# Chapter 1 The Study of Human Development

## 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 the life-span and the 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?
* What ethical procedures must researchers follow?
* How do investigators communicate results from research studies?
* How does research affect public policy?

## Chapter Outline

I. Thinking about Development

* 1. Overview
     1. **Human development** is the multidisciplinary study of how people change and how they remain the same over time.
  2. Recurring Issues in Human Development
     1. **Nature and nurture** are the degree to which genetic or hereditary influences (nature) and experiential or environmental influences (nurture) determine the kind of person you are.
     2. **The continuity-discontinuity issue** concerns whether a particular developmental phenomenon represents a smooth progression throughout the life-span (continuity) or a series of abrupt shifts (discontinuity).
     3. **The universal and context-specific development issue** concerns whether there is just one path of development or several.
  3. Basic Forces in Human Development: The Biopsychosocial Framework
     1. **Biological forces** include all genetic and health-related factors that affect development.
     2. **Psychological forces** include all internal perceptual, cognitive, emotional, and personality factors that affect development.
     3. **Sociocultural forces** include interpersonal, societal, cultural, and ethnic factors that affect development.
     4. **Life-cycle forces** reflect differences in how the same event affects people of different ages.
  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.

1. Developmental Theories
   1. A **theory** is an organized set of ideas designed to explain development.
   2. **Psychodynamic theories** hold that development is largely determined by how well people resolve the conflicts they face at different ages.
      1. **Erik Erikson’s psychosocial theory** proposes that personality development is determined by the interaction of an internal maturational plan and external societal demands.
         1. The sequence of stages in Erikson’s theory is based on the **epigenetic principle**, meaning that each psychosocial strength has its own special period of particular importance.
   3. **Learning theory** focuses on how learning influences a person’s behavior.
      1. Behaviorism was pioneered by B.F. Skinner, who showed that **reinforcements** and **punishments** are especially influential on behavior.
      2. Social learning theory proposes that people learn by observing others in what is known as **imitation or observational learning**.
         1. Bandura 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.
      1. **Piaget’s theory** proposes a four-stage process of cognitive development.
      2. **Information-processing theory** proposes that human cognition consists of mental hardware and mental software.
      3. **Vygotsky’s sociocultural theory** was one of the first theories to emphasize the influence of children’s sociocultural context on their thinking.
   5. The **ecological and systems approach** proposes that human development is inseparable from the environmental contexts in which a person develops.
      1. **Urie Bronfenbrenner** proposed that the developing person is embedded in a series of complex and interactive systems: the microsystem, the mesosystem, the exosystem, and the macrosystem.
      2. **Competence-environmental press theory** suggests that people adapt most effectively when there is a good match between their competence, or abilities, and the environmental press, or demands, put on them by the environment.
   6. The **life-span perspective** argues that human development is multiply determined and cannot be understood within the scope of a single framework.
      * 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 their historical time and culture.
        4. Multiple causation – how we develop results from biological, psychological, sociocultural, and life-cycle forces.
   7. 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.
   8. 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.
2. Doing Developmental Research
3. Measurement in Human Development
4. **Systematic observation** involves watching people and recording what they do or say.
5. In **naturalistic observation**, people are observed as they behave spontaneously.
6. In **structured observations**, the researcher creates a setting that is likely to bring out the behavior of interest.
7. **Sampling behavior** **with tasks** is used when a behavior cannot be observed directly. A task is created to sample the behavior of interest.
8. **Self-reports** are people’s answers to questions about the topic of interest.
9. **Physiological measures** involve measuring people’s physiological responses (e.g., heart rate, cortisol levels).
10. **Reliability** refers to the extent to which a measure provides a consistent index of a characteristic. **Validity** refers to whether it really measures what we think it measures.
11. **Representative sampling** refers to the degree to which the **sample** is representative of the **population** of interest.
12. General Designs for Research
13. **Correlational studies**allow investigators to look at relations between variables as they exist naturally in the world. A **correlation coefficient** expresses the strength and direction of a relation between two variables.
14. **Experimental studies** involve systematically manipulating key factor(s) that the investigator thinks causes a particular behavior.
15. The **independent variable** is the variable being manipulated.
16. The **dependent variable**is the behavior being observed.
17. The **qualitative research method** involves gaining in-depth understanding of behavior and what governs it.
18. Designs for Studying Development
    * 1. **Longitudinal studies** observe or test the same individuals repeatedly at different points in their lives.
      2. **Cross-sectional studies** compare groups of people varying in age at one point in time. These studies are affected by **cohort effects**, which are the differences between age groups (cohorts) that may reflect environmental events instead of developmental processes.
      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 based on both cross-sectional and longitudinal designs.
19. Conducting Research Ethically
    1. Good research designs must not violate the rights of participants.
20. Communicating Research Results
21. When a researcher completes a study, a report is submitted to a journal that specializes in human development research.
22. Applying Research Results: Social Policy
23. Research on human development has a strong influence on policy makers and politicians.

