

Preface

This fifth edition of *Child Development: An Active Learning Approach* continues to reflect our primary goal of creating significant learning experiences for students who want to understand children and how they grow and develop. In this topically organized book we provide current, evidence-based knowledge about important issues in child development. A topical approach has the advantage of allowing students to better see the continuities and discontinuities within a domain of development without the necessity of reintroducing each topic area with each new age group studied.

Our intent in writing this book is not to provide an encyclopedia of facts about child development. Rather, we aim to create a narrative that connects ideas and research in meaningful ways that students can relate to their own experiences. We believe that this narrative style is the best way to engage students in the learning process.

A distinguishing feature of this text is the learning activities embedded within each chapter. These activities take a variety of forms so that they stay fresh and interesting to the student and are integrated with the flow of information in the chapter rather than being stand-alone features that are easily skipped or ignored. We also provide opportunities throughout the book for students to learn about how our understanding of child development has evolved through the scientific process to reach our current state of knowledge.

Philosophical Approach

The topical coverage and pedagogical features in this book have been conceived and thoughtfully executed to help students discover the excitement of studying child development while equipping them with tools they can use long after they take this class.

Beyond giving students a solid understanding of child development, we incorporate the following principles in this book that help build lifelong learning skills.

An Emphasis on Learning How to Learn

Long after they leave the classroom, students who interact with children and adolescents, whether professionally or personally, will need to find information to answer questions that arise. Because we want to encourage students' independent pursuit of knowledge about child development, we provide tools that will help them do that. They are introduced to the use of databases such as PsycInfo and learn to evaluate internet sources to identify legitimate, research-based sources of information. In some of our **Active Learning** features they are guided in finding resources in a number of ways they will be able to use in the future.

Critical Thinking Skills

The media in all its forms is filled with information about children and their development, but students need to be able to critically evaluate the information they find. In Chapter 1, we talk about how to be a good consumer of information on development. The true/false questions that appear at the beginning of each subsequent chapter continuously challenge students to reflect on what they initially believe about child development and to evaluate the evidence that supports or challenges those beliefs. The ability to critically evaluate ideas about children and their development will be beneficial to students who plan to go on for graduate study, and also for those who will work with children and families in professional careers, those who will advocate on behalf of children, and those who will use these ideas when caring for their own children.

A Focus on What Constitutes Evidence

We help students realize that although there is a place for “what I think” and for individual examples, the strength of a social science rests on marshaling convincing evidence within an agreed framework. Chapter 3 introduces students to basic concepts about research, and these ideas regarding what constitutes scientific evidence are reinforced and developed throughout the book.

Pedagogical Features

Features intended to engage students are often included in textbooks as “add-ons,” but our active learning philosophy is at the heart of the pedagogy provided throughout this book. To this end, Active Learning activities do not appear in “boxes,” which we believe students often skip or ignore. Rather, they are an integral part of the text itself. The chapter narrative leads directly into the Active Learning feature, and the feature smoothly transitions back into the narrative at its end. As educators, we know that students must *act* on the material presented in a course to make it their own. We all try to do this in a number of ways in our classrooms, but for the student, reading a textbook is a solitary and often passive process. To push back against this passivity, we use the key pedagogical features described in the following sections to capture students’ interest and turn reading into an active process.

Challenging Misconceptions: Test Your Knowledge

One of the challenges in teaching a course in child development is to help students give up some of the intuitive ideas or simplistic thinking they have about child development. Many students enter courses on child and adolescent development confident that they already know most of what they need to know about development and that this is “all just common sense,” but experienced instructors know that some of the most important information in their courses is, in fact, counterintuitive. Unfortunately, it is often quite difficult to change students’ long-held ideas and beliefs, and students can complete a course in child development with many of their misconceptions intact. It is our intention to pique students’ interest in each chapter by directly challenging their assumptions. To do this, we ask students to begin each chapter by testing their initial knowledge of topics contained in that chapter. Students can immediately check whether their answers are correct by using the key at the bottom of each quiz. Unexpected or surprising answers to these questions draw the students into the chapter, where they will find the information related to each question in italics in the text. Having their beliefs challenged in this way motivates them to search out and read about these topics in the chapter.

Active Learning

A variety of learning activities in the text complement and enhance the ideas presented in each chapter. Activities might involve asking students (a) to reflect on their own experiences while growing up (and perhaps compare those experiences to the experiences of classmates); (b) to immediately test their understanding of a concept; (c) to conduct an observation or interview with a child, if possible; (d) to carry out a simple firsthand experience and reflect on what they’ve learned from it; or (e) to seek out information that goes beyond the text through the use of library or online resources. Each of these activities is designed to consolidate student learning through a personal experience that illustrates the ideas presented in the book.

Journey of Research

It is not unusual for students of child and adolescent development to expect that by the end of the semester, they will have simple answers to a number of very complex questions. Of course, we can seldom provide these simple answers. Instead, we need to help students understand that the science of child development is an ongoing endeavor and that we continue to build and add to our understanding each day. Although it is important that students learn about our current best knowledge, this

information is more meaningful when students understand it in the context of our evolving ideas about a given topic. To help students better understand this material, we keep the focus of the text on the current state of knowledge and use the **Journey of Research** feature to provide the historical contextual information on the topic. This helps students understand that what they learn today in their class may be information that changes—sometimes substantially—in the future as our body of knowledge grows. This is, after all, how the scientific process works.

Learning Objectives and Self-Testing Review

There is a growing body of evidence that the best way for students to retain information they are learning, and to transfer that knowledge to new situations, is by testing their understanding for themselves. Other study approaches such as rereading, highlighting, and even summarizing have not been found to be as effective as self-testing. Therefore, we begin each chapter with a set of **Learning Objectives** and have organized the **Chapter Summary** at the end of the chapter using these same objectives to elicit brief answers that incorporate the most important information on that topic. In addition, we provide two types of questions at the end of each section within the chapters in a feature called **Check Your Understanding**. **Knowledge Questions** help students review the information they are learning. **Critical Thinking** questions push students beyond the basic information to apply, extend, and integrate ideas. Answering these questions will promote greater understanding and retention of what they are learning and increase the likelihood that they will be able to apply this knowledge in useful ways.

Graphics, Artwork, and Videos

Child development is a field rich in imagery, so each chapter contains photos and graphics that enhance learning by illustrating important concepts in a memorable way. Many of the photos and figures in the text include questions embedded in their captions that prompt the student to think further about the topic.

Key Topics

Neuroscience

To reflect the burgeoning interest in the field of neuroscience and its implications for child development, we devote part of the chapter on physical development to recent research on brain development and behavior, and there is new or updated information on brain function where it is relevant throughout the book. This information is presented in a way that makes it appropriate for the student of child development who may not have a strong background in biology. Some topics include the following:

- Prenatal brain development
- How neurological development affects retention of early memories
- Effects of substance use on brain development
- How the development of the brain is related to intelligence and to language development
- Brain function, emotions, and self-control
- Effects of concussions on brain functions
- Screen time and brain development
- How stress and trauma affect the brain

Diversity and Culture

Because an understanding of diversity and culture is essential for everyone's understanding of development, these topics are integrated into each chapter to illustrate how aspects of development are

influenced by the different circumstances that constitute children's lives around the world. Topics incorporating diversity and culture in this edition include these:

- Cultural differences in birthing practices and the transition to parenthood
- Cultural differences in infant attachment
- The effects of poverty and homelessness
- Worldwide sex trafficking of children
- Culture, identity, and bilingualism
- Cultural and religious differences in acceptance of LGBTQIA+ adolescents
- Cultural differences in attitudes and policies regarding adolescent sexuality
- Identity development of multiracial and multicultural youth and the development of a national American identity
- Access to and effects of mentors on children and teens from different socioeconomic backgrounds

Developmental Psychopathology

Coverage of topics related to psychopathology or developmental differences gives students a better understanding of the continuum of human behavior. However, rather than confine information on psychopathology to a single chapter, we have integrated these topics where they give students a deeper understanding of how these differences relate to the spectrum of development of all children. Examples of topics in developmental psychopathology in this edition include the following:

- Developmental coordination disorder
- Reactive attachment disorder and disinhibited social engagement disorder
- Anxiety disorders
- Attention-deficit/hyperactivity disorder (ADHD)
- Specific learning disorders
- Disruptive mood dysregulation disorder, oppositional defiant disorder, and conduct disorder
- Depression and suicide
- Resilience

The Interaction of Genes and Environment

As our understanding of the impact of our genetic inheritance has grown, we have learned more and more about how our genes both shape and are shaped by our experiences. Chapter 4, "Nature Through Nurture," gives an overview on the ways genes and environment interact as children develop, and subsequent chapters highlight how this interaction influences development in the following areas:

- Autism spectrum disorder
- Attachment
- Intelligence
- Gender identity
- Sexual orientation

- Anxiety and depressive disorders
- Dyslexia
- Specific learning disorders
- ADHD
- Brain development
- Anorexia
- Aggression

What's New in the Fifth Edition

- To ensure that all children are described with respect, use of bias-free language has been updated in accord with APA guidelines, including
 - use of gender-neutral personal pronouns;
 - terminology and concepts related to gender, race, sexual orientation, socioeconomic status, and disabilities; and
 - use of person-first language with regard to a number of concepts, including children who bully and children in families that have no home.
- New True/False questions have been added throughout the text to better challenge students' misconceptions about development.
- New Active Learning activities have been added to keep students' learning fresh and engaged.
- Over 1,000 new or updated references have been added.

Numerous topics have been added, updated, or expanded throughout the book. The following list highlights some of the most important ones, but there are many others in each chapter.

Chapter 1

- New topic
 - Adaptive culture
- Updated information
 - The WIC program, including its benefits and cost savings
 - Electronic databases and how to conduct a lateral search
- New and expanded information
 - The impact of COVID-19 on schools as a context for development
 - Community characteristics that influence development
 - Historical time as a context for development

Chapter 2

- New topics
 - The phenomenological variant of ecological systems theory (PVEST)
- New features
 - Journey of Research: Culture and Attachment Theory
 - Active Learning: Your Own Theory of Child Development
- New research on brain development and risk-taking in teen boys

- New description of systems theories of development
- New approaches to incorporating culture into developmental theory

Chapter 3

- New research article used as a basis for the set of Active Learning activities on methodology
- Updated information
 - Best practices for conducting forensic interviews with children
 - The controversy about using SAT/ACT test scores
- New example of a natural or “quasi” experiment

Chapter 4

- New section on gene $\times$ environment interaction, with a new Active Learning: Gene $\times$ Environment Interaction
- New information
 - Breakthroughs in gene therapy
 - Lack of diversity in populations used in genome-wide association studies
 - Inheritance of epigenetic markers
 - International differences in the role of socioeconomic status in the expression of genetic inheritance
- New features
 - Active Learning: How Many Genes, How Many Effects?
 - Active Learning: Gene–Environment Correlation

Chapter 5

- New information
 - Prenatal REM sleep
 - The impact of stress on a pregnancy
 - Developmental outcomes for newborns with low APGAR scores
- Updated statistics
 - Rates of infertility in the United States
 - Births resulting from assisted reproductive technology
 - Percentage of women who get late or no prenatal care
 - Rates of maternal and infant mortality

Chapter 6

- New information
 - Causes of autism spectrum disorder (ASD), including differences in the structure, function, and connectivity in the brain
 - The relationship between use of marijuana and schizophrenia
 - The relationship between breastfeeding and cognitive development
- Updated statistics
 - The number of children with autism spectrum disorder
 - Lifetime benefits of male circumcision
 - Adolescent pregnancy rates
 - Effectiveness of HPV vaccinations
 - Prevalence of food insecurity in the United States

Chapter 7

- Updated and new information
 - Adolescent egocentrism and social media use
 - Sustained attention and self-regulation in infants and toddlers
 - Training programs to improve sustained attention
 - Causes and progression of ADHD
 - Importance of sleep in consolidating memories
 - Substance use and memory development
 - The role of positive risk-taking in adolescence

Chapter 8

- New topics
 - The Cattell-Horn-Carroll (CHC) theory of intelligence
 - The parieto-frontal integration theory (P-FIT) of the brain and intelligence
 - Sternberg's theory of adaptive intelligence
 - The effect of the COVID-19 pandemic on education
- New information
 - The stability of intelligence over time
 - The role of intrinsic, extrinsic, and lack of motivation on academic achievement
 - Why boys may underachieve in school
 - Ways to overcome stereotype threat
 - Factors that reduce risks for students who do not complete high school
- Updated statistics
 - School dropout rate
 - Projected number of jobs available for students with a high school diploma
 - College completion rates

Chapter 9

- New information
 - The complexity of brain function that supports language
 - Parents' use of pointing and other gestures to promote language
 - How brain function is related to dyslexia
- Updated statistics
 - Use of the heritage language in the generations after the original immigrant family members
 - The prevalence of dyslexia
 - States that require teaching according to the "science of reading" based on phonics
 - Multilingualism around the world

Chapter 10

- New topics
 - Use of cognitive behavioral therapy for dealing with fear
- Revised and updated information
 - The neurological underpinning of emotions
 - Gottman's four parenting styles
 - The development of self-control
 - Children's fears
 - The gene $\times$ environment interaction on attachment

- Updated statistics
 - Adolescent depression, suicide ideation, attempts, and completions

Chapter 11

- New topics
 - The dual-cycle model of identity development
 - Identity development of multiracial and multicultural youth and the role of a national American identity
 - Biological approach to gender development
 - Genetic input in sexual orientation
 - Moral disengagement in teens
- Updated information
 - Ethnic-racial identity and socialization

Chapter 12

- New information
 - Distinction between implicit and explicit theory of mind in younger and older children
 - Effects of screen use on peer interaction in infants, children, and adolescents
 - Long-term effects of child-initiated learning during preschool
 - Legislative requirements for recess and ways to make recess positive for all children
 - Factors associated with healthy dating relationships

Chapter 13

- New information
 - The family in the future
- Reorganization of information on family structure, with expanded information on two-parent families and children's adjustment to a divorce
- Updated and expanded information
 - The effects of maternal employment on children's development
 - Noncustodial mothers
 - Children in LGBT families

Chapter 14

- New information
 - The international decrease in children's and teens' leisure time and the associated reductions in risky behavior
 - Relation between exposure to the natural world and academic achievement
 - The 5 Cs approach to guidance about children's screen use
 - Effects of cellphones in the classroom
 - Risks of online pornography
 - Effects of stereotyping, objectifying, and sexualizing portrayals of characters and positive media representations on identity development
 - Effects of increases in smoking in the media
 - Constraints on availability of extracurricular activities based on socioeconomic status
- Updated information
 - Effects of concussion and new recommendations for recovery
 - Positive effects of involvement with extracurricular activities
 - Access to and effects of mentors on children and teens from different socioeconomic backgrounds

Chapter 15

- New and expanded information
 - Sex trafficking of minors
 - Ways to help reduce prejudice in children
 - Adverse childhood experiences (ACEs)
 - Ways to help children deal with trauma
- Updated statistics
 - Childhood asthma and cancer
 - Adolescent drug and alcohol use
 - Childhood injuries and fatalities
 - Childhood poverty

Digital Resources

This text includes an array of instructor teaching materials designed to save you time and to help you keep students engaged. To learn more, visit **sagepub.com** or contact your Sage representative at <https://collegepublishing.sagepub.com/find-my-rep>.

List of Features

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Active Learning

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 Reward Yourself!
 Examples of Ecological Systems
 Your Own Theory of Child Development

Journey of Research

Culture and Attachment Theory

Chapter 3

Active Learning

The Scientific Method—Forming a Hypothesis
 The Scientific Method—Operationalizing Concepts
 The Scientific Method—Sampling
 Observation or Interpretation?
 The Scientific Method—Measures
 Experimental Design
 Positive and Negative Correlations
 The Scientific Method—Research Designs
 Developmental Research Designs

Journey of Research

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Chapter 4

Active Learning

Understanding the Inheritance of Tay-Sachs Disease
How Many Genes, How Many Effects?
Concordance Rates
Gene $\times$ Environment Interaction
Gene–Environment Correlation

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A History of Research on Genetics

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Safety of Medications During Pregnancy
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Understanding the Effects of Alcohol on a Pregnancy
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Active Learning

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Timing of Puberty
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Journey of Research

Child Protective Legislation
Invincible, Invulnerable, and Resilient

Chapter 1

Issues and Themes in Child Development



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Learning Objectives

- 1.1 Who needs to have a good understanding of child development and why do they need this understanding?
- 1.2 What are the domains of child development and some recurring issues in the field?
- 1.3 What are the contexts in which children develop?
- 1.4 How can you be a smart consumer of information about development?

Take a moment to think about why you want to learn about children, adolescents, and their development. You may enjoy interacting with children and want to understand them better, or your career goal may involve working with children or adolescents. Perhaps you want to better understand yourself or those you know by exploring how childhood has affected who you have become. Your interest may be

more scientific, with a focus on understanding the research that explains the processes of development. Your particular goal will influence how you approach the information in this book.

The information and activities in this book have been designed to stimulate your thinking in all these ways. We want to share with you the excitement we feel about the topic of child and adolescent development. By the time you finish reading this book, you will have a solid foundation in a number of important topics related to development, but we also hope that this will motivate you to continue learning about children and their development long after you have completed this course.

In this first chapter, we introduce some of the basic concepts of child and adolescent development. We first look at why people study children and some ways they use knowledge about children to promote positive development. If you are curious about how you might use this knowledge in a future career, you will learn how to gather information about careers that require a good understanding of development. We then discuss some basic themes related to how development occurs and introduce you to the different contexts that influence children's lives. Finally, we provide strategies and guidelines that will enable you to differentiate reliable information from other material you may encounter as you learn about child development.

Why Study Child Development?

1.1 Who needs to have a good understanding of child development and why do they need this understanding?

Many people are interested in studying child development because the topic itself is interesting and important. Some want information they will be able to use when they become parents. Many students plan to use this information in a future career as a professional who works with children or as a policymaker who shapes social policy that affects children and families. Some students want to become researchers to further the scientific understanding of children and how they grow and develop. These are all good reasons to study child development, and we will explore them all in this chapter.

Understanding the Process of Development

One reason why students are interested in studying child development is to understand the roles that infancy, childhood, and adolescence play in shaping who we become as adults. From the earliest days in the field of psychology, the idea that early experience has a special, even unique, impact on development has been a persistent theme. Researchers who study children's development have provided

ample evidence that early traits, behaviors, and experiences are related to many adult outcomes. However, saying that the earliest stages of development are important for later development is not the same thing as saying they are any more important than later periods of development. Instead, development is seen as a process in which each stage lays a foundation for the stages that follow and each stage plays an important role in who we are as adults.

