what the implications are for some of the statistics—what does it mean to them when they read them? To make an even more poignant point, have students keep track of time and see what happens to a child in that span of time. For example, over the course of minute, three babies are born to unmarried mothers. Also visit “Each Day in America” (<http://www.childrensdefense.org/library/each-day-in-america.html>) and see what happens to America’s children each day. Reviewing these statistics is a great way to introduce students to human development research and a way to make statistics interesting and even shocking, particularly as it relates to America’s children. For example, every day two mothers die from complications of childbirth.

## In the Classroom

### Demonstrations

1. *Group responses to operational definitions.* Divide the class into small groups. Assign each group a different experimental variable to operationalize. For example, aggression. Direct the groups to develop an operational definition for the assigned variable and share their ideas with the large group. Discuss the challenges of applying their operational definition to different age groups. For example, aggression and childhood versus aggression in late adulthood.
2. *Interview people of different generations.* Assign students the task of interviewing three adults from early, middle, and late adulthood. Instruct the class to pose questions about life experiences, education, work, and family lifestyle. The answers can be used to examine age and cohort differences and developmental processes.
3. *Use theories to explain behavior.* Create a list of examples of behavior that represent some important observations about human development. Examples could include the following: Are men and women the same? Does interest in sex decline with age? Is child abuse always harmful to the child?

### Small Group Activities/Role Plays/Simulations

1. *Review developmental theories and theorists.* Have students complete Handout 1-3 by matching theorists to their developmental theories. Review the responses with the whole class.
2. *Has childhood changed?* Have students work in small groups to debate changes in childhood. Are children today pushed into adulthood too fast? A counterargument to this position is that in the United States, adulthood is delayed, while adolescence is prolonged with the increase in college attendance. You can ask students to consider how changes in the culture, education, media, and family life relate to changes in the concept of childhood. Be sure to remind the class of the many differences there are among U.S. families, so that changes they observe may be limited to one segment of society.
3. *Define life stages.* Working in small groups, have students define some important life stages such as infancy, childhood, adolescence, adulthood, and old age. If your class is small enough, assign one group to each life stage, otherwise have several small groups work on each stage. For their definitions, students should include age boundaries, important events, milestones, or ages that signal the end of the stage and the onset of another stage. Your class discussion can focus on age- and event-based markers for life stages. When is age an important indicator of development? When are life events or milestones an important indicator of development?
4. *Identify various life stages*. Bring in several articles from home that identify various life stages and have students identify which life stage the article represents. Also, have students think about what other life stages a particular item represents—for example, a wedding photo may represent a bride in young adulthood and a father in later adulthood; a baby’s blanket could identify infancy as well as an adolescent mother or a mother in midlife. Try to bring in at least 8 to 10 objects, such as a report card, a briefcase, a baby’s first pair of shoes and a stuffed animal. Working in small groups of four to five people, have students identify to which stage of the life cycle the item refers. Have them also think about what other life stage the article may represent. Once students have identified which life cycle the article could represent, you can identify which stage it actually does represent, offering a brief story/discussion about the object. Students can also bring in objects to add to the discussion.
5. *Analyze a research article*.Students should read a research article (either provided by you or assign them to find one in the library and bring a copy to class) and be prepared to describe the research to the class. Working in groups, students should identify the purpose of the research and describe the method used (see Handout 1-2).

## Outside the Classroom

### Short Writing Assignments

1. *Family autobiography*. Students can write a family story, drawing either from their own knowledge or from an interview with an older family member. They should write no more than two pages of description, and then use the material in Chapter 1 to analyze their story. In particular, they can use the biopsychosocial framework to explain critical events in their family story.
2. *Celebrities and Perspectives*. Have students select a celebrity and write an explanation for their success and/or struggles in life from each of the major perspectives in psychology.

### Longer Writing Assignments

1. *Contemporary advice to parents*.Students should read one or two articles from popular magazines or websites. Examples could be weaning, sleeping arrangements, use of daycare, discipline, homework problems, sexuality education, or coping with divorce. In this assignment, students should summarize the advice given and compare it to the theoretical views in Chapter 1. Does this advice have any significant relationship to current psychological approaches to development? A more complex paper assignment would have students use psychological journals to analyze the quality of the advice given in the popular press articles they found. Is there any research available to support the advice given in the article(s)? To examine generational differences, students can look for historical advice on the same childrearing topic from the 1960s, 1950s, and 1940s. How did these earlier articles define the problem and give advice? What does this suggest about changes in childrearing? Is there any relationship to the theories of human development described in Chapter 1?