## Lecture and Discussion Topics

### Neuroscience and developmental psychology converge. Students tend to be quite comfortable with biological explanations for behavior and disorders, having seen media coverage of neuroscientific evidence for much of their lives.

### It may surprise them, then, to learn that the convergence of neuroscience and developmental psychology is relatively recent. One strong example of this convergence was published in 2007 in Psychological Bulletin (full reference below). You can briefly present this study as a case in point of how developmental psychology and neuroscience can fruitfully feed one another. You could also lead into a discussion of why neuroscience has not been a stronger part of developmental psychology to date (one major reason includes limitations of neuroimaging methodology for use on children). What insights can your students foresee developmental psychologists gaining from neuroscience research in the future?

Yeates K.O., Bigler E.D., Dennis, M., Gerhardt, C.A., Rubin, K.H., Stancin, T., Taylor, H.G., & Vannatta, K. (2007). Social outcomes in childhood brain disorder: A heuristic integration of social neuroscience and developmental psychology. *Psychological Bulletin*, *133* (3), 535-556.

### The prominence of developmental theories in modern psychology. Your students may expect to hear a lot about Freud and his stages of development in a developmental psychology course. In reality, though, the textbook barely makes mention of him, and you are unlikely to highlight his theory in great detail. Why the difference between expectation and actual coverage? To discuss this topic and clarify student expectations, tell your students about an article by Patricia Cohen that was published in The New York Times (reference below). She notes a study that found that over 1,700 courses mentioned psychoanalysis, but 86 percent of those courses were offered outside of psychology departments. Have your class brainstorm why psychology departments do not make large use of Freudian theory while other disciplines do, and whether they find this fact to be problematic. You can then lead into a discussion of why the other theories of development are more influential in the contemporary field of developmental psychology and whether students agree with their prominence. Do they foresee any of these “popular” theories eventually being shunned by mainstream psychology? Why or why not?

Cohen, P. (2007, November 25). Freud is widely taught at university, except in the psychology department. *The New York Times.* Accessed June 5, 2012 at: <http://www.nytimes.com/2007/11/25/weekinreview/25cohen.html>

### Questionable research practices in psychology. In recent years, there have been a number of high-profile cases of psychologists falsifying data, including Diederik Stapel and Marc Hauser. No developmental psychologists have been caught in the crosshairs yet, but new research suggests that most psychologists cut corners when producing their research reports. Leslie John and colleagues asked 2,000 psychologists about a variety of questionable research practices, including selectively reporting studies that “worked,” failing to report all dependent measures, collecting more data after checking if the results were significant, and falsifying data. They found that 70 percent had engaged in one or more of these practices and that 35 percent had doubts about the integrity of their own research. Present this article (reference below) to your class and lead a discussion on the topic. Are any of the so-called “questionable research practices” defensible? If so, which ones and why? Which are not acceptable? Why? How might psychology work to decrease the prevalence of such scientific misconduct?

John, L., Loewenstein, G., & Prelec, D. (2012). Measuring the prevalence of questionable research practices with incentives for truth-telling. *Psychological Science. 23.* 524-532.

## In-Class Activities

### Demonstrations

1. *Present the nature-nurture issue using a cooking metaphor.* Flour tortillas, matzo, bread, and brownies share similar ingredients but clearly taste vastly different. Psychologist David Miller uses this fact to engagingly present the nature-nurture issue. He suggests that the ingredients can be considered genetic factors (nature), while the method of cooking is the experiential (nurture) element. Each of the resulting foods is the developmental outcome that arises from a combination of “nature” and “nurture.” You may choose to present this cooking metaphor using the actual foods or simply as photographs on a slideshow. To learn more about this demonstration, access the following article:

Miller, D.B. (2000). The nature-nurture issue: Lessons from the Pillsbury doughboy. In M.E. Ware & D.E. Johnson (Eds.), *Handbook of Demonstrations and Activities in the Teaching of Psychology, Second Edition, Volume II* (317-318).Oxon, England: Psychology Press.