An example of this idea comes from the research on competent parenting. It is not surprising that receiving sensitive, competent parenting when you are an infant or young child is associated with being a sensitive, competent parent when you have your own children. However, the pathway to becoming a competent parent is also affected by social competence with peers during childhood and adolescence and later competence in romantic relationships during early adulthood (Raby et al., 2015). Although experiences early in life have consequences for functioning in later life, this research shows that experiences all along the path to adulthood contribute to an adult's



Sensitive parenting. Receiving sensitive parenting while you are an infant is associated with becoming a sensitive parent to your own children, but other experiences throughout your life also influence your ability to be sensitive and responsive to your children.

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psychological functioning. Understanding what characteristics or factors shape the trajectory of development is one of the greatest challenges for people interested in child development.

Using Our Knowledge of Child Development

A second reason to study child development is to be able to use this information to improve the lives of children and adolescents. An understanding of how children think, feel, learn, and grow, as well as how they change and how they stay the same, is essential to fostering positive development. This understanding can help parents and family members, professionals who work with children and families, and people who create social policies and design programs that affect the well-being of children and their families.

Parents and Family Members

Having a good understanding of children's needs and abilities at each stage of development can help all parents provide the appropriate amount and type of support and stimulation to foster their children's growth and development. When parents have a good understanding of how their children are developing, they engage in higher-quality interactions with them, use more effective parenting strategies, and provide more developmentally appropriate activities. When their expectations for their children's behavior are realistic, they are more likely to use effective discipline strategies and to rely less on harsh, punitive ones (Bartlett et al., 2018).

Although all parents can benefit from knowing more about child development, this knowledge is even more crucial for certain groups of parents. A review of parenting programs for at-risk and disadvantaged parents, including mothers who were teens, unmarried, or living with an income below the federal poverty threshold, found that a number of programs designed to help parents learn more about child development had positive impacts for both the child and the mother (Chrisler & Moore, 2012). For the children, these benefits included a reduction in reported child behavior problems. For the mothers, they included a home environment that was more supportive of their children and parents who had more realistic maternal expectations for them. In other research, a group-based intervention program for parents in a low-income and under-resourced urban community produced significant improvement in their children's behavior. Parents said that the encouragement of other parents in the group was important in helping them to use the skills taught within the group (Plesko et al., 2023).



Teen parents. Teens who become parents may not be knowledgeable about child development. Participating in parenting programs can help them develop more realistic expectations for their child.

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Child Development Professionals

You may be interested in studying child development because you see yourself in a future career that involves working with children and families. In different ways and at different levels, people in all the helping professions promote positive development for children and teens, engage in the identification and prevention of problems, and provide interventions when problems do occur.

Promoting the optimal development of children and adolescents is a primary goal of professionals who work in the field of education (especially classroom teachers, resource teachers, administrators, counselors, and early care and education professionals) and of mental health professionals, youth service workers, and representatives of community organizations who run programs for children. Community organizers, community psychologists, and outreach workers are a few of the professionals that focus on preventing problems before they emerge. Child therapists and family therapists are two types of professionals that help families address existing problems. Social workers, psychologists, marriage and family therapists, and child psychiatrists also provide various types of interventions to families. Knowledge of child development helps each of them find and use ways to support and encourage children and adolescents to reach their full potential.



Careers in child development. Knowledge about child development is essential to people working in many different careers (including pediatricians, teachers, social workers, counselors, speech therapists, lawyers, and nurses). If you are interested in a career working with children, there are many opportunities available to you.

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We recognize that students today want to know where their education can eventually lead them and are hungry for information about future careers. If you are taking this course because you are considering working with children and families in the future, how much do you know about the career you are thinking about entering? You can learn a great deal about a career related to child development by using **Active Learning: How Much Do You Know About Careers in Child Development?**

Active Learning

How Much Do You Know About Careers in Child Development?

The U.S. Bureau of Labor Statistics maintains a website that has current information on hundreds of different careers, including many in the field of child development. The U.S. Bureau of Labor Statistics (2023) annually updates the information at this site on the future employment demand for people in the various occupations and the wage data for those currently employed in them. Use a search engine to search for *Occupational Outlook Handbook* and from its home page, you can click on the “A-Z Index” to see a list of careers, or you can type the name of the career you are interested in in the search box on that page. For each career, you will find this information:

- What people in this career do—their duties and responsibilities.
- Work environment—where people in this career work and conditions affecting their employment.
- How to become one—the education and training required both for entry into the field and for advancement within this career. You will also find information about any certifications or licenses required to work in this profession, and the skills and personal qualities required for success on the job.
- Pay—average salaries earned in this career.
- Job outlook—the number of people currently employed in this career and whether demand for this profession is expected to increase or decrease over the next decade.
- State and area data—employment statistics and projections by state or area of the country.
- Similar occupations—information about careers related to the one you are researching. For instance, if you think you would like to be a child psychologist, here you will find that related careers include being a marriage and family therapist, special education teacher, substance abuse counselor, or social worker. If you click on any of these links, it will take you to the page in the *Occupational Outlook Handbook* that provides information about that alternative career.
- More information—links to professional organizations that support and advocate for people working in this career. The organization web pages you find here are rich sources of information about each career, and you should look at one or two of them before you finish exploring this page.

In addition, for each occupation you will find a summary table similar to Table 1.1.

Table 1.1 ■ Occupational Outlook Handbook

Quick Facts: Kindergarten and Elementary School Teachers

2022 Median Pay	\$61,620 per year
Typical Entry-Level Education	Bachelor's degree
Work Experience in a Related Occupation	None
On-the-Job Training	None
Number of Jobs, 2022	1,548,400
Job Outlook, 2022–2032	1% (Little or no change)
Employment Change, 2022–2032	10,700

Although the *Handbook* lists hundreds of occupations, you won't find every possible job title. For instance, *early interventionist* is not yet in the *Handbook*, but this search would bring up occupations related to your search. For instance, early interventionists do work similar to what special education teachers do, although they work with infants and toddlers who are not yet school age and are likely to work with the parents and child in a home setting rather than in a classroom.

Another useful website if you are specifically interested in a career in the field of psychology is that of the American Psychological Association. There you can find information on what psychologists do, the subfields in psychology, educational requirements, and the job outlook for these careers by clicking on Education and Careers at the top of the home page and then exploring the section titled "Become a Psychologist."

Polymakers

Most often we apply our understanding of child development directly to the work we do with children, but the well-being of children and families is also affected by the laws and programs that make up **social policy**. Legislators want to promote the health and success of their future citizens but also want to manage the cost of programs and services. Well-conceived and executed legislative policies can help to do that. Both the federal government and state legislatures fund many programs that support children's healthy emotional and physical development.

One example of how research on child development can guide and inform the people who make social policy comes from the work of Walter Gilliam, director of the Edward Zigler Center in Child Development and Social Policy at Yale University. Dr. Gilliam (2008) found that preschool children in Connecticut were more than 3 times as likely to be expelled as children in Grades K–12, but he also showed that when a mental health consultant was available to help teachers develop ways to handle problem behaviors, far fewer children were expelled. Today, in large part due to Dr. Gilliam's advocacy, the federal government provides funding for states, communities, and tribal nations to establish early childhood mental health consultation and most states have developed such programs (Zero to Three, 2017).

Another example of social policy in action is the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), which provides supplemental food and nutrition education for low-income, nutritionally at-risk women, infants, and children up to age 5. Good nutrition during a pregnancy helps to ensure the healthy development of the baby, and good nutrition during early



The Women, Infants, and Children Program (WIC). Since 1992, women who are eligible for WIC benefits can receive coupons that can be used to buy food from farmers, farmers markets, or roadside stands. This helps to ensure that the woman has the nutritious diet that is essential for healthy prenatal development. Research that shows the effectiveness of such programs helps to ensure their continued funding.

Tracy A. Woodward/The Washington Post via Getty Images

childhood is associated with a number of positive outcomes throughout a child's life. Although these outcomes are important, the WIC program cost \$6.6 billion in fiscal year 2023 (U.S. Department of Agriculture, 2025). When an expensive program such as this one is up for renewal, lawmakers look to experts in the field for research that justifies the expenditure.

Research on WIC has found that participation in the program is associated with positive outcomes that include fewer premature births, fewer low or very low weight infants, and fewer infant deaths (U.S. Department of Agriculture, 2023). Because both prematurity and low birth weight are associated with a number of negative developmental outcomes, the lifetime savings from the lower cost of medical care needed as a result of the increased birth weight of the children born to WIC participants means that the benefits of the program outweigh its cost. A 2019 study concluded that based on the reduction in the number of preterm births, \$1 invested in prenatal participation in WIC would save about \$2.48 in medical, educational, and productivity costs (Nianogo et al., 2019). Information such as this helps policymakers evaluate the effectiveness of social programs and make modifications to them, if necessary.

A number of organizations in the United States provide legislators and private citizens with information related to child development with the goal of helping to bring about changes in social policy based on solid research. Table 1.2 contains the names and missions of several of these organizations, as well as some of the policy initiatives or reports from them. There is a wealth of information at each site. You can use **Active Learning: Social Policy Affecting Children and Adolescents** to explore one such site to see how data relevant to social policy could be gathered on a topic that interests you.

Table 1.2 • Social Policy Organizations

Organization and URL	Mission	Recent Policy Reports/Initiatives
Future of Children http://futureofchildren.org	"To translate the best social science research about children and youth into information that is useful to policymakers, practitioners, grant-makers, advocates, the media, and students of public policy."	Children and Climate Change Marriage and Child Well-Being Revisited Policies to Promote Child Health Starting Early: Education From PreK to Third Grade
Society for Research in Child Development https://www.srkd.org Under "Research," select "Briefs and Fact Sheets"	SRCD is a professional organization that periodically produces policy briefs on topics related to child development.	Strengthening Mental Health Support Services for Refugee Children Resettled in the U.S. Responsible Fatherhood Programs Gender-Affirming Policies Support Transgender and Gender Diverse Youth's Health
National Association for the Education of Young Children https://www.naeyc.org	NAEYC is a professional organization that works to promote high-quality early learning for all young children, birth through age 8, by connecting early childhood practice, policy, and research.	Can I Help You? Supporting Equity, Learning, and Development by Allowing Children to Help Out A Three-Step Approach to Help Children Navigate Conflict

Active Learning

Social Policy Affecting Children and Adolescents

The Annie E. Casey Foundation (2023) describes its mission as "strengthening families, building stronger communities and ensuring access to opportunity, because children need all three to succeed. We advance research and solutions to overcome the barriers to success, help communities

demonstrate what works and influence decision makers to invest in strategies based on solid evidence.”

The foundation publishes an annual Kids Count report that provides up-to-date statistics on children’s health, education, and well-being. From the home page you can use the link to the Kids Count Data Center to create a report on a topic that interests you. For this activity we suggest that you start by creating a report for your state by selecting your state from the dropdown menu under “By Location.” On the left panel on the next page, you will see a list of topics. When you click on a topic of interest to you, all the indicators for that topic will appear in a list. Choose several indicators within that topic that are of greatest interest to you and click on “Create a Custom Report.”

Were you surprised by any of the data you found? These data can be used in papers you write, but remember to cite the source you used.

As citizens we play an important role in shaping social policy. When we contact our legislators, sign petitions, and vote, we are speaking out for the well-being of children and letting policymakers know what social policy we want to see enacted. The more we understand children’s needs, the more effective we can be in advocating on their behalf and promoting policies we believe will best serve them.



Making social policy. Social policy that affects children and families is made from the highest levels of the federal government down to local school boards and neighborhood councils. Interested citizens also take part in making social policy when they write letters to elected officials, sign petitions, work for causes they support, and vote.

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Check Your Understanding

Knowledge Questions

1. What are some reasons for studying child development?
2. Who is likely to benefit from being knowledgeable about child development?
3. What is the relationship between research on child development and social policy?

Critical Thinking

What do you think is one of the most important issues facing children today? Is there a way that public policy could address this issue? How could you, as a student, have an impact?

Understanding How Development Happens

1.2 What are the domains of child development and some recurring issues in the field?

As we begin our study of child development, we have a lot of interesting ground to cover, so it's good to have a plan that breaks this journey into manageable pieces. One way to do this is to divide information into the different domains of development: physical, cognitive, and social-emotional. Within each of these domains we want to keep our focus on the developmental process, so we can also organize information by the ages and stages of life. Finally, we briefly introduce you to several of the central ideas that have been debated in the field of child development over the years. We will revisit these ideas in more detail at various points throughout the book.

Domains of Development

When studying development, we distinguish between three basic aspects or domains of development: physical, cognitive, and social-emotional. **Physical development** includes the biological changes that occur in the body, including changes in size and strength, as well as the integration of sensory and motor activities. Neurological, or brain, development has become a major area for research in the domain of physical development. **Cognitive development** includes changes in the way we think, understand, and reason about the world. It includes the accumulation of knowledge as well as the way we use that information for problem solving and decision making. **Social-emotional development** includes all the ways we learn to connect to other individuals and interact effectively with them; understand, express, and regulate our emotions; and understand the emotions of others.



Domains of development. When we study development, we look at changes in the physical, cognitive, and social-emotional development of children and adolescents. Although physical development is easy to see, these changes are associated with changes in the way we think about and understand the world around us and the relationships we have with the people in it. How do you think the youngest child in this photo thinks differently from the oldest child about the world? And how do you think other people treat these two children differently?

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Although it is useful to make distinctions between these domains, it is important to understand that they continually interact with each other. For instance, during puberty adolescents undergo dramatic physical changes over a short period of time, but these changes also affect social development. As adolescents grow to look more like adults and less like children, adults begin to treat them more like adults, giving them new responsibility and expecting greater maturity from them. These opportunities, in turn, contribute to the cognitive development of adolescents as they learn from their new experiences. In a similar way, when infants learn to walk and can get around on their own, their relationship with their caregivers changes. The word *no* is heard more frequently, and infants need more careful

supervision because they now can get themselves into dangerous situations. And, of course, infants' enhanced ability to explore their environment gives them many new opportunities to learn about the world in ways that advance their cognitive development.

Ages and Stages

We use the terms *infancy*, *toddlerhood*, *early childhood*, *middle childhood*, and *adolescence* to identify broad periods of development that have behaviors or characteristics that set that stage apart from the other stages.

- During *infancy* (the first year of life), children are totally dependent on their caregivers for their physical care, but they already can use all their senses to begin exploring their world. During this period, they begin developing the motor skills they will need to explore it further. They also form a strong emotional attachment to their caregivers and lay the foundation for learning language.
- *Toddlers* (ages 1–3) continue developing their motor skills and can more actively explore their physical world. Language develops at an astonishing rate during this period, and toddlers begin showing independence and autonomy from their caregivers as they learn to do things for themselves.
- In *early childhood* (ages 3–6), children learn about the physical and social world through play. As peers become more important, young children learn the skills necessary to understand how other people think and feel.
- During *middle childhood* (ages 6–12), children develop the intellectual ability to think in a more ordered and structured way and school becomes a major context for development. At this stage, children begin developing a clearer understanding of who they are and what makes them unique. Play and peers are essential parts of their lives.
- The physical changes associated with puberty mark the transition from childhood into *adolescence* (ages 12–18). As their bodies undergo the physical changes that move them toward adulthood, adolescents can think and reason at a more abstract level and develop a stronger sense of who they are and who they want to become. Family remains important to them, but peer relationships take on a greater importance than they had before.

Themes in the Field of Child Development

We all have our own ideas about children. You brought some with you when you entered this class. Stop for a minute and think of a couple of sentences or phrases that capture what you believe to be true about how child development occurs. Do you believe that if you spare the rod, you will spoil the child? Or that as the twig is bent, so grows the tree? Do you think that children are like little sponges? Or that they grow in leaps and bounds? Each of these bits of folk wisdom touches on an issue that has been debated within the field of child development. Here we introduce some of the recurring debates and controversies that we will revisit at various points in the book.

Nature and Nurture

Throughout history the question of whether our behavior, thoughts, and feelings result from **nature**, our genetic inheritance, or from **nurture**, the influence of the environment, has shaped our understanding of why we act in certain ways and how we can influence human behavior. The controversy was originally described as nature *versus* nurture. For example, let's say you are an aggressive (or shy, or outgoing) person. Researchers wanted to find out whether you became aggressive because you were "born that way," with your genes determining the outcome, or whether you learned to be aggressive because of what you saw or experienced in your environment. People initially argued for one side or the other, but it has become clear that any developmental outcome is an interaction of both nature and nurture.

Asking whether behavior is due to nature or to nurture is similar to asking whether your car needs an engine or wheels. You aren't going anywhere unless you have both, and they have to work together if you are ever going to reach your destination. The field of *epigenetics* has made us aware that both your behaviors and your environment can affect the way your genes work (Centers for Disease Control and Prevention, 2025). We have left behind the era of “nature *versus* nurture” and entered the era of “nature *through* nurture,” in which many genes, particularly those related to traits and behaviors, are expressed only through a process of constant interaction with their environment (Quinn & D'Onofrio, 2020). We discuss these ideas further in Chapter 4.

Continuous Versus Discontinuous Development

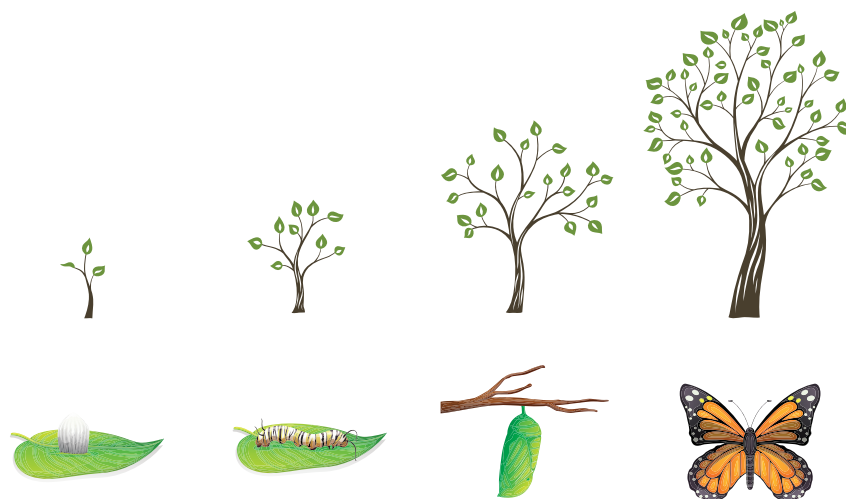
Is development a series of gradual changes that modify behavior bit by bit, or does it proceed in leaps and bounds? In Chapter 2 and throughout the rest of the book, you will learn about some theories in the field of child development that describe development as a series of stages children move through, similar to the “leaps” just described. In these theories, each stage has characteristics that distinguish it from the stages that come before and after. Other theories, however, describe processes that change development in small increments.