### Projects/Collaborative Activities

1. *Observational research*. Organize the class into groups of four or five students. Assign each group a research topic suitable for observational research. Possible topics are interpersonal behavior (e.g., touching and looking) of couples across age groups, time spent studying in the library, parental discipline in public places (e.g., shopping malls), play activities of boys and girls, and gender differences in adult conversational behavior.

In preparation, discuss how to develop a behavioral taxonomy, starting with clear operational definitions of all behaviors to be observed, making sure each behavior is defined such that it is mutually exclusive of every other behavior, and making sure that each target behavior can be observed and does not need to be inferred from other behaviors or events. You will also want to discuss how to measure behaviors, either by frequency count or by timing their duration. Each student group should create the behavioral taxonomy for their topic and develop a plan for observation. You should review these plans before the observations take place. You can have each student write an independent research report using the group’s data, collect a group report, or have each group give a five-minute report to the class on their project.

1. *Observation of children or adolescents in real-life settings*. Observing children and adolescents in a real-life setting can be a very useful activity. Assign students the task of observing children or teenagers for about 30 minutes in a setting of their choosing. The setting can be either natural (home, the mall, church, movie theatre, park, sporting event, cultural event, etc.) or structured (daycare, school, etc.). If students choose a structured setting, they must obtain permission first and make arrangements to visit on their own time. If there is a Child Development Center on campus, this may be a wonderful opportunity for students to acquaint themselves with it and gain access to a structured environment in which they can observe children in toddlerhood and early childhood. After observing a child or adolescent, students should submit a typed, one-page summary of their observations, including place visited, date and time, who and what was observed, and reactions to the observation. In their observational write-up, students are expected to comment on cognitive development, physical development, and emotional and social development of the individuals observed (as much as they can). Have students share their observations in small groups and possibly with the entire class.

## Suggested Websites

* The American Psychological Association provides information about psychology in daily life at **http://www.apa.org/**.
* The Future of Children’s website (**http://www.futureofchildren.org/**) provides recent research on relevant topics, including child well-being, children and families, education, and public policies.

## Internet Activities

1. To find out more about conducting research ethically, go to the American Psychological Association’s Ethical Principles of Psychologists and Code of Conduct page. Read through Section 8 of the code on research ethics.

Have students write a paper describing the three sections of the code they believe are the most important and provide a basis for their choices.

1. Visit **http://www.childrensdefense.org/library/moments-in-america.html** “Moments in America.” Have students discuss how race impacts the experiences of children in America and the differences for white, Hispanic, African American, and Asian children. Have students discuss the implications of the findings of both sites.

## Spotlight on Research

*The Stability of Intelligence from Age 11 to Age 90 Years*

Have students read the section “Spotlight on Research” to better understand how intelligence remains stable or changes over one’s life span. Continue your discussion of the study presented by expanding on these questions:

* 1. *Who were the investigators, and what was the aim of the study?* A long-standing issue in human development is the degree to which personal characteristics, such as intelligence, remain stable or change over one’s life span. Ian Deary, Alison Pattie, and John Starr (in press) were able to address this issue by examining the stability and validity of individual.
  2. *How did the investigators measure the topic of interest?* The primary assessment of intelligence was the Moray House Test, which mainly tests verbal reasoning, along with some numerical and other items. Participants were also given the National Adult Reading Test, Mini-Mental State Examination (a screening test for dementia), Raven’s Progressive Matrices (a measure of nonverbal reasoning), and the Wechsler Logical Memory Test (a test of verbal recall of stories).
  3. *Who were the participants in the study?* The participants were members of the 1921 Lothian (Scotland) Birth Cohort. In 1932, at roughly age 11 years, almost every member of the cohort was given the Moray House Test in school.
  4. *What was the design of the study?* The study used a longitudinal design.

5. *Were there ethical concerns with this study?* No, there were no ethical concerns with this study.

6. *What were the results?* The correlation between raw scores on the Moray House Test at age 11 and age 90 was 0.67. Scores correlated 0.73 between ages 79 and 90. Importantly, scores on the Moray House Test correlated with the other cognitive measures, evidence of the Moray House Test’s validity.

7. *What did the investigators conclude?* Deary, Pattie, and Starr concluded that individual differences in intelligence in middle childhood as measured by the Moray House Test showed reasonably high stability at age 90. In other words, smart 11-year-olds tend to be smart 90-year-olds and not-so-smart 11-year-olds tend to be not-so-smart 90-year-olds.

1. *What converging evidence would strengthen these conclusions?* Because the sample included only Scottish participants, it would be necessary to study people from other cultures to find out whether the results generalize across cultures. In addition, the use of only one test in the assessment of the participants at age 11 provides a narrow view of intelligence more generally.