1. *The ecology of celebrities.* A great way to get students talking is to have them relate developmental topics to someone they all “know.” In modern culture, celebrities serve as our common “friends.” Choose someone who is high-profile at the moment (or have your students throw out ideas and then vote). Then write “microsystem,” “mesosystem,” “exosystem,” and “macrosystem” on different parts of the blackboard and, as a large group, write down what falls in each for your chosen celebrity. You can then discuss which elements your celebrity shares with your students and yourself (much of the exosystem and the macrosystem) and whether this chart would change much if you had chosen a different celebrity. This demonstration gets students thinking about commonalities and differences in the ecology of individuals and how these forces affect development. It also helps them better understand the actual elements of the levels in the ecological model.
2. *Mapping out the developmental research designs.* Students often understand the longitudinal, cross-sectional, and sequential designs best when they can see them drawn out in front of them. Work with your class to construct diagrams of the developmental research designs on the board. Start by presenting an idea for developmental research that you and/or your class finds compelling (for example, are social networking sites used differently at different points in the life-span?). Then have students help you plot out how this study could be conducted using a cross-sectional design, then a longitudinal design, and finally a sequential design. You may end up drawing something similar to the following.

***Cross-Sectional:***

Time 1

20-year-olds

35-year-olds

50-year-olds

***Longitudinal:***

Time 1 Time 2 (15 yrs later) Time 3 (15 yrs later)

20-year-olds 35-year-olds 50-year-olds

***Sequential:***

Time 1 Time 2 (15 yrs later) Time 3 (15 yrs later)

20-year-olds 35-year-olds 50-year-olds

35-year-olds 50-year-olds 65-year-olds

50-year-olds 65-year-olds 80-year- olds

### Small Group Activities/Role-Plays/Simulations

1. *Create a preschool using the developmental theories.* In groups of 4 to 6, ask your students to complete the following assignment. When they are done, have each group perform their commercial in front of the class. You might have students vote on their favorite commercial (i.e., the one that uses the developmental theory most effectively) and provide some sort of incentive for winning the voting (e.g., extra credit or a piece of candy).

You are a member of the board for a small developmental preschool. You have been charged with preparing the curriculum for your small preschool, which will run using influences from a developmental theory. Choose ONE of the following theories to use for your preschool:

* Psychodynamic Theory
* Learning Theory
* Cognitive-Developmental Theory
* The Ecological and Systems Approach
* The Life-Span Perspective, Selective Optimization with Compensation, and the Life-Couse Perspective

Your tasks:

1. Write a mission statement for your school.
2. Come up with a brief commercial advertising your program. Be prepared to perform it in front of the class.
3. *Put the developmental theories into practice.* Have students form small groups (2 to 3 students each) and work on Handout 1-2 together. When they are done, discuss the activity as a large group. Which theory or theories did they like best in practice? In what ways was each theory limited? Based on their comments, you may lead into a useful discussion about the value of the theories when they are considered in conjunction with one another. As an alternative approach to this exercise that takes less time, you can assign each group to use a particular theory for each of the cases (for example, two groups use learning theory on #1, two groups use cognitive theory on #1, and so on) and then come back together and discuss their different perspectives on the same case.
4. *Identify the developmental research designs from examples.* Have your students break into small groups (2 to 4 students each) and ask them to fill out Handout 1-3. They will be required to identify the developmental research designs used in each case. When they are done, come back together and discuss their answers. This is a good opportunity to lead into a discussion of the advantages and disadvantages of each approach.

## Outside the Classroom Activities

*Projects*

1. *Consider the biopsychosocial forces in a relative’s life.* Interview one of your relatives or someone else with whom you are close. Ideally the person will have already experienced a great deal of development (for example, an elderly person). Focus on determining the primary biological, psychological, sociocultural, and life cycle forces that have affected the individual’s development. After the interview, fill out Handout 1-1 and write a three-page paper that discusses how these forces have interacted in the individual’s life.
2. *Read the theorists’ own words.* A great way to appreciate the contributions of the psychologists who contributed to the theories of development is to read their own words. Many classic articles are archived online at http://psychclassics.yorku.ca/. Searching by either author or topic, choose one article or, if it is an online book, one chapter that is of interest to you. Write a two-page paper that summarizes the article/chapter and briefly discusses how you see this article/chapter helped you understand the material presented in Chapter 1 of the textbook.
3. *Perform a naturalistic observation*. It’s easy to perform a naturalistic observation of children simply by visiting your local park. Spend a half-hour simply watching kids play with one another and with their parents. What behaviors do you see children demonstrating repeatedly? Do any behaviors seem to be linked to gender? How do their behaviors differ with age (e.g., proximity to caregivers decreases with age)? When you return home, write a two-page paper discussing your observations. Based on these observations, formulate three research questions and hypotheses that could be investigated through further research.