One way to describe these two views of development is that continuous development represents quantitative change and discontinuous development represents qualitative change. **Quantitative changes** are changes in the amount or quantity of what you are measuring. For instance, as children grow they get taller (they add inches to their height), they learn more words (the size of their vocabulary grows), and they acquire more factual knowledge (the amount of information in their knowledge base increases). However, some aspects of development are not just the accumulation of more inches or words. Instead, they are **qualitative changes** that alter the overall quality of a process or function, and the result is something altogether different. Walking is qualitatively different from crawling, and thinking about abstract concepts such as justice or fairness is qualitatively different from knowing something more concrete, such as the capitals of all 50 states. Typically, **incremental theories** describe development as occurring through quantitative or continuous changes, whereas **stage theories** describe development in terms of qualitative or discontinuous change. Figure 1.1 illustrates quantitative and qualitative change as it is found in nature.

These two types of theories can look at the same aspect of development but describe the way it happens very differently. The small changes described by incremental theories can work together to change overall patterns of ability as children take a leap forward to a new stage in their development (Witherington, 2019).

Figure 1.1 ■ Quantitative Versus Qualitative Change

Some changes that occur as children grow are quantitative, as illustrated by this tree, which just gets bigger as it gets older. Other changes in children's growth are qualitative as illustrated by this butterfly, which changes form at each stage of its development.



Stability Versus Change

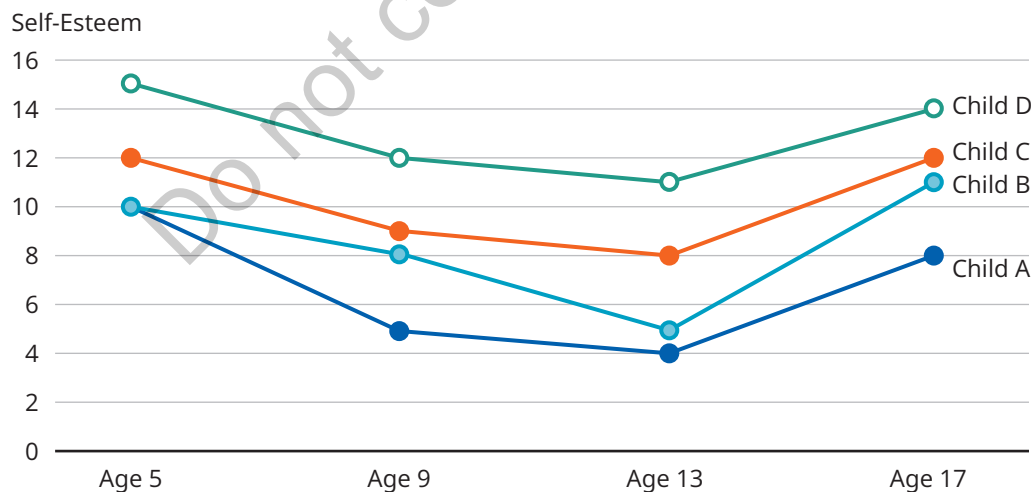
There is an old proverb that says, “The more things change, the more they stay the same.” This proverb captures the idea that in the process of development, we have both stability and change. As we grow, develop, and mature, are we basically the same people we were at earlier ages, or do we reinvent ourselves along the way? For instance, characteristics such as anxiety, depression (Lubke et al., 2016; Nivard et al., 2015), shyness (Karevold et al., 2012), and aggressiveness (Piquero et al., 2012) tend to be relatively stable over time. However, what does change is the way in which these characteristics are expressed. For example, young children hit, kick, or throw things when they are angry, but school-age children are more likely to express their aggression through teasing, taunting, and name-calling (Liu et al., 2013), and adolescents attack each other through social means (for example, spreading rumors or excluding others from social activities; Wang et al., 2012).

To illustrate how we can have both stability and change in development, we know that self-esteem goes through predictable changes as children move through childhood and adolescence. As you will learn in Chapter 11, young children often have a very high opinion of themselves and their abilities, but this high level of self-esteem typically drops as they enter school and their appraisal of their own abilities becomes more realistic. Early adolescence often brings another downturn, but self-esteem then typically rises steadily through the remainder of adolescence. If we focus on these age-related changes, we would conclude that self-esteem shows considerable change. If, however, we shift our focus to the individual, we find that children, adolescents, and adults often maintain their relative position on many personality characteristics, including self-esteem. From this perspective, we see considerable stability because children who score near the top on a childhood measure of self-esteem tend to become adolescents and, later, adults who will continue to score high on other measures of self-esteem (Trzesniewski et al., 2013). Figure 1.2 illustrates how there can be both change and stability in a single characteristic.

Figure 1.2 ■ Stability and Change in Self-Esteem

This hypothetical example shows how four children might score on a measure of self-esteem at different ages. The pattern of their scores reflects typical changes in self-esteem: high in early childhood, declining in middle childhood and early adolescence, and rebounding in later adolescence. However, the scores also show that the children tend to retain their relative rank compared to their peers. In other words, those with higher self-esteem early in development tend to be the children who have the highest self-esteem across these age-related changes.

Age-Related Changes in Self-Esteem



Individual Differences

Scientific research strives to identify general principles that describe average or typical patterns. We want to be able to make general statements about what usually happens. But you cannot spend much time observing children or adolescents without recognizing how different each one is from



Individual differences. Characteristics of individual children, such as their temperament, gender, or ethnic background, can affect the developmental process, so outcomes that apply to one child will not necessarily apply to another. This means that we must always be mindful of individual differences.

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all the others. Our study of children needs to deal with both aspects of development—those aspects that are universal and shared by all or almost all individuals, and those in which individuals differ from each other.

Throughout this book you will learn about general conclusions that are drawn from research. Although these are true as general statements, there also are numerous exceptions that give us insights we would not have otherwise. For example, children who grow up in families that live below the federal poverty threshold are at risk for a number of developmental and mental health problems, but some of these children manage to thrive in the face of great difficulty. By looking at these children we can identify factors that help protect a child from some developmental risks.

While we can make some valid general statements about how development proceeds, the developmental pathway of any given individual is difficult to predict. *Different* pathways can result in the *same* outcome, a process known as **equifinality** (*equi* = equal,

finality = ends) (Sylvester, 2020). For example, depression may result from biological and genetic processes, but it also can result from early traumatic experiences. However, it is also true that the *same* pathway can lead to *different* outcomes, known as **multifinality** (Almy & Cicchetti, 2018). For example, children who are victims of abuse can have many different long-term outcomes that can include depression or anger but also resiliency and healing. Individual characteristics of a child or an adolescent, including the child's gender, temperament, and physical and intellectual ability, are just some of the characteristics that may influence the specific outcome in any given situation.

Although we frequently pay attention to how personal characteristics such as gender, race, ethnicity, age, socioeconomic status, and others impact an individual's developmental trajectory, the concept of **intersectionality** reminds us that these characteristics do not exist in isolation but rather intersect or overlap with each other in complex ways that create unique developmental trajectories. Being a Black woman is a different experience from being a Black man, and being a Black woman is different from being a white woman. Both of these social identities—race and gender—can be a source of privilege or oppression. For example, while a Black woman may be harmed by both racism and sexism, a Black man may experience racism but also benefit from any gender privilege that may exist (University of Edinburgh, 2023). One of the goals of this theoretical framework is to use research to inform social policy and promote social justice and equity.

This understanding of individual differences also has changed the way we view behavioral and emotional disorders. In the field of **developmental psychopathology**, psychological disorders are now seen as distortions of typical developmental pathways (Cicchetti, 2016). Accordingly, in this book we include these disorders in our discussions of different areas of development. For example, language disorders appear with the discussion of typical language development, and attention deficit hyperactivity disorder (ADHD) appears where we describe the typical development of attention. Thinking about atypical development this way helps us see it as an individual difference in development rather than as an illness.

The Role of the Child in Development

Are you the person you are today because you *chose* to be that person, or did someone else *make* you who you are? How you think about that question pretty much sums up the issue of an active child versus a passive one. Some theories presume that it is the environment that shapes the development of the child. The clearest example of this way of thinking is called *behaviorism*. As you will see in Chapter 2, this approach looks at the way systematic use of rewards and punishment affects the likelihood that a child will—or won't—behave in certain ways. You may agree with this point of view if you think children are like lumps of clay that parents shape into the type of children they want. Other theories in child development give children a much more active role in shaping their own development. For example, Jean Piaget's theory of cognitive development, also discussed in Chapter 2, is based on the idea that

children actively explore their environment and, in the process, construct their own ideas about how the world works.

As with some of the other issues we have already discussed, maybe the answer to this issue isn't one or the other, but rather some combination of both. The concept of **niche picking** (Scarr & McCartney, 1983) suggests that people actively seek out environments that are a good fit with their genetic makeup. For example, a child with natural athletic ability may seek out opportunities to be physically active or to participate in organized sports. In this way, children actively shape their experiences by choosing environments that, in turn, enhance or inhibit the characteristics that initially attracted the child to that environment. And, while children don't choose the family, neighborhood, or culture into which they are born, each of these environments offers the child many alternatives that significantly impact and shape their development. Later in this chapter, we describe in more detail the important roles specific contexts have on development.



Niche picking. This child has natural musical abilities and chose to join the school orchestra. Another child who is a strong athlete might choose to join an intramural team, and a third child with strong verbal skills might join the yearbook staff. Each is an example of *niche picking*, where the environment a child chooses enhances the child's innate genetic abilities.

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Positive Psychology

For many years, research in the field of child development focused on understanding the cause of problems in people's lives and finding ways to restore their functioning and well-being. However, beginning in the late 1990s, a different way of thinking about development emerged as psychologists began to look for ways to foster optimal outcomes for all individuals, not just those who were struggling. Positive psychology focuses on strength, not weakness; on building on the best things in life rather than repairing the worst; and on helping people live fulfilling and meaningful lives (Park et al., 2016; Seligman, 2011). Using this approach, researchers have identified a number of human strengths, including courage, optimism, interpersonal skills, perseverance, and insight, that allow all people not only to survive but to flourish.

The influence of positive psychology on the study of child development is clearly seen in the **positive youth development** movement. The framework for positive youth development is based on a set of developmental assets that support optimal development for all children, not just those who are at risk. These assets allow children to cope with challenges, but also to take advantage of opportunities. You will learn more about the positive youth development movement in Chapters 14 and 15, but research guided by the positive youth development perspective appears in many topics throughout the book.

Integrating Themes and Issues

Each of these issues cuts across many of the specific topics that you will study. Each also has been the subject of discussion and debate for many years. For that reason, we are not searching for a single best way to understand the complex process of child development. Rather, each of these issues is a lens through which we can view the process. As you continue to read this book, think about the ways you conceptualize development. As your understanding grows, continue to ask yourself what you believe about development but also think critically about *why* you hold these beliefs. You should expect your ideas to undergo some significant changes as your understanding of this process grows.

Check Your Understanding

Knowledge Questions

1. What are the differences between physical, cognitive, and social-emotional development?
2. What is the difference between quantitative and qualitative changes that occur in development?
3. How does niche picking relate to the nature–nurture controversy?
4. What is the positive youth development movement?

Critical Thinking

Compare how the belief that children play an active role in their own development versus the belief that children passively receive parental influences that shape their development affects the strategies parents use to raise their child.

Contexts of Development

1.3 What are the contexts in which children develop?

Children around the world are similar to one another in many ways, but the way development occurs varies widely, depending on the context in which they grow up. *Context* is a very broad term that includes all the settings in which development occurs. Children develop in multiple contexts that include family, schools, communities, and cultures. Throughout this book you will learn about these different contexts and the ways they influence various aspects of children's development.

Family

Families are the primary context for development for most children. Families today take many different forms, but whether they are nuclear families, single-parent families, multigenerational families, step- or adoptive families, they all serve one important function: They are responsible for the **socialization** of their children. They instill the norms, values, attitudes, and beliefs of their culture so that children grow up to be positive, contributing members of their society. We will discuss the effect of different family forms on child development in later chapters and also examine the ways that families link children and adolescents to the other contexts that influence their development.

School

In most countries, school is another important context for development. The amount of time that children in the United States spend in classroom instruction differs from one state to another, but most spend about 6 hours a day in school, with the school day being shorter for students in the lower grades and longer for those in the upper grades (Silva-Padron & McCann, 2023). Within this context children learn academic skills, such as reading, writing, and arithmetic, and older children and adolescents are prepared for higher education or entry into the workforce, but schools also play a role in socializing children to become good citizens. In recent years, schools have increasingly taken on other functions besides educating children. Today, they provide nutritious meals, some health care, and a range of social services for their students. School also is where most children and adolescents make friends and sometimes become the victims of bullies. You can see from this description why school is a context that impacts children's physical, cognitive, and social-emotional development.

Think about how the lockdown during the COVID-19 pandemic changed the school context for many children. While they remained at home, they were less physically active than they had been at school. Some lost access to the nutritious meals and health services provided by their schools. And parents became their primary educator. Many parents were able to carry out all these activities, but some felt they had no choice but to take on roles usually filled by school personnel while they struggled to balance these new roles with the work-at-home demands of their own employment. As a result, many children were exposed to a great deal of parental stress within their homes.

Among students who received distance instruction, some had limited or inadequate access to the technology they needed to connect with their schools and, as a consequence, a significant number of children simply did not attend their virtual schools or attended only sporadically (Harris, 2020).

Following children's return to school, there has been a significant drop in both math and reading scores, with the greatest impact on students who are vulnerable or at risk (Kuhfeld et al., 2022; ParentsTogether Action, 2020; see also Goldhaber et al., 2022).

School is the primary source of the social interactions that are crucial for children's social and emotional development (Ortega Pacheco & Barrero, 2022). It is where they find friends, develop social skills, and develop a sense of belonging. These interactions, in turn, become an important part of their identity. As a result of the isolation and loss of connectedness felt by many children during the pandemic, loneliness, anxiety, and depression increased (Mazrekaj & DeWitte, 2024). There also has been documented increases in posttraumatic stress disorder, emotional disturbance, irritability, and sleep and appetite disturbances (Petretto et al., 2020).

Under these challenging circumstances, school became a very different context for development. The long-term consequences of this experience during a crucial time in development will only be determined by future research.

Community

Communities' characteristics vary in a number of ways that affect the development of the children in them. Children who live in a higher opportunity neighborhood—those that give them access to good schools, healthy food, safe places to play with peers, clean air, and safe housing—have less stress in their lives and can be protected from some of the detrimental effects of living in a family with inadequate economic resources. In the long term, these children have higher expectations for their own future. However, the high levels of racial segregation in metropolitan areas and the concentration of affluence and poverty in different neighborhoods have resulted in an “unequal geography of opportunity” that leads to inequities in outcomes for children (Acevedo-Garcia et al., 2020). Organizations such as Habitat for Humanity, the Urban Institute, and the Brookings Institution are some of the organizations that have proposed ways to reduce these inequities and offer children and families a pathway to better outcomes.



Block party. When neighbors get together for something like this block party, it helps build a sense of community. The kind of neighborhood children live in makes a big difference in their lives.

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Socioeconomic Status

It goes without saying that differences in the number of resources a family has affect a child's development. **Socioeconomic status (SES)** is an indication of the social standing of an individual or group based upon a combined measure of income, education, and occupation (American Psychological Association [APA], 2023b). Differences in socioeconomic status are often associated with inequities in access to resources in a society, and these inequities, in turn, can impact the lives of children and families.

This process begins even before a child is born, when low SES parents have less access to good nutrition and prenatal care. Consequently, their babies are more likely to be born prematurely or at low birth weight, leaving the child more vulnerable to long-term health problems and possibly limiting the child's ability to learn. Families with fewer financial resources often live in neighborhoods that are both unhealthy and unsafe and have schools that offer students fewer opportunities to learn and achieve. Finally, families with fewer resources are more likely to experience highly stressful life events, such as loss of income, relocation, divorce and separation, and violence (APA, n.d.). Despite these economic disadvantages, we point out to you throughout the book that many children are able to overcome these challenges and lead healthy, happy, and productive lives (see, for example, Ellis et al., 2017; Gartland et al., 2019; Luthar & Eisenberg, 2017; Okwori, 2022; Ratcliffe & Kalish, 2017; Wadsworth

et al., 2018), but as a society we have an essential stake in making sure that every child has the chance to reach their full potential.

Culture

The general findings from research on development are modified not only by individual differences but also by group differences, such as those between different cultures. **Culture** includes the behaviors, norms, beliefs, and traditions that are shared by a group and that are transmitted from one generation to the next (Matsumoto & Juang, 2017). It emerges from a group's environmental niche (or their place in a particular environment) and promotes the survival of the group by improving the group's ability to meet the demands of that environment. It also helps group members pursue happiness and find meaning in life. To that end, the term *adaptive culture* has been used to describe goals, values, and attitudes that differ from the dominant culture, emphasizing the strengths of groups that had previously been marginalized (Perez-Brena et al., 2018).

Much of what you will read about child development is based on research carried out in Western, industrialized countries, but increasingly the field has sought to understand children within the context of their own cultures. In this book we draw on cross-cultural studies throughout the book to illustrate both research that finds similarities across cultures, which suggests there is a universal process at work, and research that illustrates important differences between cultures that impact children as they develop. For example, in Chapter 9 we look at cross-cultural similarities and differences in child-directed speech. In Chapter 10 we look at how adaptive styles of attachment differ from one cultural context to another, as well as how emotions are displayed and understood across cultures. We also look at self-concept and self-esteem (Chapter 11), and cultural similarities and differences in children's play (Chapter 12) in addition to a number of other topics.

Although the field of child development has shown a deeper, richer appreciation of this diversity in recent years, it is still easy to slip into the assumption that the way *we* do things is the right way and that other ways are wrong. **Parental ethnotheories** are a framework for understanding how a particular cultural context impacts a child's development (Harkness et al., 2011). Within any given culture, the ideas parents have about the best way to raise a child reflect the values, beliefs, and traditions of that culture. While there may be a few things that are universal and shared across all or most cultures (for instance, that parents love and want what is best for their child), what they think is best with regard to food, sleep, play, and many other aspects of development can vary greatly from one cultural setting to another. To guard against labeling culturally based parenting practices as deficient rather than simply different, we must understand that parenting practices reflect the particular set of cultural values held by the parents. When we do that, we see that there are different ways to raise children, each of which is responsive to the realities of a particular environment and that promote the well-being of the children in that culture.