## See for Yourself: Applying What You’ve Learned

Hurricane Katrina and its aftermath, occurring late summer in 2005, is a defining moment in American history. Prior to the hurricane, most Americans, including those along the Gulf Coast, gave little thought to their vulnerability. Following the aftermath of hurricanes Katrina and Rita, many Americans were glued to their television sets as they watched people devastated by category 5 storms try to survive without food, water, medical supplies, and other basic necessities. Many people, including those affected directly and indirectly by these storms, reevaluated their lives. Many hurricane victims were reluctant to leave their homes because they had no place to go; many were forced to leave their homes because they were unable to stay. Many were afraid and lost all sense of hope.

Have students talk with several people of different ages about how they were affected by hurricane Katrina. As students interview these people, make sure that they ask them how they felt watching the news, seeing people left to survive by any means necessary. Have students ask how safe or vulnerable they feel if a similar type of devastation were to befall them. Ask them about the federal and local government’s response then and now to those affected by the storm. Have students compare their responses to see how the various reactions differ. These differences illustrate the life cycle.

Visit **http://www.nytimes.com/2005/11/16/education/16teach.html** and access the story, “Helping Students Cope with Katrina-Tossed World,” by Emma Daly, published November 16, 2005. Discuss the impact of hurricane Katrina on students. Review other articles on the site. Have students synthesize their ideas by writing a paper about how hurricane Katrina affected people in various stages of the life cycle, racial groups, and socioeconomic classes.

## Video Recommendations

* **B. F. Skinner: A Fresh Appraisal**. (1999). Davidson Films, Inc. 41 minutes.
* **Nature and Nurture Development Parts I & II.** (1993). GPN. 30 minutes.
* **The Developing Child.** (2001). Annenberg (Discovering Psychology Updated Edition). 30 minutes.
* **Bang Goes the Theory:** Nature v Nurture segment. (2012). BBC. 7 minutes. Available on YouTube at <https://www.youtube.com/watch?v=8mvZ4EbPbME>.
* **Vygotsky’s Developmental Theory: An Introduction.** (1994). Davidson Films, Inc. 28 minutes.
* **How We Study Children**. (1994). Insight Media. 25 minutes.
* **Erik and Joan Erikson. (**2012). YouTube, 13 minutes.
* **Disney Pixar and Erik Erikson’s Eight Stages of Development. (**2016). 6 minutes. Available on YouTube at <https://www.youtube.com/watch?v=Iz-AeGMhzV0>.
* **Piaget’s Developmental Theory: An Overview.** (1991). Davidson Films, Inc. 28 minutes.
* **Observation.** (2004). Insight Media. 29 minutes.
* **Psychological Research—Crash Course Psychology #2.** 11 minutes. Available on YouTube at <https://www.youtube.com/watch?v=hFV71QPvX2I>.

## Suggested Readings

Crain, W. (2014), *Theories of Development: Concepts and Applications (6th ed.).* Pearson Education Limited.

Delaney, S. & Delany, E. (1993). *Having Our Say.* Kodansha International.

Freeman, M., & Mathison, S. (2009). *Researching Children’s Experiences: Approaches and Methods.* The Guilford Press.

Jeanes, R., & Kay, T. (2013). *Negotiating Ethical Challenges in Youth Research.* Routledge.

McLoyd, V. C. (2004). Linking Race and Ethnicity to Culture: Steps along the Road from Inference to Hypothesis Testing. *Human Development, 47*(3), 185–191.

Newman, B. M., & Newman, P. R. (2007). *Theories of Human Development.* Erlbaum.

Rutter, M. (2006). *Genes and Behavior: Nature–Nurture Interplay Explained.* Blackwell.

Salkind, N. J. (2004). *An Introduction to Theories of Human Development.* SAGE Publications.

Santrock, J. W. (2014). *Life-Span Development*. McGraw-Hill.

## Key Terms

Here is a list of key terms in the order in which they appear in Chapter 1.