### Journal Prompts

1. *Nature and nurture in your life.* In what ways have nature and nurture impacted your development? Do you possess any attributes that seem to be more clearly influenced by one factor over the other? Is there any way to tease apart what has resulted from nature and what has resulted in nurture in your own development? Write a one-page journal entry addressing this topic.
2. *Your favorite developmental theory.* Which developmental theory appeals most to you? Why do you find this theory of development particularly compelling? Even though it is your favorite, what are the downfalls or limitations of this theory? Write a one-page journal entry that answers these questions.
3. *Ethics of conducting research with children.* Young children, especially those who cannot talk yet, obviously cannot actively choose to participate in research. As a result, when researchers work with participants under 18 years of age, they must collect written informed consent from a parent or guardian and verbal assent (when possible) from the child. Psychologists find this procedure to be ethical, but do you agree? Is it acceptable to include children in research when they do not understand what will be asked of them or how the results will be used? If yes, why is it acceptable? If not, why not? Do you believe the benefits outweigh any questions you may have about this practice? Address these questions in a one-page journal entry.

## Human Development in Action

Here are sample answers to the “Human Development in Action” questions that appear in the margins of the textbook.

1. Think of some careers, such as professional baseball player, computer company manager, and artist. How do nature and nurture influence these behaviors?

***Sample Answer:*** Like most behaviors, careers probably arise from a combination of nature and nurture. For instance, a professional baseball player has to have innate athletic talent to play baseball at such a high level. Even so, the player had to be exposed to baseball early in his life and had to have frequent opportunities to develop that talent in order to allow his natural abilities to shine. The same could be said of any career at which one excels. Both nature and nurture affect our careers because we must be naturally skilled and must have had the opportunity to practice those skills.

1. If you were an elementary school teacher, how would understanding operant conditioning help you understand the behavior of the students in your class?

***Sample Answer:*** In order to understand the students’ behavior, I would pay attention to the consequences of their action. For instance, I may wonder why a child is getting out of his seat repeatedly. Using principles of learning theory, I would realize that he is receiving positive reinforcement in the form of attention from his classmates and me. In addition, he is being negatively reinforced for the behavior because he is avoiding his classwork every time he leaves his seat.

1. If you were an adult protective services case worker, what would be the relative advantages of systematic observation, sampling behavior with tasks, and self-reports?

***Sample Answer:*** Systematic observation would provide me with the most realistic, natural assessment of the situation since I would not intervene in any way to collect the data. Sampling behavior with tasks would be helpful in eliciting behaviors that would be difficult to observe in a short span of time. For instance, I might present a frustrating task that an elderly person and her caregiver need to complete together in order to observe whether the caregiver demonstrates harsh treatment when frustrated. Finally, self-reports would be helpful in learning about the elderly individual’s perspective about their care, as well as their caregiver’s view of the situation.

## Linking Research to Life

*Would You Want to Live to be 120?*

After students have read the “Linking Research to Life” section of the text, have them answer the following questions:

* What group was responsible for conducting the research?
* How was the research conducted?
* Why do you think only 56% of people polled said that they would not want to live to be 120?
* Which religious traditions are most likely to see longer life as a positive?
* What types of questions are likely to be raised by the extension of human life issue?
* Would you want to live to be 120? Why or why not?

## Key Terms

* human development
* nature-nurture issue
* continuity-discontinuity issue
* universal and context-specific development issue
* biopsychosocial framework
* neuroscience
* theory
* psychodynamic theories
* psychosocial theory
* epigenetic principle
* 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 model
* life-course perspective
* systematic observation
* naturalistic observation
* structured observations
* self-reports
* reliability
* validity
* populations
* sample
* correlational study
* correlation coefficient
* experiment
* independent variable
* dependent variable
* qualitative research
* longitudinal study
* cross-sectional study
* cohort effects
* sequential design

## Handout 1-1: Biopsychosocial Forces

Fill out the following chart with the primary biopsychosocial forces in your interviewee’s life.