For examples of how we may misinterpret the actions and intentions of people whose culture is different from our own, see **Active Learning: Parenting Behaviors Across Cultures**.

Active Learning

Parenting Behaviors Across Cultures

For each of these descriptions, decide if you agree or disagree that it is a good way to raise a child.

1. A good parent would allow a young infant to nap outside in below-freezing weather.
2. A good parent does not begin toilet training a toddler until the child is 2 to 2½ years old and has shown an interest in it.
3. A good parent puts a toddler to bed by 7:00 or 7:30 p.m. each night.
4. A good parent lets infants, toddlers, and even young children sleep in the parents' bed.
5. A good parent doesn't prepare special food for young children; they simply eat what their parents eat.

Answers:

1. Yes, if you live in a Scandinavian country where parents believe that sleeping in the fresh air helps to prevent colds or the flu. No, if you live in most other countries (Young, 2018).
2. Yes, if you are in a Westernized country. No, if you are in China or Vietnam, where parents begin watching an infant in the first days of life for signs that the infant is urinating or defecating and make a low whistle at those times so the infant learns to associate the sound with the need to relieve themselves. Studies found that by using this method, all infants were potty trained by 9 months of age (Duong et al., 2013; Young, 2018).
3. Yes, if you live in the United States. The American Academy of Sleep Medicine (Paruthi et al., 2016) recommends that infants get 12 to 16 hours of sleep (including naps) each day, toddlers get 11 to 14 hours, and preschoolers get 10 to 13 hours. No, if you live in Spain, where parents usually put their children to bed around 10:00 p.m. so they have time to be around family while they socialize with each other (Choi, 2014; Lane, n.d.).
4. No, if you are in a Western country. The American Academy of Pediatrics recommends that infants sleep in the same room as parents, but in a nearby crib or bassinette. They should never sleep on a soft surface like a couch or chair and they should not sleep in their parents' bed (Moon et al., 2022). Yes, if you are in Japan, where it is common for children to sleep in their parents' bed until the next child arrives, and then often to sleep with another family member for several more years (Lane, n.d.).
5. No, if you are in many Westernized countries, where many parents prepare "child-friendly" foods for their children. Yes, if you are in France or South Korea. In these cultures, eating is an important social experience and children join adults at the table and eat the same food as they eat from a very early age (Young, 2018).

Cultures have been described as varying along a continuum from *individualism* to *collectivism*. As researchers originally described, in individualistic cultures the emphasis was on being independent, competitive, and unique. In collectivist cultures, the emphasis was more on an obligation to your family or your group, however you define it, and identity is derived primarily from the individual's social affiliations. Western industrialized societies have been the prototype of individualistic cultures, while Asian cultures have been the prototype of collectivist cultures. However, more recently researchers have begun to question whether this "East–West" dichotomy adequately describes cultural differences. Research conducted around the world has found that there is not one, unitary way to be independent or interdependent (Vignoles et al., 2016). These researchers argue that thinking of cultures as appearing somewhere on a continuum from collectivist to individualistic does not adequately reflect the mix of characteristics that describes them. For example, Latin American cultures are often identified as collectivist because of a cultural focus on interdependence, but the Latino samples in their study emphasized independence on six of the seven cultural dimensions they identified. Similarly, Middle Eastern samples emphasized self-reliance, toughness, and self-enhancement (which are individualistic characteristics) as well as attention to others and the social consequences of one's behavior (which are collectivistic characteristics). These researchers call for future research that looks at the ways that individuals within different cultural groups are both independent and interdependent.

Some cultural expectations are taught explicitly to children. For example, a parent in one culture might say to a child, "Look at me when I'm speaking to you," but a parent in another culture might tell a child that *not* looking directly at an adult is a sign of respect. However, much cultural information is conveyed in more subtle ways through a number of parenting practices, including how parents deal with issues as basic as how to feed infants and toddlers (Bornstein, 2012). Think about what you would expect to see when a parent in the United States feeds their 1-year-old baby. Most likely you have an image of the baby sitting in a high chair while the parent spoon-feeds the baby, often letting the baby

take the spoon to begin learning how to eat on their own (usually with messy and somewhat hilarious results). Parents may also put some “finger food,” like dry cereal, on the tray to encourage independent feeding. By contrast, in cultures that emphasize interdependence rather than independence, feeding remains under the control of the parent. In the process, the child learns to be patient and cooperate with another person. Mealtime becomes an expression of family love and expectations for proper behavior.

Despite cultural differences in parenting, infants and toddlers around the world all learn to eat, sleep, and go to the bathroom in accordance with the expectations of their cultures. This is an example of *equifinality*, as described earlier in this chapter. There may be multiple pathways, but they all get the child to the same place.



Cultural differences in feeding. Babies in cultures that emphasize independence are often encouraged to try to feed themselves, and the results can be quite messy. In contrast, babies in cultures that emphasize interdependence are more likely to be fed by an adult, in a way that emphasizes family closeness.

Ted Ketaj; iStockPhoto/FatCamera

Historical Time

A child's development is marked by the historical time in which the child is born and develops. Major historical events including wars, depressions, terrorist attacks, and pandemics make the experiences of children living through them different from those of children who came before or come after them. You could ask your parents or grandparents about how the world they grew up in was different from the world that children live in now.



Coping with a pandemic. Wearing a face mask and frequently sanitizing your hands became a routine part of life for children during the coronavirus pandemic. These responses to the threat of the virus will become part of their life story.

iStockPhoto/kali9

We have all been marked by our recent experience with the COVID-19 virus, but its impact on children's health, well-being, education, and family relationships will only be fully understood later in their development. As we have mentioned, children have been isolated from friends and activities they enjoy. They likely spent at least some time learning virtually in their own homes rather than in a classroom with a teacher and their friends. They dealt with fears about illness, death, and dying that may not have been experienced by children since the polio epidemic of the 1950s. The consequence of the pandemic are likely to differ depending upon the age of the child. While a toddler might receive less attention from a parent who is struggling to cope with the pandemic threat, a child in middle school loses the chance to play with friends, and social isolation may contribute to a teenager's sense of isolation and depression. For this reason, your life story is different from that of your parents and grandparents and will be different for any children you have in the future.

Check Your Understanding

Knowledge Questions

1. What is the primary context for most children's development?
2. How does socioeconomic status affect a child's development?
3. How does culture affect childrearing practices?

Critical Thinking

Why is it so easy for us to slip into thinking that the way we have been raised is the best way to raise children? What can be done to overcome this tendency?

Be a Smart Consumer of Information About Development

1.4 How can you be a smart consumer of information about development?

Information about children and child development is everywhere—in books, magazines, and television programs; from friends and family; and online. To be able to judge the quality of all this information on development, you will need to become an informed consumer. When you are planning to make a large purchase, you often make a better choice if you gather information from a variety of sources and evaluate how trustworthy they are. You can use a similar process when learning about child development.

Know Your Sources

Knowing the source of the information you are using is the first step in becoming an informed consumer. You should ask yourself if you are getting information from someone who is knowledgeable about the topic and is providing objective and unbiased information, or if you are getting information from someone who is not credible or is presenting personal opinion as though it were fact.

Your campus library owns many journals, books, and professional publications in the field of child development, and you can trust these to be reliable sources of information. Many of them are available through your library's electronic databases. For students of child and adolescent development, the APA PsycINFO and ERIC (Education Resources Information Center) databases are probably of greatest interest. APA PsycINFO contains over 5 million records that include peer-reviewed journal articles, books, and dissertations from the past 55 years (American Psychological Association, 2023a). It contains publications from more than 50 countries and journals in 30 languages. ERIC is sponsored by the U.S. Department of Education and contains 1.6 million items that include journals, books, and other education-related materials, such as conference papers, technical reports, and policy papers, from 1966 to the present (Institute of Education Sciences, n.d.). In these databases, you can find abstracts of articles (brief summaries of the research done and the conclusions drawn from it) and, in many cases, information on how to locate the complete articles.

The reason you can have confidence in the information you find in professional journals is that many of them use a **peer review** process to determine which articles they will publish. Articles that are submitted to a journal are reviewed before they are accepted for publication by professionals who are knowledgeable about the topic of the research. This process ensures that the information in peer-reviewed journals has passed professional scrutiny before it gets into print.

When you turn to the internet for information, you need to provide your own scrutiny and use good judgment. Remember that anyone can post information on the web, so the author of a web page does not necessarily have any particular expertise. Their information may simply be wrong, or it may be no more than their personal opinion. This is especially a risk when you are researching a controversial

topic. Two domain names that can generally be trusted are .edu, used by educational institutions, and .gov, associated with government agencies. While commercial sites may provide some legitimate information, their real intent often is to sell you a product.

Although the Wikipedia website is popular with college students, anyone can write an article or edit an existing post on the site, so Wikipedia is *not* considered a reliable source of information for most purposes. However, many Wikipedia entries include a bibliography of professional books and articles that can point you to scientific information on the topic you are researching, so if you use a site such as this, use it only as a starting point for your research.

By completing **Active Learning: Evaluating Information on the Web**, you can use the same guidelines many libraries use to evaluate a web page that interests you.

Active Learning

Evaluating Information on the Web

As we rely more and more on web-based sources for our information, it has become increasingly difficult to distinguish fact from fiction on the internet, so it is important that we develop the digital literacy needed to identify sites that provide accurate and unbiased information. Checklists for evaluating websites have been popular in classrooms, libraries, and even earlier editions of our books. Checklists suggest that you evaluate a website using criteria such as these:

- Relevancy (Is the information relevant to your question?)
- Appropriateness (Is the information appropriate for the reader's age and values?)
- Detail (Is there adequate depth of coverage of the topic?)
- Currency (When was the information published or last updated?)
- Authority (What are the qualifications of the author of the site?)
- Bias (Was the information designed to inform, persuade, entertain, or sell something to the reader?) (RAD CAB, 2005–2023)

However, cleverly designed websites that are intended to fool or mislead you can meet all these criteria. For instance, there is a site supposedly devoted to preserving the habitat of the Pacific Northwest tree octopus that would pass this review. We assume that you know that an octopus does not live in trees, but this page is filled with facts and figures, appears to be from an authoritative source, has links to reference articles (which are as phony as the site itself), and is current. You would not want to donate to the Wild Haggis Conservation Society, the organization supposedly behind this website, based on what you read there.

Rather than simple checklists, fact-checkers for news organizations usually take a different approach. They begin evaluating a site by looking at what other authoritative sources say about the site's sponsoring organization or author. This is called a *lateral search*. Once they establish that the source is legitimate and reliable, they can continue to check the accuracy of the information on the site against other sites (Breakstone et al., 2018). In one study conducted with high school students, those who received 6 hours of instruction on using a lateral search to evaluate media-based information were significantly better at judging the credibility of digital content than a comparable group of students who did not receive this instruction (Wineburg et al., 2022).

Because so many people now rely on the internet or social media for their news and because artificial intelligence (AI) continues to produce increasingly believable fake news, schools have begun to respond by including media literacy as a part of their curriculum. In 2023, four states—California, Delaware, New Jersey, and Texas—passed a legislative requirement that media literacy instruction be part of the curriculum for all students from kindergarten through 12th grade (Merod, 2023). These are essential skills for students today.

To complete this activity, choose a topic you are interested in that involves some degree of controversy (for example, vaccinating children, children co-sleeping with parents, or prescribing medication for children with ADHD). Find a website on that topic and do a lateral search. What do you conclude about the credibility of the site you initially found?

Become a Critical Thinker

In addition to learning a great deal about child development, we want you to be able to think critically about the information. To do this, you will need to be actively engaged with the material so that you can reflect on it. We expect you to ask questions and examine the assumptions that underlie research rather than just accept information at face value. No single book can contain all the information you need on any topic, so don't hesitate to look for answers to your own questions and seek out divergent opinions on topics that intrigue you. Expose yourself to a wide range of ideas. Some will make sense to you and some will be harder to accept, but keep an open mind. As you learn more about research methods in Chapter 3, you will become better able to examine the evidence behind the ideas you find rather than just relying on what someone else has said.

Science is an organized body of knowledge that accumulates over time, so it is always changing and growing. Throughout the book you will find a feature called the **Journey of Research** that presents a brief historical sketch of how some important ideas in the field have developed over the years. Our current understanding of a topic will make more sense to you when you understand the origin of those ideas. The fact that an idea has been around for a long time—or that many people endorse it—does not necessarily mean it is true. Remember that for a very long time, everyone believed that the Earth was flat and no one believed that germs caused disease. Likewise, just because an idea is new doesn't necessarily mean it is better than what we had thought before. New research findings need to be tested and replicated (that is, produced again by others) before we can gain confidence that they are accurate and reliable. The best suggestion here is to be open to new ideas but to be cautious about jumping on a bandwagon until there is good evidence that the bandwagon is going in the right direction.

Guard Against Generalizations

As you learn about child development, it is easy to assume others have had the same or similar experiences to yours with the same or similar consequences. Your own experiences are meaningful and real. They are part of what has made you the person you are today and help shape the person you will be tomorrow. That fact is never in question, but trying to generalize from your particular experience to general statements about everyone else's experience is always dangerous. Likewise, when we conduct research we cannot necessarily generalize findings based on one population to another population that might have different characteristics.

The opposite of this is also true. The conclusions drawn from research may not describe what your personal experiences were, but this does not mean the research is invalid. Rather, it reminds us that research describes the outcome for groups, not for every individual within a group. When we say men are physically stronger than women, for instance, it does not mean every man is stronger than any woman. It only means that on average there is a difference between the groups on this characteristic, but within the groups there is a good deal of individual variability.

Avoid Perceptual Bias

Sometimes students think that child development is just common sense and that they already know everything they need to know. Unfortunately, it isn't that simple. We can't rely on folk wisdom, or ideas that are widely accepted but have not been scientifically tested, to tell us what we need to know about development. Having such preconceived ideas can also affect how you process new information. As you read this book, it will be easier for you to remember the facts you encounter that fit well with what you already believe to be true, and to forget or ignore those that don't. This tendency to see and understand something based on the way you expected it to be is called a **perceptual bias**, and it can affect your learning. That is one reason we begin each chapter after this one with a set of questions reflecting common misconceptions about topics you will read about in that chapter. Testing your knowledge about these topics *before* you begin reading will make you more aware of information in the chapter that will challenge your initial ideas. You will want to spend a little more time and effort making sure you understand this information.

To get a preview of the types of misconceptions that you may have about child development, try to answer the questions in **Active Learning: Test Your Knowledge of Child Development**. Do you think each statement is *true* or *false*? Each of these questions will appear later in the book. Pay special attention to information that challenges ideas that you bring with you to this class.

Active Learning

Test Your Knowledge of Child Development

1. If a woman becomes pregnant while using an opioid drug, she should stop using it immediately. (Chapter 5)
2. The percent of U.S. children living in a stepfamily has not changed substantially since 1960. (Chapter 13)
3. Alcohol consumption by adolescents has steadily declined in recent decades. (Chapter 15)
4. On average, there are only small differences between children from divorced families and children in two-parent families. (Chapter 13)
5. Exposing a fetus to extra stimulation (for example, playing music near the pregnant woman's stomach) can stimulate advanced cognitive development. (Chapter 5)
6. Today most parents do not reinforce gender-specific stereotypes and treat their sons and daughters in very similar ways. (Chapter 11)
7. Children who are gifted or talented often pay a price for their giftedness because they are likely to be socially or emotionally maladjusted. (Chapter 8)
8. In the United States, 90% of adolescents between the ages of 15 and 19 have had sex at least once. (Chapter 6)
9. Most adults who were abused as children do not become abusive parents. (Chapter 15)
10. Programs that build students' self-esteem have effectively improved their grades and have also helped reduce delinquency, drug use, and adolescent pregnancy. (Chapter 11)

Answers:

Question 1 is false, but Questions 2, 3, 4, and 9 are true. All the remaining questions are false.

How did you do? Many of these questions represent common beliefs that have been contradicted by research findings, so it wouldn't be surprising if you got a number of them wrong. The purpose of these quizzes is not to make you feel bad about what you do or don't know but rather to point out that many ideas that we have about child development that sound like "common sense" don't agree with what research has shown us to be the case. We hope your quiz results will help you remember to pay extra attention to those ideas that contradict your preconceived ideas.

Get the Most From Your Textbook

To get the most you can from your textbook, you will want to use the **True/False Quiz** that begins each chapter to identify important ideas that challenge your initial level of understanding and the **Journeys of Research** to understand the evolution of scientific thinking on a given topic. Each chapter begins with a set of **Learning Questions** that relate to the major topics covered in the chapter. They can act as guideposts that will help focus your learning. When you complete each section of the chapter, you will find a set of review questions that will **Check Your Understanding**. Use the **Knowledge Questions** as an opportunity to make sure you have a good understanding of that topic before moving on to the next. **Critical Thinking** will help you be sure that you can use and apply the information, make inferences based on what you have learned, and integrate new ideas with old ones. When you have finished a chapter, you can review what you have learned by using the **Chapter Summary**, which repeats the Learning Questions from the beginning of the chapter and summarizes the most relevant information on each topic.

Because we all learn best when we can relate new ideas to our own experiences, we also provide a variety of **Active Learning** features. Some of these activities are designed to help you feel or think the way a child does, or to reflect on your own experiences while you were growing up. You will find some activities that will test your understanding of material in the chapter and some that will help you learn how to find the kind of information you will need when you are working with children. Others allow you to carry out simple experiments or observations with children and adolescents to see for yourself examples of the behaviors we are describing.

All of these activities are designed to help you become engaged with the material so you can relate it to your own life and gain new insight into various aspects of development. We hope that these opportunities help you develop a deeper understanding so that your new knowledge will stay with you far beyond the end of the course you are taking and will influence how you understand and interact with children and adolescents in the future.

Check Your Understanding

Knowledge Questions

1. How does the peer review process assure readers that scientific information is valid and reliable?
2. In what ways can you become a critical thinker?
3. What is perceptual bias, and why do we need to guard against it?

Critical Thinking

Which of the features of this textbook do you think will be most helpful to you? Explain why you think these features will be a good fit with your learning style or study habits.

Conclusion

We hope this chapter has made you eager to learn more about child development and to take an active role in your learning. Now that you have been introduced to some of the basic concepts in the field of child development, you are ready to explore these concepts more deeply. There are so many interesting and important topics in the pages that follow that it is difficult to pick just a few to highlight, but they include understanding what can be done to help ensure a healthy pregnancy for both mother and infant, developing educational practices that help children across a wide range of abilities to thrive in their classrooms, and learning about the exciting new findings from neuroscience that are helping us to understand how the brain develops. We will look at what promotes healthy development, what threatens it, and the protective factors that can buffer those negative effects. We also discuss how all this unfolds in the increasingly diverse world in which children live.