* Human development
* Nature–nurture issue
* Continuity–discontinuity issue
* Universal versus context-specific development issue
* Biopsychosocial framework
* Neuroscience
* Theory
* Psychodynamic theories
* Psychosocial theory
* Epigenetic principle
* Operant conditioning
* Reinforcement
* Punishment
* Imitation or observational learning
* Self-efficacy
* Information-processing theory
* Ecological theory
* Microsystem
* Mesosystem
* Exosystem
* Macrosystem
* Competence
* Environmental press
* Life-span perspective
* Selective optimization with compensation (SOC) model
* Life-course perspective
* Systematic observation
* Naturalistic observation
* Structured observations
* Self-reports
* Reliability
* Validity
* Populations
* Sample
* Correlational study
* Correlational coefficient
* Experiment
* Independent variable
* Dependent variable
* Qualitative research
* Longitudinal study
* Cross-sectional study
* Cohort effects
* Sequential design
* Meta-analysis

**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

## Handout 1-1: Research Design

For each of the followinghypotheses, identify the independent and dependent variables, give an operational definition for each, and decide what research strategy (cross-sectional, longitudinal, or sequential), type of design (experimental or nonexperimental), and method of data collection (observational, individual testing, survey, or questionnaire) you would use to test each hypothesis.

**1. Only children are more self-centered than children with siblings.**

Independent Variable:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Operational Definition:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Dependent Variable:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Operational Definition:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Research Strategy:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Type of Design:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Data Collection: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**2. Children who learn to use a computer will be better students in school.**

Independent Variable:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Operational Definition:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Dependent Variable:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Operational Definition:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Research Strategy:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Type of Design:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Data Collection: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3. Adults who enjoy their work will live longer.**

Independent Variable:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Operational Definition:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Dependent Variable:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Operational Definition:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Research Strategy:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Type of Design:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Data Collection: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

## Handout 1-2: Analyzing a Research Article

Title of article: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Author: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Journal/year: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

In groups, answer the following questions about the research article:

1. What is the purpose of this study?

2. What are the independent and dependent variables?

3. What type of study was conducted, and how did the researchers collect their data?

4. What were the results?

5. What can you conclude from this research? What are the practical implications of these findings?

6. Were there flaws in the research? How could this study be improved?

**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

## Handout 1-3: Developmental Theories

Directions: Match Column “A” with its corresponding answer in Column “B.”

**Column A**

1. \_\_\_\_\_\_\_ Cognitive development.

2. \_\_\_\_\_\_\_ Psychosocial theory.

\_\_\_\_\_\_\_

3. \_\_\_\_\_\_\_ One of the first theories to emphasize the influence of the sociocultural context on development.

4. \_\_\_\_\_\_\_ Focuses on how a developing person is embedded in a series of interacting systems.

5. \_\_\_\_\_\_\_ Information-processing theory.

6. Developed the five stages of psychosexual development.

7. \_\_\_\_\_\_\_\_ Studied operant conditioning

8. \_\_\_\_\_\_\_\_ Observational learning

9. \_\_\_\_\_\_\_ Based his social cognitive

theory on a complex view of reward, punishment, and imitation.

10. \_\_\_\_\_\_\_ According to this theory, howwell people adapt depends on the match between their abilities and the demands put on them by the environment.

11. \_\_\_\_\_\_\_ Aging is viewed in the contextof the rest of the life span.

**Column B**

* 1. Life-span perspective
  2. Bronfenbrenner’s ecological theory
  3. Vygotsky’s sociocultural theory
  4. Sigmund Freud
  5. Erik Erikson
  6. Jean Piaget
  7. Proposes that human cognition consists of mental hardware and software.
  8. Albert Bandura
  9. B.F. Skinner
  10. People learn much by simply watching those around them.
  11. Competence-environmental press theory

**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

## Handout 1-3: Developmental Theories

## Answer Key

Match Column “A” with its corresponding answer in Column “B.”

**Column A**

1. \_\_F\_\_\_ Cognitive development.

2. \_\_E\_\_\_ Psychosocial theory.

3. \_\_C\_\_\_ One of the first theories to emphasize the influence of the sociocultural context on development.

4. \_\_B\_\_\_ Focuses on how a developing person is embedded in a series of interacting systems.

5. \_\_G\_\_\_ Information-processing theory.

6. \_\_D\_\_\_ Developed the five stages of psychosexual development.

7. \_\_I\_\_\_ Studied operant conditioning.

8. \_\_J\_\_\_ Observational learning.

9. \_H\_\_ Based his social cognitive theory on a complex view of reward, punishment, and imitation.

10. \_K\_\_ According to this theory, how well people adapt depends on the match between their abilities and the demands put on them by the environment.

11. \_\_A\_\_ Aging is viewed in the context of the rest of the life span.

**Column B**

* 1. Life-span perspective
  2. Bronfenbrenner’s ecological theory
  3. Vygotsky’s sociocultural theory
  4. Sigmund Freud
  5. Erik Erikson
  6. Jean Piaget
  7. Proposes that human cognition consists of mental hardware and software.
  8. Albert Bandura
  9. B.F. Skinner
  10. People learn much by simply watching those around them.
  11. Competence-environmental press theory