**Biological Forces**

*(Complications while in utero or while being born; genetic issues seen through family disorders or illnesses; diet; exercise; and other biological factors)*

**Psychological Forces**

*(Personality traits; emotional characteristics, perceptual factors; cognitive abilities; and other psychological factors)*

**Sociocultural Forces**

*(Race; ethnicity; cultural elements; family and friends)*

**Life-Cycle Forces**

*(The favorable or unfavorable timing of life events)*

## Handout 1-2: Developmental Theories

*Analyze each situation using each developmental theory (psychodynamic; learning; cognitive; ecological and systems; and theories involving the life-span perspective, SOC, and the life-course perspective). Discuss both* ***1)*** *why this problem is occurring and* ***2)*** *what might be done to solve the problem.*

1) Dear Dr. Rogers,

I have met a wonderful man, Carl, whom I am planning to marry in a few months. The problem is that my kids from my first marriage, who are 4 and 10, have been acting strange ever since Carl entered my life. My younger child, Mary, gets very upset when Carl comes over for dates and sometimes she makes herself throw up. I of course stay home when she does that. Mary has also hit Carl a few times; after those incidents I sent her to play with her dollhouse to get over the feelings. How will Carl ever be accepted in our family?

Thanks, Marrying Again (Maybe!)

2) Dear Dr. Freud,

I never planned for our daughter, Beth, to sleep in bed with us but it just sort of happened. Breastfeeding made it too tempting, especially since my husband worked nights. Now she’s three and still sleeping with us. My husband now works during the days and I sleep very poorly with her in the room. We’ve tried to get her to sleep in her own room but Beth just sneaks in, night after night. We leave her there because we’re so tired. What should we do?

Sincerely, Longing for Sleep

3) Dear Dr. Psychology,

Richard is 7 years old and wetting the bed. This began about four months ago. My wife heads off to work early, so I get the kids ready for school. Richard wets the bed about twice a week. Whenever it happens, I comfort him and tell him it’s okay, then I clean up his bed while he’s in the bathtub. Sometimes I’m out of town and my wife takes care of him; on those days he always does just fine. We moved from Ireland to the U.S. about seven months ago. He never had this problem in Ireland. What should I do?

Sincerely, Tired of Cleaning the Bed

4) Dear Dr. Maslow,

Susan, my 8-year-old daughter, fights going to school. She used to be fine but a few months ago she began saying she had stomachaches before school and often screaming and crying when we try to leave. It was so hard to get her out of the house that I let her stay home. Some days she’d make it but many days she didn’t. Things have just gotten worse and worse with time and now she barely ever makes it to school. By the way, my husband and I divorced four months ago. What should I do?

Thanks, School Is a Necessity

## Handout 1-3: Research Design

Identify the type of developmental research design (cross-sectional, longitudinal, or sequential) used in each of the following examples.

1. Dr. Blau collects data about the perinatal circumstances of all of the infants born in Buffalo, New York, from January through April 1978. He contacts these individuals when they are 10, 18, and 35 years of age and conducts assessments of their personality, psychosocial functioning, and mental health status.
   1. This is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ design.
2. Dr. Fellows and colleagues are interested in how television viewing affects propensity toward aggression. They ask parents of 3-, 5-, and 8-year-olds to indicate the frequency, exact quantity, and content of the television their children view. The researchers then observe the children interacting with other children in a laboratory setting and rate their level of aggression. They analyze the differences between these three age groups. Three years later, the researchers contact all of the families again and repeat the assessments before completing further analyses.
   1. This is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ design.
3. For her doctoral dissertation, Carrie Dwyer wants to investigate how emotional self-regulation changes with age. She performs naturalistic observations of children who are 18 months, 3 years old, and 5 years old and compares their ability to control their emotions effectively.
   1. This is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ design.
4. Dr. Beynor recruits 10- and 15-month-olds to come into her lab. She has the infants take part in an operant conditioning task that assesses their emotion reactions to frustrating experiences. She analyzes whether the older infants display fewer negative emotions than the younger infants when frustrated.
   1. This is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ design.
5. Dr. Lawrence and colleagues are interested in factors that influence risk and resilience during adulthood. They track 500 individuals over a period of 30 years. When they first meet the participants, they are 18, 30, or 45 years old. They reassess these individuals every five years. They complete analyses that compare each age group to the other age groups at each datapoint, as well as those that compare the individuals to themselves over time.
   1. This is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ design.
6. In order to better understand how social support affects successful aging, Dr. Banks works with a group of senior citizens in a local assisted living facility. They range in age from 69 to 80 when she first meets with them, but Dr. Banks is not interested in studying the differences in age at this first datapoint. She instead wants to see how the individuals change over time in relation to how many friends and family members they have actively involved in their lives. Dr. Banks assesses the individuals every two years for 10 years, or until death occurs.
   * This is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ design.

*Answers to Handout 1-3:*

1. Longitudinal
2. Sequential
3. Cross-Sectional
4. Cross-Sectional
5. Sequential
6. Longitudinal