Chapter Summary

The chapter summary at the end of each chapter is designed in a question/answer format so that you can use it to test yourself on what you have learned. While looking at each question, cover the answer and try to answer it yourself. Then see how the answer corresponds to your own understanding. Self-testing is a very effective way to study and learn.

1.1 Who needs to have a good understanding of child development and why do they need this understanding?

With an understanding of child development, parents and family members are better able to understand their children's needs and abilities at each stage of development, which helps them respond appropriately and provide the amount and type of stimulation that supports

their children's growth and development. Professionals in a variety of careers draw on child development knowledge in their work. Lawmakers responsible for **social policy** must understand how policies will affect children and their families and informed citizens can advocate for policies that promote positive child development.

1.2 What are the domains of child development and some recurring issues in the field?

Physical development consists of the biologically based changes that occur as children grow. **Cognitive development** consists of the changes that take place in children's thinking and learning. **Social-emotional development** consists of the changes that occur in children's understanding and expression of emotions as well as their ability to interact with other people. Issues in the study of development include debate about the relative contribution of **nature** and **nurture** to development, whether change is continuous (**quantitative**) or discontinuous (**qualitative**), and how much stability versus change occurs over time. In addition, different developmental pathways may result in the same outcome (**equifinality**), and the same developmental pathways may result in different outcomes (**multifinality**). Although we look to make general statements about development, we also consider the effect of individual differences and how multiple characteristics interact (**intersectionality**). **Developmental psychopathology** sees psychological disorders as distortions of typical developmental pathways rather than as illnesses. Another debate examines whether children play an active role in their own development or are passive recipients of external influences. The **positive youth development** movement looks for ways to help all children reach their fullest potential.

1.3 What are the contexts in which children develop?

The contexts for development include children's families, as well as their schools, communities, and culture. All these contexts are embedded in the historical time in which the child lives. Family is the primary context for development for most children, and a family's **socioeconomic status (SES)** plays a significant role in the experiences a child will have. Characteristics of the school a child attends and the community in which the child lives affect every aspect of development. Although we see cultural differences in how parents raise their children, parenting in each **culture** prepares children to be successful in the context of their particular environment. **Parental ethnotheories** guide them in ways to do this.

1.4 How can you be a smart consumer of information about development?

Be sure you know your sources. Learn to critically evaluate information that comes from the internet. Don't be afraid to ask questions. Be open to new ideas, but don't assume that information is better simply because it is newer. Don't generalize from a single example, but also don't reject the results of research because your individual experiences don't agree with the research findings. Realize that understanding development requires more than the ideas you bring to the course, and don't fall prey to **perceptual bias** that just confirms what you already expected. Make good use of the pedagogical features that are included in your text because they can help you master the material.

Key Terms

Cognitive development	Peer review
Culture	Perceptual bias
Developmental psychopathology	Physical development
Equifinality	Positive youth development
Incremental theories	Qualitative changes
Intersectionality	Quantitative changes
Multifinality	Social policy
Nature	Social-emotional development
Niche picking	Socialization
Nurture	Socioeconomic status (SES)
Parental ethnotheories	Stage theories

Chapter 2

Theories of Development



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Learning Objectives

- 2.1 How do developmental theories help us understand children's growth and development?
- 2.2 How do Freud and Erikson describe the stages of child development?
- 2.3 What are the basic principles of behaviorism and social cognitive theory?
- 2.4 How do the theories of Piaget, Vygotsky, and information processing describe cognitive development?
- 2.5 What is the basic concept of a systems theory and how is it applied in the theories of ethology, ecological systems, and dynamic systems?
- 2.6 How are developmental theories influenced by culture?
- 2.7 How do developmental theories differ?

Test Your Knowledge

Test your knowledge of child development by deciding whether each of the following statements is *true* or *false*, and then check your answers as you read the chapter.

1. Research cannot conclusively tell us whether a theory is true or false.
2. The bulk of your personality is established and fixed by the time you enter adolescence.
3. Freud's psychoanalytic theory has been thoroughly tested through scientific research.

4. The best way to establish and maintain a behavior is to reward people every time they show that behavior.
5. The only way to get rid of a child's undesirable behavior is to punish them when they do it.
6. Students learn more when teachers clearly explain each step they expect students to take in solving a problem.
7. Darwin's concept of the "survival of the fittest" means that the strongest animal is most likely to survive.
8. Girls enter puberty at earlier ages when their parents have a high level of conflict with little support or satisfaction in their marriage.
9. The best way to study children is through carefully controlled experiments in a laboratory setting.
10. A good theory should be universal, applying to all children in all situations.

Correct answers: (1) T, (2) F, (3) F, (4) F, (5) F, (6) F, (7) F, (8) T, (9) F, (10) F

When we observe and work with children and adolescents, we want to make sense out of what we see. The explanations we develop about why children behave in certain ways can become theories. In this chapter we describe some of the major theories that have influenced how we understand child development today. Although some of these theories have their origins in the late 19th or early 20th centuries, each also has modern applications that we describe in this chapter. We present these theories here as a broad introduction to the variety of ideas that lie behind modern research and practice with children; however, you will read much more about these and other theories as they are applied to specific topics discussed in the rest of this book.

Why Theories of Development Are Important

2.1 How do developmental theories help us understand children's growth and development?

To understand how and why children develop the way they do, it is not enough simply to observe them. Our observations should lead us to explanations that allow us to make predictions about how they will develop. These explanations can be organized into a systematic, coherent model called a **developmental theory**. Theories in any science serve two important functions: They help us *organize* the knowledge that we already have, and they help us *make predictions* that we can investigate and test.

Although most theories can never be proven beyond a shadow of a doubt, the scientific process allows us to gather evidence that supports or opposes the truth of these ideas and helps us form questions for further research (T/F Q1). For example, some say Darwin's theory of evolution is not a proven fact, and technically this is true. However, the enormous body of evidence that supports its ideas outweighs the evidence against it. Consequently, evolutionary theory is widely accepted in scientific circles today. On the other hand, some theories have come and gone as evidence piled up that did not fit with the predictions that emerged from them. For example, from the 1930s until the 1970s adherents to psychoanalytic theory, which you will learn about in the next section, proposed that inadequate early mothering was the cause of the severe mental illness known as schizophrenia (Harrington, 2012). However, as research continued, it became clear that the more likely culprit in the development of schizophrenia is the interaction of genetic endowment and environmental influence (Jaffe et al., 2016). You will learn more about how theories have changed as research evidence confirmed or disconfirmed their ideas when you read the **Journey of Research** features found throughout this book.

Developmental theories differ from one another in several ways. One of those ways, as you learned in Chapter 1, is whether they describe development as a series of quantitative changes that happen little by little, smoothly over time, or as a series of large qualitative changes that occur at certain ages and alter the nature of the child or adolescent in significant ways.

Another characteristic is whether they describe developmental change as resulting from internal processes, such as biological and cognitive development, or from external processes, such as environmental influences that shape children's development. Many describe development as an interaction of internal processes and external processes, but each theory describes a different type of interaction. As you read about each theory in this chapter, keep these questions in mind:

1. How does the theory describe development? Does change occur quantitatively, in small steps, or qualitatively, in distinct stages?
2. What drives development? Is it the product of internal processes such as biological and cognitive growth, or environmental influences, or a combination of these factors?

You will be able to check your answers to these questions using Table 2.3 at the end of the chapter after you have read about the different theories.

As we begin this description of developmental theories, it is important for you to understand that theoretical ideas do not appear in a vacuum. The influential theorists in our field all have developed their ideas in a particular culture and at a particular point in historical time, and their ideas about child development reflect these influences. However, each of these theories has been tested over time, and we have retained those concepts and principles that have continued to be useful and eliminated or changed those that have not. Each of these theories has helped shape the type of questions we ask, the type of research we conduct, and the interpretations we place on our findings.

We begin with theories developed earliest in the history of the study of child development and end with some of the more recently developed theories. Not all of these theories are the subject of current research, but the section on modern applications that follows the presentation of each theory describes how they are being used today.

Check Your Understanding

Knowledge Questions

1. What two functions do theories serve in science?
2. What are two ways in which theories of development differ from each other?

Critical Thinking

What is the relationship between theory and truth?

Psychoanalytic Theory

2.2 How do Freud and Erikson describe the stages of child development?

We begin our discussion of theories with **psychoanalytic theory** (*psyche* = the mind; *analysis* = detailed examination of the parts and structure of something) because it was the first theory to describe stages of development through childhood. In this theory, developed by Sigmund Freud (1856–1939), biological urges move each person through a series of stages that shape the personality. Although psychoanalytic theory has been very controversial throughout its existence, many of its concepts have become part of our assumptions about how the mind works.

Freud theorized that our personality is made up of three parts: the id, the ego, and the super-ego. According to Freud, we are all born with an **id**, which consists of our basic instinctual drives. The id seeks immediate gratification for all its urges. Infants want *what* they want, *when* they want it. As children grow older, they become aware of the reality of the world around them and begin to develop the ability to think and control their emotions. This ability to negotiate between the demands



Id, ego, and superego. In Freud's theory, the id is the part of the personality that wants immediate gratification of all its desires. The ego has the job of finding a realistic way to satisfy those needs. The superego is the part that contains the moral guides and restrictions on those desires. Can you identify which part of the personality the girls in the three photos here illustrate?

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of basic drives and the real world is the job of the **ego**. Finally, sometime between the ages of 5 and 7, children begin to incorporate moral principles that work against the drive-motivated functioning of the id. These moral principles are maintained by the **superego**. Freud believed that children do not have any conscience, or internal sense of guilt that guides their actions, until they develop a superego.

Freud's Psychosexual Stages

Freud thought our most basic drive is the sex drive. If you believe that biologically the goal of our lives is to pass on our genes, then you might agree with Freud that the sex drive is central to everything else. Freud also theorized that we are unaware of many of our thoughts and feelings about sexuality because they are hidden in our **unconscious mind**. He outlined five stages in child and adolescent development, which

he called **psychosexual stages**. At each of these stages, sexual energy is invested in a different part of the body, and gratification of the urges associated with those areas of the body is particularly pleasurable. Freud believed that the way these urges are handled during each of these stages determines the nature of an adult's personality and character.

During the **oral stage** (birth to about 18 months of age) infants derive a great deal of satisfaction from activities that stimulate their mouth, lips, or tongue. This is why they often immediately put anything they get their hands on into their mouth. During the **anal stage** (18 months to 3 years) the pleasure center moves to the anus, and issues of toilet training become central as children are expected to learn to control their bodily urges to conform to society's expectations. During the **phallic stage** (3 to 6 years) sexual energy becomes focused on the genitals. Boys and girls develop what has been called "the family romance." Boys imagine marrying their mother when they grow up and girls imagine marrying their father. To move on to the next psychosexual stage, children must learn to give up these desires and begin to identify with, or want to be like, the parent of the same sex.

The **latency stage** occurs between 6 and 12 years of age. *Latent* means inactive, and Freud (1953) believed that during this time the sex drive goes underground. Children move from their fantasies in the phallic period of marrying their parent to a new realization that they must take the long road toward learning to become a grown-up. The sex drive provides energy for the learning that must take place, but the drive itself is not expressed overtly. Children transfer their interest from parents to peers (A. Freud, 1965). At this age children often abandon any cross-sex friendships they have had and turn to same-sex friends. They may even express an active dislike for opposite-sex peers. This separation of the sexes begins to change at about age 12, when young adolescents enter the **genital stage**. At this point, sexual energy becomes focused on the genital area, and a more mature sexual interest develops.

Erikson's Psychosocial Stages

Freud had many colleagues who further developed his theory, but one of the most influential was Erik Erikson (1902–1994). Erikson believed that issues of the ego are more important than those linked with the id and instinctual drives and that development of identity is the central issue for children and adolescents. At each stage in his theory a conflict arises rooted in the social experiences typical at that stage of development. For this reason, Erikson's theory is said to describe **psychosocial stages** (as compared to Freud's **psychosexual stages**). The way in which children resolve the conflict at each stage lays the groundwork for the stages of development that follow.

Erikson's psychosocial stages are described briefly in Table 2.1. We describe the stages from infancy through adolescence more fully in Chapter 11. To illustrate how Erikson's theory reflects a developmental crisis at each stage, we describe here his first stage, *trust versus mistrust*, in which infants establish trust in the world around them. Infants are totally dependent on the adults who care for them. When their

caregivers are dependable and reliably meet the infants' needs, they learn to trust the world and feel safe and secure in it. However, when caregivers are inconsistent in providing care or are emotionally unavailable, infants develop a sense of mistrust in the world. Of course, none of us has a completely positive or completely negative experience at any of the stages; therefore, we can think of the two possible outcomes of each stage as two sides of a seesaw, with one side higher than the other but both actively in play. The way infants resolve the issue of trust versus mistrust sets the stage for the way they will go on to deal with the issue of *autonomy versus shame and doubt* as toddlers.

Another important aspect of Erikson's theory is his idea that development does not stop in adolescence. He went beyond Freud's stages to add three stages of adulthood. *He was the first theorist to recognize that our personality continues to grow and develop throughout our lives* (T/F Q2). Erikson's eight psychosocial stages are described briefly in comparison to Freud's psychosexual stages in Table 2.1.



Toddlerhood: Autonomy versus shame and doubt. According to Erik Erikson, toddlers develop a sense of autonomy or being able to do things on their own when supported and encouraged by their parents. However, when adults are overly critical or impatient, toddlers can feel shame and doubt in their abilities.

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Table 2.1 ■ A Comparison of Freud's and Erikson's Stages of Development

Ages	Freud's Psychosexual Stages		Erikson's Psychosocial Stages	
Infancy	Oral	Pleasure is focused on the mouth and "taking in."	Trust versus mistrust	Infants develop trust in their caregivers and in their own ability to cope, or they do not trust that their needs will be met.
Toddlerhood	Anal	Pleasure is focused on the anal region and control of one's own body and its products.	Autonomy versus shame and doubt	Toddlers develop more independence and self-control or a lack of confidence in their abilities.
Early Childhood	Phallic	Pleasure is focused on the genital area; development of the "family romance."	Initiative versus guilt	Children display exuberant activity or overcontrol.
Middle Childhood	Latency	Sexual energy goes underground as children focus on peers and learning.	Industry versus inferiority	Children learn the tasks of society or develop a sense of inadequacy.
Adolescence	Genital	Sexual energy reaches adult level, with a focus on intimate relationships.	Identity versus role confusion	Adolescents integrate previous experiences to form an identity, or they feel confused about their role in society.
Early Adulthood			Intimacy versus isolation	Young adults develop an ability to form close relationships, or they fear and avoid relationships.
Middle Adulthood			Generativity versus stagnation	Adults guide the next generation or are preoccupied with their own needs.
Later Adulthood			Ego integrity versus despair	Older adults achieve a sense of meaning in life or feel their life has not been worthwhile and fear death.

Sources: Adapted from Erikson (1963) and Kahn (2002).

Modern Applications of Psychoanalytic Theory

Although Freud's psychoanalytic theory has been controversial, ideas that come from it are still very influential, particularly in the study of mental and emotional disorders (Lament, 2022). Many psychotherapists continue to use therapy based on Freud's idea that inner conflicts from earlier life

experiences, especially early trauma, form the basis for later psychological symptoms, and bringing those inner conflicts from the unconscious mind into consciousness will be therapeutic. On the other hand, *Freud's theory, including his psychosexual stages, was never thoroughly tested and is not generally the subject of current research in child development* (T/F Q3).

Erikson's ideas also have remained influential because they reflect many of the ways we think about development today, as outlined in Chapter 1. The role Erikson gives to the influence of culture, the environment, and social experiences on development fits well with our current interest in understanding the contexts in which development occurs. His portrayal of children as active participants in shaping their own development and the incorporation of both change (as reflected in different crises in each of the stages) and stability (as seen in the idea that later stages continue to be influenced by the resolution of earlier issues) also dovetails with our current thinking. Erikson's ideas have formed a basis for research into different aspects of identity formation, including racial, ethnic, and religious identity (Cross et al., 2020; Halevy & Gross, 2024; Phinney, 1992; Worrell et al., 2023). Researchers have shown that successfully resolving the developmental crises at each of Erikson's stages has been linked to resilience, including the ability to cope with stress (Svetina, 2014). Erikson's ideas have also been used in the treatment of children with emotional disturbances (Turns & Kimmes, 2014).

Check Your Understanding

Knowledge Questions

1. What are the three parts of the personality according to Freud?
2. What concepts in Erikson's theory have most influenced modern researchers?
3. How do the stages in the theories of Freud and Erikson differ?

Critical Thinking

Many 2-year-olds can be quite stubborn, resulting in what is often called the "Terrible Twos." How do you understand this behavior from the different points of view of Freud and Erikson?

Learning Theories

2.3 What are the basic principles of behaviorism and social cognitive theory?

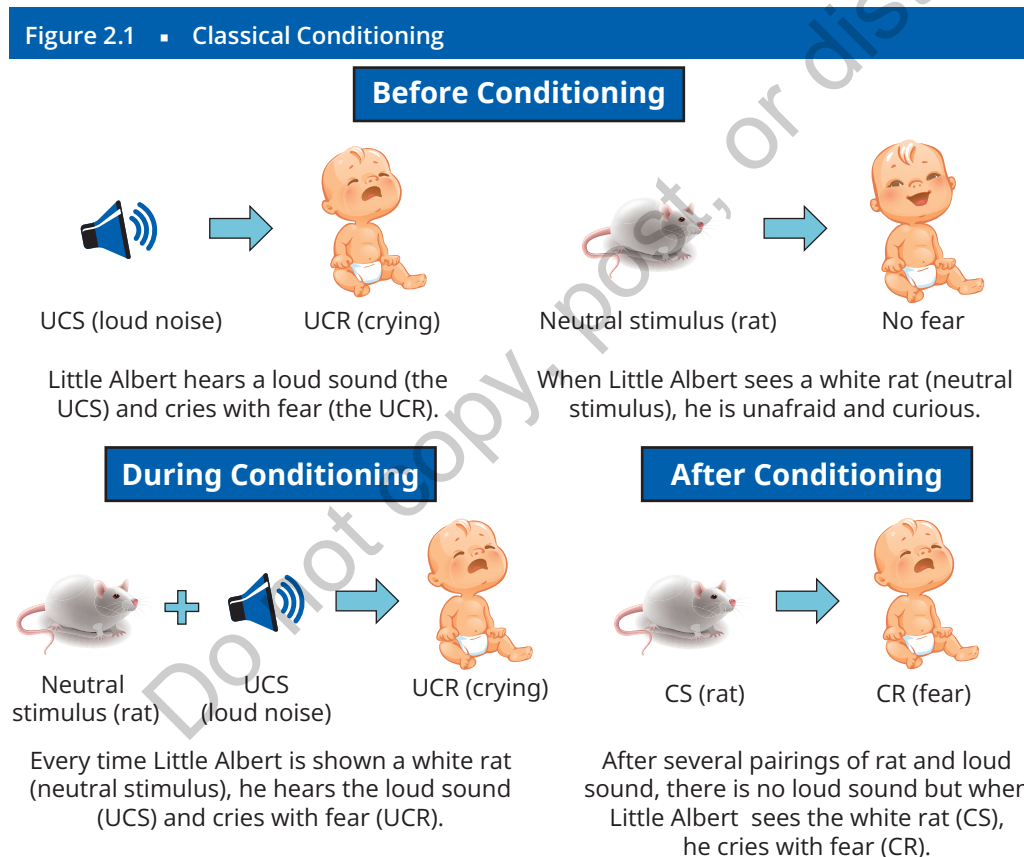
A different theoretical approach to understanding how children develop is offered by the learning theories. Whereas psychoanalytic theory focuses on internal processes of the mind, the learning theories focus on observable behavior. These theories are based on the link between a stimulus (any event that causes a response) and an individual's response to that stimulus. In the following sections, we describe the theories known as behaviorism (which is based on principles of classical conditioning and operant conditioning) and social cognitive theory (which is based on principles of modeling and imitation).

Watson and Classical Conditioning

John B. Watson (1878–1958) is the father of the theory he called **behaviorism**. He concentrated on what he could see: behavior, or what people *do*. At the time Watson was developing his theory, the modern academic field of psychology was just emerging, and psychologists in America were trying hard to establish the field as an experimental science, with testable predictions based on observable phenomena rather than unseen concepts such as the unconscious mind described by Freud.

Watson studied the ways in which the environment influences human behavior. He described a process called **classical conditioning** and carried out an experiment with a 9-month-old infant known only as Little Albert to demonstrate that he could produce fear in a human infant in response to a particular stimulus (Watson & Rayner, 1920). Watson found that Little Albert, like many infants, was frightened by sudden, loud sounds, but seeing a white rat did not initially frighten him.

You can think of conditioning as a type of learning, so when we refer to something as unconditioned, it means you don't have to learn it. For Little Albert, the link between the loud sound and his fear was unlearned, so the sound was an unconditioned stimulus (UCS) and his fear was an unconditioned response (UCR). However, Albert had no fear of the rat, so that initially was a neutral stimulus. Watson carried out the process of classical conditioning by making the loud sound every time he showed Albert the white rat. At first Little Albert cried because of the loud sound, but he soon began to express fear by crying as soon as he saw the white rat. At that point, even when Watson stopped making the loud sound, every time he showed Little Albert the white rat, the infant continued to show fear. In this process, the white rat became the conditioned (or learned) stimulus (CS) and Albert's fear of the white rat became the conditioned (or learned) response (CR). Figure 2.1 illustrates the process of classical conditioning.



Classical conditioning can be used to establish positive responses as well as negative ones. Children who visit fast food restaurants with a play area (UCS) have fun there and feel happy (UCR). Although they may have had no initial preference for this type of food (neutral stimulus), they may come to associate that type of food (CS) with the fun they have in the play area and subsequently feel happy (CR) when they have that food (Petrovich & Gallagher, 2007).

To check whether you understand the steps of the classical conditioning process, try **Active Learning: Understanding the Process of Classical Conditioning**.

Active Learning

Understanding the Process of Classical Conditioning

Read the following paragraph and then answer the questions that follow.

Every time your roommate leaves the room he says, “Goodbye!” and loudly slams the door, making you flinch. After this happens a number of times, your roommate says to you, “Gotta go now. Goodbye!” and you realize that you are flinching even before you hear the door slam.

Can you identify all the elements in this classical conditioning paradigm listed here?

Unconditioned stimulus (the stimulus that leads to an automatic response)

Unconditioned response (the response that is automatic)

Neutral stimulus (one that does not initially provoke a response)

Conditioned stimulus (the stimulus that is paired with the unconditioned stimulus)

Conditioned response (the response you have learned)

Answers:

Unconditioned stimulus: door slamming

Unconditioned response: flinch

Neutral stimulus: “Goodbye!”

Conditioned stimulus: roommate’s “Goodbye!” after being paired with door slamming

Conditioned response: flinch in response to “Goodbye!”

Modern Applications of Classical Conditioning

One of the dangers of a negative classically conditioned response is that once it has been established, people understandably avoid the stimulus that produces it. For example, if you once get very sick after eating asparagus, you avoid it in the future and never find out that it is an enjoyable food and may have had nothing to do with your illness. Classically conditioned fears can be so powerful that they begin to limit what people who experience them are able to do. This type of unreasonable fear is called a **phobia**.

Phobias can be treated by exposing people to the situations they fear in a controlled way using the process of *deconditioning*. People are first trained in relaxation techniques. Next they are exposed to the object or situation they fear in a series of gradual steps from least frightening to most frightening, and they use their relaxation techniques to reduce their anxiety at each step until the stimulus no longer evokes the fear response.



Treating phobias with augmented reality. If you had an unreasonable fear of spiders, would trying to relax while viewing the image of this spider superimposed on your hands help you to overcome that fear?

Today, virtual reality can be used in the treatment of children with anxiety disorders to expose them to feared stimuli in a controlled way that they can tolerate. Rather than placing the child in a completely virtual environment, it is also possible to add images of feared elements, such as a spider, to a child’s view of the real environment, a technique that is known as *augmented reality* (Baus & Bouchard, 2014). Although the amount of research on this approach is limited, it has been found to be helpful for children with school phobias, phobias of spiders, and those experiencing adverse posttraumatic stress disorder (Bouchard, 2011; Bouchard et al., 2014; Miron, 2019).

Skinner and Operant Conditioning

B. F. Skinner (1904–1990) further developed the theory of behaviorism by introducing the idea of **operant conditioning**. While studying rat behavior he noticed that the rats were affected not by what came

before their behavior, as was true of classical conditioning, but by what came after (B. F. Skinner Foundation, n.d.). He concluded that spontaneous behaviors are controlled by the environment's response to them. He defined a **reinforcement** as anything that occurs after a behavior that increases the likelihood that the behavior will continue or happen again.

Positive reinforcement occurs when you get something you like and want. **Negative reinforcement** occurs when something you find disagreeable is removed following a behavior. Both types make a behavior more likely to happen. While it is easy to think of examples of positive reinforcement, understanding negative reinforcement is more difficult. For example, when a parent picks up a crying baby and the baby *stops* crying, stopping the unpleasant sound of the infant crying reinforces the parent's behavior and makes it more likely the parent will respond this way again when the baby cries.

Skinner described several concepts related to reinforcement that help us understand how the process of operant conditioning works. The first is the process of **shaping behavior**. You cannot reinforce a behavior unless that behavior occurs. For example, you cannot reinforce positive peer interaction if a child does not interact with peers. However, Skinner showed that a behavior could slowly be "shaped" through reinforcement of behaviors that progressively get more and more like the behaviors desired. To shape the behavior of a child who does not interact with peers, you could begin with a reward when the child is simply near another child. The next step might be to reinforce the child only when looking at the other child, and then the reinforcement might only be provided when speaking to the peer while looking at them. Eventually, the reward would be contingent only on true interaction with a peer.

If reinforcement increases the likelihood that a behavior will occur, you might think that the most effective way to establish and maintain a behavior would be to reinforce a child every time they perform that behavior. However, *although continual reinforcement does a great job of establishing a behavior, when the reinforcement stops, the behavior is likely to stop as well. Skinner found that less frequent reinforcement is more effective for maintaining a behavior* (T/F Q4). For example, gamblers at a slot machine are reinforced with winnings on a random schedule, and this is very effective at maintaining their gambling.

You can test the effects of reinforcement by trying **Active Learning: Reward Yourself!**

Active Learning

Reward Yourself!

Of course, you already know that reading your textbook helps boost your grades (and presumably increases your learning). Although grades themselves are a form of reinforcement, they are quite long-term, and many people need a more immediate reinforcer to do what is needed to achieve them. If you are someone who does not stay current with your class readings, set up a reinforcement program for yourself. First, keep track of how many pages of reading you are currently doing in a week. Next, choose a reward you know to be effective for you and keep track of your progress when you consistently reward your reading. For example, see how many pages you should be reading during a



Positive reinforcement. Positive reinforcement is when something you like follows a behavior, making that behavior more likely to happen again. Do you think this high five from his teacher will encourage this boy to work hard?

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Negative reinforcement. Negative reinforcement occurs when something you find disagreeable is removed following a behavior. If this tired mother picks up her baby and the baby stops crying, do you think she is more likely to pick the baby up next time the baby cries?

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given week. For every 5 or 10 pages that you read, give yourself a treat, such as listening to one or two of your favorite songs. Again, keep track of the number of pages you are reading during a week. Did you end up reading more when you gave yourself a reinforcement that depended upon your behavior?

If reinforcement increases the likelihood of a response, **punishment** is intended to decrease it. Punishment consists of administering an undesirable consequence (such as a scolding) or taking away a desired consequence (such as “no dessert because you didn’t eat your dinner”) in response to an unwanted behavior. However, *Skinner (1953) believed that a more effective way to control behavior is to ignore an undesirable behavior rather than punish it, a process he called extinction* (T/F Q5). If children are looking for *any* response from a parent, even yelling or spanking when they misbehave may unintentionally reinforce the undesirable behavior because behaving this way gets them the attention they want. In this case, ignoring misbehavior, but giving them attention when they behave well, should help extinguish the misbehavior. You will read more about problems associated with the use of punishment in Chapter 13.



Punishment and extinction. Three ways to direct a child’s behavior are (1) providing consequences the child finds unpleasant, such as an adult yelling; (2) removal of a reward, such as “no dessert if you don’t eat your dinner”; and (3) extinction or ignoring a child’s negative behavior.

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Modern Applications of Operant Conditioning

An approach called **applied behavior analysis (ABA)** is based on operant conditioning techniques. It has been used with children in schools (Zoder-Martell et al., 2017), with children in special populations to increase adaptive behaviors and decrease maladaptive ones (Irwin & Axe, 2019), and with children with autism to improve intellectual functioning and adaptive behavior (Eckes et al., 2023).

A therapist first observes a child to determine where, when, and how often a problematic behavior is occurring and then identifies the rewards or reinforcements the child is getting from it. After setting a goal for reducing the problematic behavior, the therapist makes changes in the child’s environment that reduce the unintended reinforcement of the undesired behavior and contingently reinforce the desired behavior. For example, a child might be annoying peers in a classroom because it gets them sent to detention, where they don’t have to do classwork. In this case, the way this behavior is being dealt with is unintentionally rewarding the misbehavior by getting the student out of doing their work. The intervention might be that the classroom teacher ignores the misbehavior whenever possible so the behavior isn’t reinforced, or there are negative consequences for it, such as being required to do something else the child doesn’t like to do when they are not doing their classwork. At the same time, the child would receive reinforcements such as positive attention or small rewards for appropriate behaviors such as paying attention to their work. There is extensive current research on the use of applied behavior analysis, including training parents to use it (Heitzman-Powell et al., 2023).

Bandura and Social Cognitive Theory

Albert Bandura, who was originally trained as a behaviorist, was dissatisfied with some of the ideas associated with behaviorism because he thought it was difficult or impossible to identify either stimuli or reinforcements for the entire range of human behavior. Bandura (1986) proposed that, in addition to classical and operant conditioning, people can learn new behaviors simply by watching others rather than by receiving direct reinforcement of their own behaviors from the environment.

Bandura's earliest work showed how children can learn by direct observation. In his classic experiment, one group of children watched a videotape of an adult acting aggressively to a Bobo doll (a large inflated figure of a clown that is weighted on the bottom), hitting it, kicking it, throwing it, and striking it with a toy hammer (Bandura et al., 1963). These children and other children who had not seen the video were then brought individually into a room containing the Bobo doll and other toys. The children who had seen the adult attacking the Bobo doll were much more likely to imitate the adult's violent behavior in the video. In contrast, the children who hadn't seen the adult model attacking the Bobo doll were less likely to carry out these aggressive acts. Bandura concluded that observing a model may provoke a more generalized response based on the children's understanding of what was happening. In this case, they may have specifically seen the adult hit the Bobo doll, but they also understood that the generalized idea was to be aggressive to the doll. You will read in Chapter 14 about the role of media in promoting aggressive behavior as children see such behaviors.

Bandura initially called his theory *social learning theory* because the learning occurs as the result of watching other people, but he later placed greater emphasis on the cognitive, or thinking, aspects of behavior development. He renamed his theory **social cognitive theory** to emphasize that all experiences that people have in their environment are filtered through the way they think about them.



Bandura's experiment on modeling. In Bandura's experiment, children were more likely to behave aggressively like this boy after seeing a film of an adult hitting a similar Bobo doll.

WATFORD/Mirrorpix/Mirrorpix via Getty Images

Modern Applications of Social Cognitive Theory

Bandura further developed social cognitive theory by saying that people are not passive recipients of environmental influence because they also affect and change their environment. One of the tenets of social cognitive theory is that "Seeing people similar to oneself [succeed] by sustained effort raises observers' beliefs that they too possess the capabilities to master comparable activities to succeed" (Bandura, 1994, p. 72). Based on this idea, interventions have been developed to promote what Bandura defined as **self-efficacy** or "the core belief that one has the power to influence one's own functioning and life circumstances" (Bandura et al., 2001, p. 125). For instance, in Mexico, a television drama series was developed that addressed issues of illiteracy, showing people struggling at first, but then successfully reading. At the end of the series, a well-known actor told viewers about a self-study program for literacy development. The next day 25,000 people showed up to enroll in the program (Bandura, 2008). Clearly, people felt more positive about their ability to learn to read after observing a model doing so successfully.

Check Your Understanding

Knowledge Questions

1. According to behaviorism, what is the most important influence on human behavior?
2. How are classical and operant conditioning similar and how are they different?
3. What is the basic learning principle of social cognitive theory?

Critical Thinking

Identify a behavior in a child that you think needs to be changed (for example, leaving clothes on the floor). Describe how you could use shaping to move this behavior toward what you want it to be.

Theories of Cognitive Development

2.4 How do the theories of Piaget, Vygotsky, and information processing describe cognitive development?

The following theories focus on cognition, or the way the mind works, including thinking and learning. We introduce these theories here and then examine them further in Chapter 7, where we discuss cognitive development.

Piaget's Cognitive Developmental Theory

Jean Piaget (1896–1980) was a Swiss scientist who studied children's thinking using what is called the *clinical method*. He encouraged children to talk freely in response to his interview questions and learned about their thoughts from a detailed analysis of what they said (Piaget, 1923/1973).

Piaget believed we are constantly learning about and adapting to our environment by organizing the world in ways we can understand. The units we use to organize our understanding are called **schemas**. They consist of a concept and all the associations to that concept that we have developed through our past experiences. For example, we all have a schema for age, which contains all the expectations and associations we activate when we see infants, children, teens, and adults.

According to Piaget, adaptation consists of two processes: assimilation and accommodation. In **assimilation**, we take new information and put it into an existing schema, whether it really fits there or not. Take the example of a little boy who goes to the zoo and sees an elephant for the first time. He turns to his mother and says, "Look, it's a big doggy with two tails." This child does not have a schema that helps him make sense of an animal with both a trunk and a tail, so he tries to fit this new experience into one of his existing concepts. Will he always think the elephant is a strange dog? Of course not, and this is where the process of **accommodation** comes in. As his mother points out the unique features of an elephant, the child accommodates this new information by creating a new schema, one for elephants. In Piaget's theory, a process he called **equilibration** is the constant seesaw between assimilation and accommodation. As we have new experiences and learn new things about the world, we assimilate new information into existing schemas when we can, but if the new information cannot be assimilated, it throws us into a state of disequilibrium. We then need to change our schemas to accommodate the information, so we can return to a steady state of equilibrium.

Like Freud and Erikson, Piaget believed that children change in qualitative ways from one age period to the next. The stages that he described are based on the way he believed children think about and understand the world at each age level. In his theory, children are not just less knowledgeable than adults; rather, they think in qualitatively different ways at each developmental stage. Piaget described four stages of cognitive development: sensorimotor, preoperational, concrete operations, and formal operations. We describe these stages when we examine Piaget's theory in more depth in Chapter 7.



Accommodating new information. This boy might think this elephant is a big dog the first time he sees it, but he will soon learn it is a new type of animal and will accommodate his thinking to include the category of elephant.

iStockPhoto/microgen

Modern Applications of Piaget's Theory

Piaget has been criticized for the methodology he used and for his conclusions about when children enter each of the stages in his theory; however, his concept of **constructivism** has made an ongoing contribution to our understanding of cognitive development (Newcombe, 2011). Remember that in Chapter 1 we talked about the issue of whether children are passive recipients of environmental influences or active participants in their own development.

Piaget believed that children are active learners, always working to *construct* their understanding of the world.

Constructivist theory has been used as the basis of problem-based learning in the classroom. Using this approach, students are given a problem to solve and the classroom teacher acts as a facilitator or guide as the students work together in a group of peers to solve it. In one study, students were given the task of constructing an aquarium habitat for their classroom. One group of students listened to information presented by their teacher, who used PowerPoint slides, worksheets, and videos, while another group assessed what they knew about the problem and what they needed to know to solve it and then devised a plan to get that information using classroom and web-based resources. *Students in the second group (the problem-based learning group) learned more factual information about aquatic habitats and improved their critical thinking skills more than the traditional learning group* (T/F Q6) (Rehmat & Hartley, 2020).

Piaget also emphasized that physical, bodily activities during infancy are the basis for development of thought. More recently this idea has appeared as part of the concept of **embodied cognition** (Kontra et al., 2012). In embodied cognition, thought and behavior are the outcome of a “conversation” among multiple “speakers,” including the brain, activity of the body, and environmental stimuli and effects (Marshall, 2016). If you think of a conversation you have had with a group of friends, generally there is not one person who controls the conversation. Instead, everyone in the group shapes the topics, direction, and flow of the interaction. In similar fashion, embodied cognition models a complex interaction of many factors that all contribute to the flow and development of human thought and behavior.

Vygotsky's Sociocultural Theory

Lev Vygotsky (1896–1934), a Russian psychologist, had somewhat different ideas about cognitive development, emphasizing the importance of the social world and of culture in promoting cognitive growth. According to Vygotsky (1962/1986), learning first takes place in the interaction between people, then the individual internalizes that learning and it becomes a part of their own independent thinking.

Vygotsky was more interested in looking at what children are capable of learning in interaction with a skilled helper as a better indicator of their level of cognitive development than just testing what they already know. This idea is captured in his concept of the **zone of proximal development**, defined as “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (Vygotsky, 1978, p. 86).

Proximal refers to being near or close. A good teacher first determines what children already know and then challenges them to learn something near enough to what they already know so that they will be able to make sense of it, a process called **scaffolding**. A scaffold is a structure put around a building to allow people to work on it. In Vygotsky's concept, adults help the “construction” of the child's understanding by providing guidance and support (the scaffolding). Just as the scaffold comes down when a building is completed, so too the adult can step back when children fully understand. For example, 2-year-olds may need you to hold their hand on the handle of a jack-in-the-box to make it play, but by age 3 they are likely to be able to do it without your help. Your input is no longer needed, and your “scaffolding” can come down. You will learn more about Vygotsky's ideas in Chapter 7.

Modern Applications of Vygotsky's Theory

Like Piaget's theory, Vygotsky's ideas have had a powerful influence in the field of education. One specific educational practice that developed out of Vygotsky's ideas is known as **dynamic assessment**. In this approach, instead of testing what a child knows or can do at one particular time, the instructor asks a question to assess the child's understanding of a concept. When a child answers the question incorrectly, the instructor starts with the most indirect help, such as a suggestion that the child think about whether they have seen a problem like this before. If this help is not enough, the adult will increase the level of direction, potentially ending by giving and explaining the correct answer. Some children will only need the small suggestion, while others need a more direct approach (see Alavi & Taghizadeh, 2014; Petersen et al., 2017).

For example, dynamic assessment has been used to distinguish second language learners with learning difficulties from children who are learning a second language in a typical fashion. This is an important distinction to make because it helps to determine who needs greater help (Laurie & Pesco, 2023). We discuss this and other educational strategies based on Vygotsky's theory in more detail in Chapter 8.

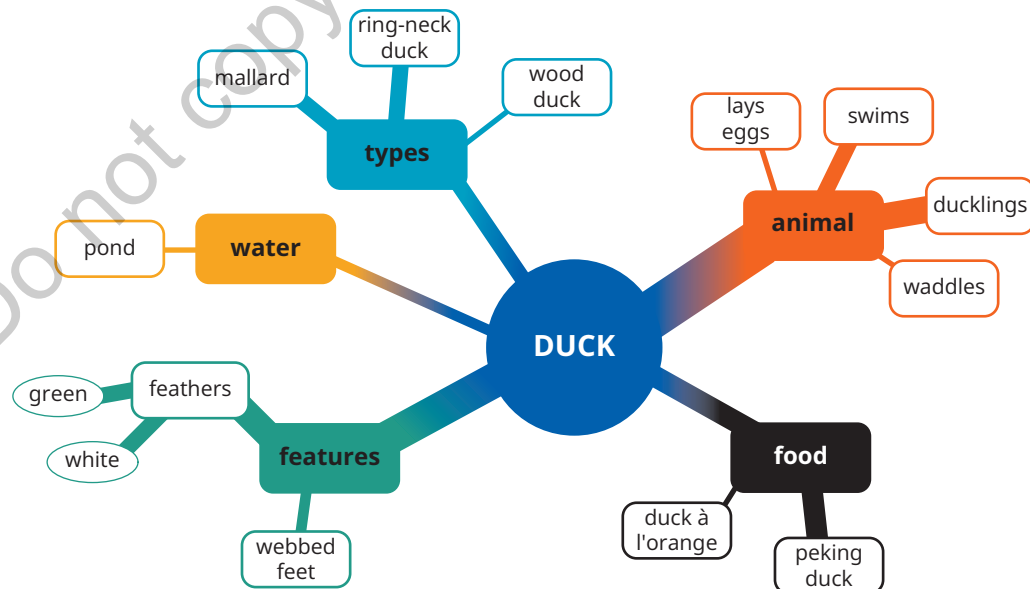
Information Processing

Whereas Piaget and Vygotsky provide more global concepts about cognition and its development, information processing theory breaks down the way we understand and use information into its component parts, such as attention and memory. The earliest approach to information processing described cognition as a series of steps. First we pay attention to something, then we store it in short-term memory and finally in long-term memory. This has been referred to as the **stores model** and is based on a view of the mind as functioning like a computer. However, the more we learn about cognition, the more complex it appears to be. In particular, the assumption that cognition is a linear, sequential process has been questioned.

A more current model is called the **connectionist or neural network model**. This way of thinking about information processing more closely reflects our current understanding that brain function consists of neurons, or nerve cells, operating through multiple simultaneous connections with other neurons. Instead of a sequential, step-by-step process, the connectionist approach describes cognition as multiple, parallel processes occurring at the same time. As shown in Figure 2.2, when we see a white duck, different concept nodes may be activated. One node can represent a specific concept (*white*), one can represent a higher order concept (*duck*), and one can represent a superordinate concept (*bird*), depending on how the neurons are activated (Robinson-Riegler & Robinson-Riegler, 2008). The concept nodes are analogous to nerve cells, or neurons, in the brain, and the links are connections between individual neurons. When information is stored in memory, it becomes a new node that is connected to other nodes in the network.

Figure 2.2 ■ Neural Network Model of Memory

In the neural network approach to information processing, concepts are made up of information (or *nodes*) and the links that connect that information to represent a concept. The width of the links in this figure represents the strength of each connection.



Although each node is connected in some way to other pieces of information in our memory, the strength of these connections can vary, and learning involves changing the strength of these connections. When input comes into the system (for example, the sight of a bird in flight), certain nodes are activated. If the links between those nodes are strong enough, the output is a concept (in this case, *bird*).

Unlike Piaget, who saw qualitative changes occurring in the way children think as they move from one stage to another, information processing looks at the gradual development of cognitive processes. In Chapter 7 you will read about recent research that examines development of attention, memory, and other processes through which we make sense of our world. You will also find related topics throughout the book. For example, the topic of social cognition, or how thinking is applied to social situations, appears in Chapter 12, where we discuss social development.

Modern Applications of Information Processing

Information processing theory has led to an enormous amount of research on growth and changes in cognitive processes during childhood and adolescence. A major advance in the study of cognitive development is the ability to link cognitive processes with changes in both the structure and the function of the brain and nervous system through the use of modern medical imaging technologies. This area of study, known as **developmental cognitive neuroscience**, allows us to understand how the developing brain both promotes and limits certain cognitive abilities. For example, brain imaging studies have shown pubertal changes in the activation of parts of the brain that deal with our reaction to risky behavior. Teen boys tend to react less to possible negative outcomes of their risk-taking, supporting the idea that the immaturity of the adolescent brain contributes to the higher level of risk-taking often seen at that age (Goddings et al., 2023). When teachers, judges, and others are aware of these differences in brain function, they can be more understanding of why teens are more likely to take part in behavior that sometimes has negative outcomes. You will learn more about brain development and its relation to cognitive development in Chapters 6 and 7.

Check Your Understanding

Knowledge Questions

1. How do Piaget's theory and Vygotsky's theory differ and how are they similar?
2. What is constructivism?
3. How do the stores model and the connectionist model of information processing differ?
4. What is developmental cognitive neuroscience?

Critical Thinking

How might a 4-year-old, an 8-year-old, and a 16-year-old explain what makes plants grow? What do these differences show about how cognition develops?

Developmental Systems Theories

- 2.5** What is the basic concept of a systems theory and how is it applied in the theories of ethology, ecological systems, and dynamic systems?

You may have heard the saying, "The whole is more than the sum of its parts." That describes a systems approach to development. A system is made up of a number of individual parts or components, but, rather than acting independently and in isolation, they interact with each other in complex ways. Changes in any of the components result in a change in the system as a whole. This is a dynamic and reciprocal process that involves not just the individual but also the environment in which that individual lives. People are seen as constantly adapting to their environment as they move through development.



Konrad Lorenz and imprinting. Konrad Lorenz demonstrated the presence of imprinting by removing the mother goose immediately after the babies were hatched and substituting himself. The goslings then followed him as if he were their mother.

SPL/Science Source

Ethology and Developmental Evolutionary Theory

Charles Darwin's theory of evolution is based on the idea that living things that adapt to their environment are more likely to pass on their genes to the next generation. It is this ability to adapt, not necessarily being the biggest or strongest, that matters (T/F Q7). His focus was largely on physical characteristics, but the basic idea that human behavior that has adaptive value will persist is central to the field called ethology. Konrad Lorenz (1903–1989) is considered the father of modern **ethology**, which is the study of the adaptive value of animal and human behavior in the natural environment. As a zoologist studying animal behavior in Munich, Germany, Lorenz found that ducks and geese would *immediately* follow their mothers after they were born. This automatic behavior, called **imprinting**, is adaptive because the mother provides her offspring with food and protection from predators. Lorenz showed that this behavior was innate and not

learned. When he removed the mother goose so he was the first figure the newly hatched ducklings saw, they responded to him in the same way they would have responded to the mother goose by following him.

Modern Applications of Evolutionary Theory

David Bjorklund (2020) has proposed a new overarching theory to explain children's development: **evolutionary developmental psychology**. In this theory, children's development arises from their genetic endowment, their experiences in the environment, and the interaction of genes and environment. The focus is on developmental processes that are common to all humans and on the adaptation of these processes to the specific environment in which children grow up. Children's behavior (such as aggression, altruism, and attachment) is seen as an adaptation to the environment in two ways: (1) It is adaptive because it is a preparation for adult life, and (2) it is adaptive at their own stage of development and in their specific life circumstances.

One example of research based on an evolutionary developmental approach has focused on the age of onset of puberty in girls, showing that *girls enter puberty at earlier ages when their parents have a high level of conflict with little support or satisfaction in their marriage, when their father is absent or severely dysfunctional, or when they have an insecure relationship with their mother at age 15 months* (T/F Q8) (Belsky et al., 2010; Webster et al., 2014). Evolutionary developmental psychologists point to the idea that a girl with a dysfunctional childhood may not be able to count on reaching adulthood successfully; therefore, early puberty is an adaptation to her environment that may ensure that she will be able to pass on her genes by enabling her to get pregnant earlier in life. The difficult experiences earlier in life may trigger an early activation of the genes responsible for the onset of puberty.

Ecological Systems Theory

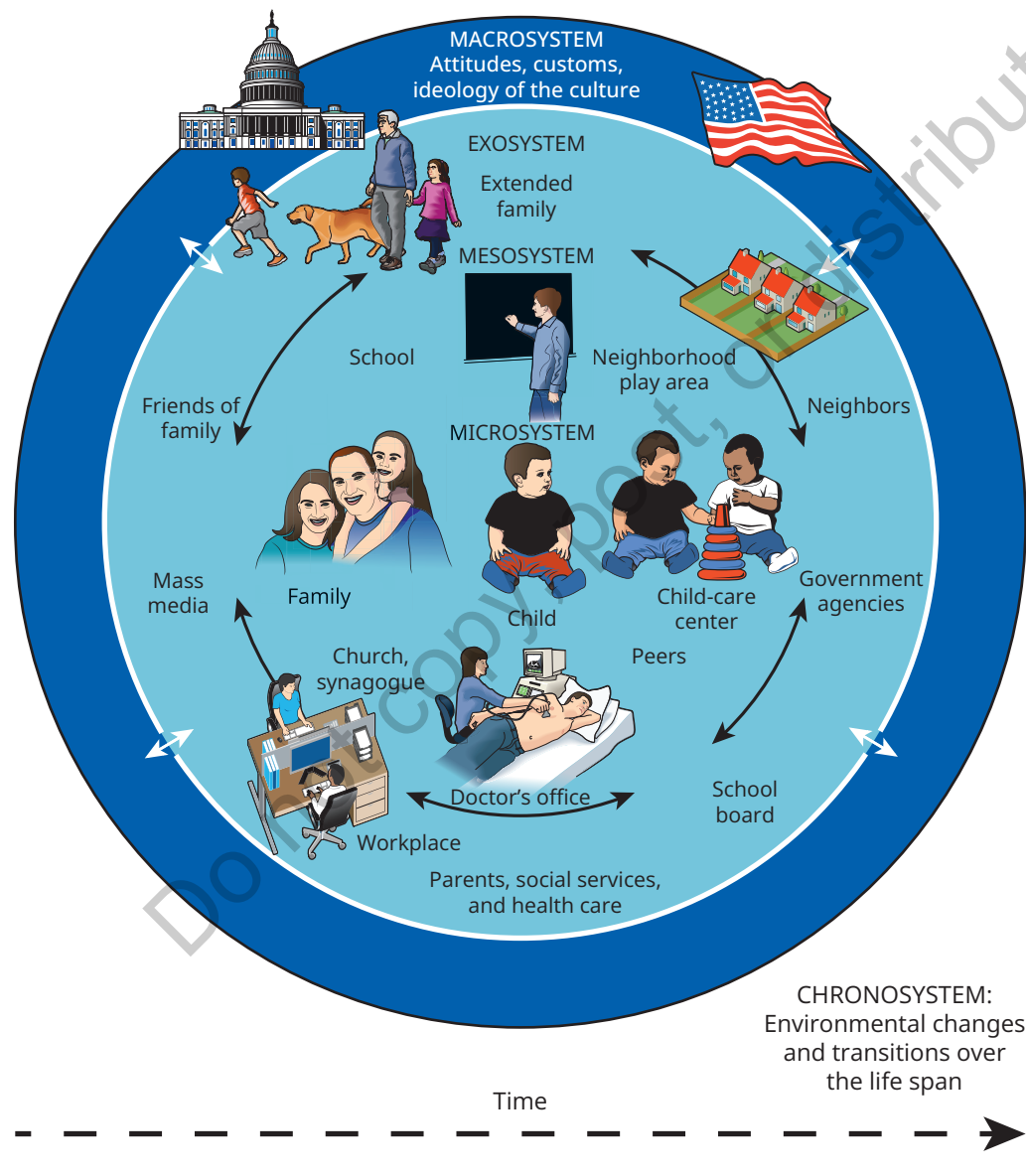
We tend to think of the study of ecology as focusing on plants and animals and their relationships to the environment, but in the 1970s, Urie Bronfenbrenner (1917–2005) applied the idea of the interaction of organisms with their environment to the field of developmental psychology to create a human **ecological systems theory**. Using this framework, he defined development as a function of the “interaction between the developing organism and the enduring environments or contexts in which it lives out its life” (Bronfenbrenner, 1975, p. 439). Bronfenbrenner believed we cannot understand children's development without understanding how they interact with all the different facets of their environment.

Bronfenbrenner (1977, 1986) proposed that development occurs within a nested set of influences that he divided into five systems—the microsystem, mesosystem, exosystem, macrosystem, and chronosystem—as shown in Figure 2.3. These systems are embedded one within the other, each influencing

the other in a back-and-forth fashion. Bronfenbrenner emphasized the importance of understanding people in all of these contexts. His theory is, in part, a criticism of some of the techniques of experimental psychology, in which children are tested in the laboratory and the results are then assumed to reflect how the child would act in a natural setting. He emphasized that research findings should be able to generalize to real-world settings. *A laboratory may be an excellent place to look at reactions in a well-controlled experimental setting, but it is not necessarily a good way to look at the everyday interactions of parent and child* (T/F Q9) (Bronfenbrenner, 1977).

Figure 2.3 ■ Bronfenbrenner's Ecological Systems Model

Think of the various systems in the ecological systems model as a set of nested environments, but with interactions both within a level and across levels. All of these interconnected systems change as a function of time, as represented by the chronosystem.



Source: Adapted from Bronfenbrenner and Morris (2006).

The **microsystem** includes the face-to-face interactions a person has in their immediate settings, such as home, school, or friendship groups. The interaction between a mother and a child is part of the microsystem, as well as the interaction between a child and a peer, or between a pair of siblings. The **mesosystem** brings together two settings that contain the child. For example, when parents meet and talk to a child's

teacher, the home setting interacts with the school setting, and this interaction influences the child's progress at school. The **exosystem** consists of settings that the child never enters (that is, ones that are *external* to the child) but that affect the child's development nevertheless. For example, even if the child never goes to a parent's workplace, what happens in that setting can have an effect on the child. A job that is so demanding that it leaves parents exhausted at the end of the day affects how the parents will interact with their children when they come home. The **macrosystem** consists of cultural norms that underlie the institutions and activities that make up someone's everyday life. For example, the macrosystem in the United States includes the ideology of democracy, as well as the value that is placed on individual achievement. The **chronosystem** consists of the events that take place at different times in a child's life, as well as the time in history in which the child lives. For example, parental divorce affects a 2-year-old child much differently than a teenager. Also, the current experience of parental divorce, when it has become more common, is different from what it would have been in 1940, when it was a relatively rare occurrence (Bronfenbrenner, 1986).

It will be easier for you to remember the various systems that make up ecological theory if you are able to recognize examples of each of them. **Active Learning: Examples of Ecological Systems** gives you a chance to do this.

Active Learning

Examples of Ecological Systems

Name the correct level of the ecological system for each of the following descriptions. The levels are the microsystem, mesosystem, macrosystem, exosystem, and chronosystem.

1. The number of mothers with children under the age of 5 who were employed outside the home doubled between 1970 and 1990.
2. A child's parents go to school for a parent-teacher conference so they can find out how their child is doing.
3. Navajo children compete in rodeos, baby contests, and other events at the annual Navajo Nation Fair.
4. A preschool teacher shows a child how to stack two blocks.
5. New mothers in Spain are entitled to 16 weeks of paid leave after the birth of their baby.
6. A parent gets a promotion and a big raise, but that also means working longer hours.
7. Parents invite a teen's group of friends to their house to watch some movies.
8. Fathers today take a more active role in parenting than they did in the past.
9. Teens make plans with friends for how they will spend time together on the weekend.
10. A new mother who worries about her baby's development spends some time with other parents and relaxes when she learns that her baby's behavior is similar to their babies' behavior.

Answers:

(1) chronosystem, (2) mesosystem, (3) macrosystem, (4) microsystem, (5) macrosystem, (6) exosystem, (7) mesosystem, (8) chronosystem, (9) microsystem, (10) exosystem

Modern Applications of Ecological Systems Theory

Ecological systems theory has expanded the range and number of characteristics that researchers include in their research to more fully understand a child's development within multiple contexts. For example, the extent to which fathers are involved with their children was found to be determined not just by the father's parenting competence but also by the mother's acceptance or promotion of the father's involvement (microsystem), the father's work-family conflict (mesosystem), and the social support the parents felt they were receiving (exosystem) (Ebeoğlu Duman & Yılmaz Irmak, 2023).

One variant of ecological systems theory was developed by Margaret Beale Spencer and her colleagues (1997). This approach, called **PVEST (phenomenological variant of ecological systems theory)**, adds the dimension of how individuals interpret and make sense of their experiences. She specifically focused on the impact of race, class, skin color, gender, and maturational differences on the development of identity within different contexts. This theory has stimulated a great deal of research. For example, using the PVEST model, one study showed that early-maturing African American and Caribbean Black boys were more likely to become depressed if they believed society viewed Black people negatively, demonstrating the interaction of societal influences and the individual's perception of those influences (Cunningham et al., 2023).

Another contribution of ecological systems theory is its application to social policy. A human ecologist believes that all levels of society affect human development. The logical extension of this belief is understanding the importance of social policy, including legislation and programs at all levels of government. Bronfenbrenner himself was active in developing Head Start, a program designed to help disadvantaged children by providing interventions at several different levels. Head Start is not just an excellent educational program for children but also helps families with financial, social, educational, and psychological difficulties they might be experiencing. It also works hard to create links between the classroom setting and the child's home. You will read more about Head Start and its impact on children's lives in Chapter 8.



Social policy in action. The development of the Head Start program was strongly influenced by Bronfenbrenner's ecological systems theory because it was designed to provide interventions at several of the levels described in the theory.

Bob Daemmrich/Alamy Stock Photo

Dynamic Systems Theory

As the study of children has become increasingly sophisticated, researchers have realized that development is based on characteristics of the whole child (including the nervous system, the musculoskeletal system, and the child's motivation or readiness) in the context of the environment, together with the nature of the task itself (Darrach et al., 2011; Sauve & Bartlett, 2010). **Dynamic systems theory** states that all these different aspects of development interact and affect each other over time. In this theory, development is more like a jazz improvisation than a written piece of music (J. P. Spencer et al., 2011). Each part adjusts to every other part as children seek solutions for developmental problems that arise, and as a result each child creates a unique pattern of behavior.

To illustrate how this process works, we can look at how Esther Thelen applied the theory of dynamic systems to the development of motor skills. Thelen found that the nature of physical development is flexible, not absolute. For example, newborn babies have a stepping reflex in which they appear to be walking when held upright with their feet touching a solid surface, even though they cannot support their own weight. This reflex typically disappears at about 2 to 3 months of age, and the disappearance was initially thought to be a product of brain maturation. However, Thelen found these babies will begin stepping again if placed up to their chests in water so that their legs are not so heavy, which means that the disappearance of this reflex is not driven solely by brain development (Thelen, 1989). Infants stop stepping reflexively when their legs become too heavy for them to lift.

Based on these observations, Thelen posited that the development of real walking is not just a matter of biological maturation but a coming together of many different experiences, bodily growth, and motivation. She showed that each infant explores and develops these abilities in different ways,

depending on such individual characteristics as weight and activity level. Each child experiments with how to do things, and each action taken influences what the next action will be, creating a pattern of development that is unique to that child. Think of all the different ways that babies crawl: on all fours, scooting on their tummies, or pulling with one leg while in a sitting position. Each has solved the problem of how to get from here to there in their own unique way that has developed from their own abilities and their environment. A baby who learns on a smooth, slippery floor may develop a different way to crawl than one who learns on a deep carpet.



Crawling takes many forms. There is no one right way to crawl. Babies figure out how to get from here to there based on their abilities and their environment. Crawling on slippery wooden floors presents different challenges than crawling in the grass.

iStockPhoto/Iuliia Zavalishina; iStockPhoto/ANNA SUNGATULINA

Modern Applications of Dynamic Systems Theory

Although the earliest work based on dynamic systems theory focused on motor development, the theory has been used to understand many different aspects of child development, including cognitive and language development (Parladé & Iverson, 2011; Samuelson et al., 2015). For example, researchers have found that infant communication consists of a dynamic system that combines language, gesture, and emotion. When infants want a toy, they may point, look eager, and say the name of the toy. However, when one part of this system changes rapidly, coordination with the other parts may be disrupted. Sometime during the second year of life many (but not all) toddlers go through what is known as a *vocabulary spurt*, in which they suddenly begin to pick up new words much more quickly. Researchers have found that when this happens, language becomes decoupled from emotion and gesture. That is, the system is thrown out of equilibrium (Parladé & Iverson, 2011). Seeing language as part of a dynamic system gives us a deeper understanding of how to promote and support its development.

Check Your Understanding

Knowledge Questions

1. What is evolutionary developmental psychology?
2. What are the five systems that make up Bronfenbrenner's ecological system?
3. Why is it important to understand children within the context of the world around them?
4. How is human development similar to a jazz improvisation?

Critical Thinking

How do systems theories of child development differ from other theories presented in this chapter? Do you think they give a clearer picture of children's development or are they less clear than other theories?

Developmental Theory in Cultural Context

2.6 How are developmental theories influenced by culture?

Theories play a central role in our understanding of child development, but these ideas do not appear in a vacuum. They reflect the time and place in which the theorists lived. Most of the theories that have influenced our thoughts about children were developed by European or American theorists with the assumption that the ideas in them would apply universally to all children. However, some critics have described this assumption as WEIRD psychology because it is based on “Western, educated, industrialized, rich and democratic (WEIRD) people” (Keller, 2018, p. 11414) which represents only about 5% of the worldwide population.

We now recognize that our understanding of development must incorporate an understanding of the cultures in which children live. *If we assume all societies must conform to Western values, we forget that different ideas and behaviors may be more adaptive for children growing up in different contexts and environments* (T/F Q10). **Journey of Research: Culture and Attachment Theory** describes one example of how a theory has developed over time to include more diversity.

Journey of Research

Culture and Attachment Theory

Earlier in this chapter you learned that ethology is the study of the adaptive value of animal and human behavior in the natural environment. You also learned that Konrad Lorenz applied this idea to the way geese were programmed to follow their mothers immediately after birth (called *imprinting*), thereby ensuring that she would protect and nurture them. If these types of behaviors ensure the survival of offspring, couldn't we assume that they would be universal and apply to all species? For instance, newborn human infants have innate behaviors that attract others to care for their needs. It is very difficult to sit and do nothing when a baby is crying, and it is also very hard not to respond when a baby smiles at you. These natural behaviors form the foundation for the development of attachment between children and their caregivers.

You will learn more about the development of attachment in Chapter 10, but you may be familiar with one aspect of attachment theory: *stranger anxiety*. If you have ever approached an infant you didn't know who cried and turned away when you reached for them, you recognize this behavior. According to the *Merck Manual*, which is considered a trusted source of medical information for professionals, “Stranger anxiety is manifested by crying when an unfamiliar person approaches. It is *normal* [emphasis added] when it starts at about 8 to 9 months and usually abates by age 2 years” (Consolini, 2022, para. 1). Our emphasis here is on the presumption that this behavior is “normal.” In Western cultures we often think of attachment as a singular bond between a mother and an infant, but in some cultures in the United States and around the world, infants are exposed from their earliest days to a caregiving environment that includes multiple caregivers. For Beng infants in Western Africa and the Pirahã Indian infants in Brazil, there is no such thing as “stranger anxiety” because being around many different people is a part of their everyday experience (The Attachment Project, n.d.).

Our greater sensitivity to the need to consider cultural differences in our theories has led to a new approach to the study of attachment that says it is not enough to simply compare different groups; we also need to include characteristics of the cultures as part of our analysis (Stern et al., 2024). For example, it would not be enough to compare infant attachment in Black families and white families. We would need to look at both the challenges and resilience of Black families and use that understanding to help shape a theory of attachment that incorporates the lived reality of children in that culture. Theories that take into account cultural and individual differences will better serve the needs of all children.



Developmental theories reflect cultural values. Sub-Saharan African theories of child development emphasize children's connection to their community rather than the more individualistic approach of most Western theories.

iStockPhoto/hadynyah

We can examine how theories might differ when they come from different cultural contexts in the following example. We saw that Erikson's theory focused on the development of autonomy and self-determination of the individual—characteristics that are valued in many Western cultures. However, developmental theory in some cultures focuses more on the integration of the individual into the social group. For example, Nsamenang and Lo-oh (2010) explain that in sub-Saharan Africa, the overarching theory of development “positions the child not in his or her sovereignty but as socially integrated in a human community” (p. 386). This means that children are seen primarily as participants in their cultural communities rather than as autonomous individuals with goals and behaviors defined by their own interests. To illustrate this cultural difference, compare Erikson's stages described earlier in this chapter to the stages of development described by Nsamenang (2015) for African culture, as shown in Table 2.2.

Table 2.2 ■ Comparing Erikson's Stages in the United States With Nsamenang's Stages of Development in Africa

Erikson's theory focuses on the development of the individual and Nsamenang's theory focuses on social connection throughout development. How are these cultural perspectives different, and how are they similar?

Erikson's Stages	Nsamenang's Stages	Description of Nsamenang's Stages
Trust vs. mistrust	The neonatal period	Happiness for the safe delivery of the infant and projection of the kind of person they should become through socialization
Autonomy vs. shame and doubt	Social priming	Increased communication, sharing, and exchange between infant and caregivers
Initiative vs. guilt Industry vs. inferiority	Social apprenticeship	Rehearsal of social roles needed in different aspects of life
Identity vs. role confusion	Social entrée Social internment	Initiation rites associated with puberty Education for movement into adult roles and responsibilities
Intimacy vs. isolation Generativity vs. stagnation	Adulthood	Marriage and parenthood
Ego integrity vs. despair	Old age/death	Maximum social competence, wisdom Importance of grandchildren
	Ancestral and spiritual selfhoods	Status of the “loving dead” or the “dreaded evil dead”

Sources: Adapted from Erikson (1963) and Nsamenang & Tchombe (2011).

Earlier in the chapter we described M. B. Spencer's variant of ecological systems theory, called PVEST, that aimed to take into account the understandings and interpretations of the world that may differ for people of different races, genders, ethnic backgrounds, and other factors. The theories we have described in this chapter provide a basis to begin to study the field of child development, but we know

that current research has updated many of these theories so that they are more sensitive to differences between people.

As you continue through this book you will learn more about the current research that explores how children with many different backgrounds and life experiences grow and change. Try **Active Learning: Your Own Theory of Child Development** to begin to understand how your own experiences have shaped the way you would conceptualize children's development.

Active Learning

Your Own Theory of Child Development

We all see the world through the lens of our own experiences in it. Each theorist we have discussed in this chapter was influenced by the context in which they lived (for example, time in history and culture) and was influenced by their own personal characteristics (for example, ethnic and racial background and gender). Based on your own experiences, think about how you would divide children's development into stages. What themes arise for each stage? For example, one student might see ages 5 to 7 as the stage of play, while another might see it as the stage of increased responsibility. If you can, compare your stages with those of classmates and discuss the reason for both the differences and the similarities.

Check Your Understanding

Knowledge Questions

1. How does culture play a role in theories of child development?
2. How do a culture's values shape the conceptualization of the stages children go through?

Critical Thinking

Describe your cultural background. Now think about what goals you would have if you were (or are) raising a child. How do you think your goals are related to your cultural background?

Comparison of Developmental Theories

2.7 How do developmental theories differ?

When we began this section on developmental theories, we asked you to keep in mind these important questions:

1. How does the theory describe development? Does change occur quantitatively, in small steps, or qualitatively, in distinct stages?
2. What drives development? Is it the product of internal processes such as biological and cognitive growth, or environmental influences, or a combination of these factors?

You can now use Table 2.3 to review the theories presented in this chapter and to see whether your answers to these questions about them were correct. In addition, the table provides a very brief statement of some major contributions each theory has made to the study of child development and some of the recent applications of each theory.

Table 2.3 ■ Comparison of Developmental Theories

Theory (Theorists)	Quantitative or Qualitative Change	Internal Processes and/or Environmental Influences	Contribution to the Study of Child Development	Recent Approaches/ Applications Based on Each Theory
Psychoanalytic theory (Freud and Erikson)	Qualitative: Freud has five stages. Erikson has eight stages.	Biology drives development and is affected by environmental experiences.	Children's unconscious thoughts and motivations help explain their behavior. Erikson's stages describe typical developmental issues from infancy through adolescence.	Psychotherapeutic approaches to treatment of psychological and emotional problems
Behaviorism and social cognitive theory (Watson, Skinner, and Bandura)	Quantitative	Environment	Reinforcement is used to change children's problem behaviors. Imitation is central to children's learning.	Virtual and augmented reality treatment of phobias Applied behavior analysis Development of self-efficacy
Piaget's cognitive theory	Qualitative: Piaget has four stages.	Biology drives development of cognitive processes, and the environment shapes it.	Understanding children's active construction of knowledge shapes teaching approaches.	Activity-based learning Embodied cognition
Vygotsky's cognitive theory	Quantitative	Environment, in the form of culture and social influence, drives development of cognitive processes.	Scaffolding and the zone of proximal development form the basis for teaching approaches.	Dynamic assessment
Information processing	Quantitative	Biology and environment interact to influence cognitive processes.	Basic processes of cognitive development are central to understanding the process by which children learn.	Developmental cognitive neuroscience
Evolutionary theory – Ethology (Lorenz)	N/A	Biology underlies adaptation to the environment.	Children's behaviors are explained as a result of adaptation to the environment.	Evolutionary developmental psychology
Ecological theory (Bronfenbrenner)	Quantitative	A nesting of environmental influences is also affected by a child's characteristics.	Children interact with and are influenced by numerous levels of social influence.	PVEST (phenomenological variant of ecological systems theory) Social policy applications such as the Head Start Program
Dynamic systems theory (Thelen)	Quantitative	Biological growth interacts with cognitive processes and environmental experiences.	Children's behavior results from a complex interaction of biological, environmental, cognitive, and social-emotional factors.	Ongoing research on aspects of cognitive development

Conclusion

The theories described in this chapter give you a solid foundation for understanding the source of most of the rest of the ideas presented in this book. As you continue to read, you will find other theories that pertain to specific areas of development and expand on the scientific exploration of the study

of child development. Although you might be tempted to say “I agree” or “I don’t agree” with any particular theory, it is important to base your opinions on reasoned arguments that can be tested. Thinking critically about your ideas is essential, and whether you accept one theory or another should ultimately depend on the evidence that supports or refutes each one. In the next chapter, we examine how researchers help us move toward a better understanding of human development.

Chapter Summary

2.1 How do developmental theories help us understand children’s growth and development?

Theories of development give us a model that allows us to organize what we know about development and predict how children will behave. Some theories propose that development occurs in stages, while others see development as a continuous process. Theories also differ in their emphasis on biological, environmental, and personal mechanisms that bring about growth and development.

2.2 How do Freud and Erikson describe the stages of child development?

Freud’s **psychoanalytic theory** states that sexual energy shifts from one area of the body to another as the child develops, forming the basis for five **psychosexual stages**. Erikson believed the social world and the development of identity were driving forces for development through **psychosocial stages** and that development continued through adulthood.

2.3 What are the basic principles of behaviorism and social cognitive theory?

In the theory of **behaviorism**, **classical conditioning** pairs an unconditioned stimulus with a neutral stimulus. After repeated pairings, the neutral stimulus elicits a conditioned response. In **operant conditioning** something that follows a behavior affects the likelihood of that behavior happening again. **Reinforcement** increases the behavior, while **punishment** and **extinction** decrease it. Bandura’s **social cognitive theory** emphasizes the importance of imitation as a learning process.

2.4 How do the theories of Piaget, Vygotsky, and information processing describe cognitive development?

Piaget’s theory of cognitive development states that we organize the world into **schemas** and either **assimilate** new information that fits into them or **accommodate** it by changing our schemas.

Vygotsky emphasized the role of social interaction and believed adults or more skilled peers build children’s knowledge through **scaffolding**. Learning occurs in the child’s **zone of proximal development**.

Information processing initially likened the functioning of the mind to the way that computers work in what is called the **stores model**. The more recent **connectionist or neural network model** describes mental processing as a neural network of concept nodes that are interconnected by links. **Developmental cognitive neuroscience** links brain development with cognitive changes.

2.5 What is the basic concept of a systems theory and how is it applied in the theories of ethology, ecological systems, and dynamic systems?

In systems theories, the different aspects of development interact with each other in complex ways. Changes in any of the components result in a change in the system as a whole in a dynamic and reciprocal process that involves not just the individual but also the environment.

Ethology is the study of animal and human behavior in relation to their adaptation to the natural environment. **Evolutionary developmental psychology** applies the principles and ideas of evolutionary theory to questions of how and why children develop as they do.

Bronfenbrenner’s **ecological systems theory** proposed that individuals grow and develop within a nested set of influences that he divided into five systems: **microsystem**, **mesosystem**, **exosystem**, **macrosystem**, and **chronosystem**.

Dynamic systems theory examines the way all aspects of development—biological, cognitive, and social-emotional—influence one another as children work out unique responses to developmental challenges.

2.6 How are developmental theories influenced by culture?

All theories are influenced by the culture in which they are developed. A theory developed by someone living in sub-Saharan Africa is likely to look quite different from one developed by someone living in a Western country. Theories need to take into account individual and group differences in life experience.

2.7 How do developmental theories differ?

The basic theories of child development differ in some basic ways. Does change happen in a qualitative (stage-like) or a quantitative (continuous) way? Does development occur because of internal (genetic) or external (environmental) forces, or do these interact with each other? Each theory has made its own contribution to the field of child development and each continues to change as research refines and refutes aspects of each theory.

Key Terms

Accommodation	Macrosystem
Anal stage	Mesosystem
Applied behavior analysis (ABA)	Microsystem
Assimilation	Negative reinforcement
Behaviorism	Operant conditioning
Chronosystem	Oral stage
Classical conditioning	Phallic stage
Connectionist or neural network model	Phobia
Constructivism	Positive reinforcement
Developmental cognitive neuroscience	Psychoanalytic theory
Developmental theory	Psychosexual stages
Dynamic assessment	Psychosocial stages
Dynamic systems theory	Punishment
Ecological systems theory	PVEST (phenomenological variant of ecological systems theory)
Ego	Reinforcement
Embodied cognition	Scaffolding
Equilibration	Schemas
Ethology	Self-efficacy
Evolutionary developmental psychology	Shaping behavior
Exosystem	Social cognitive theory
Extinction	Stores model
Genital stage	Superego
Id	Unconscious mind
Imprinting	Zone of proximal development
Latency stage	