child DEVELOPMENT

AN ACTIVE LEARNING APPROACH

THIRD EDITION

LAURA E. LEVINE • JOYCE MUNSCH

CONTEMPORARY. CURRENT. *Complete.*

A PPLIED
C URRENT
T OPICAL
I NNOVATIVE
V ISUAL
E VIDENCE BASED

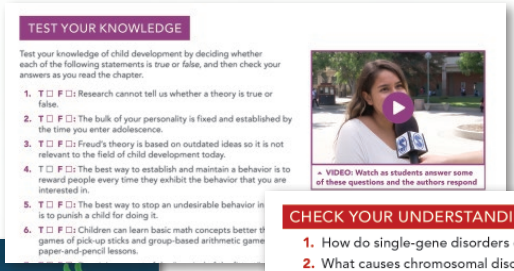
With its signature active learning approach, **Child Development: An Active Learning Approach, Third Edition,** is the most interactive introduction to child development today.

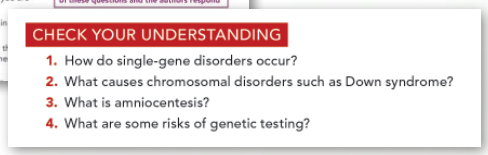
APPLIED

Learning Questions: Each chapter opens with questions that help guide students as they read. At the end of the chapter, the questions are linked to the summary for review.

Test Your Knowledge: In *Student-on-the-Street* videos, *True/False Questions* from the chapter quizzes are posed to students on their campuses, and the authors comment on the students' answers.

Check Your Understanding: Each section of a chapter concludes with a set of questions that lets students check on their mastery of the material before moving on to the next topic.





CURRENT

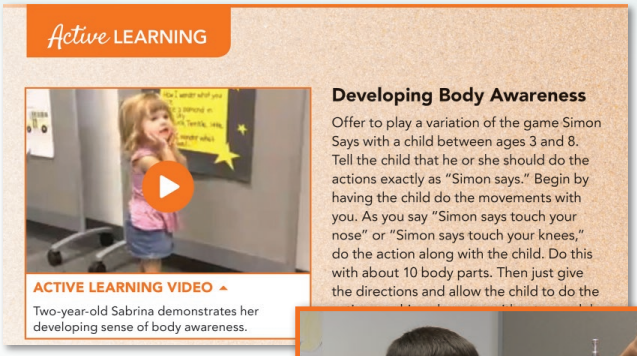
Authors provide the latest content, including a focus on *neuroscience, diversity,* and *culture.*

TOPICAL

The topical organization allows students to *engage in depth* with each topic to see continuities and discontinuities of development.

INNOVATIVE

Active Learning exercises throughout the narrative turn reading into an active process.

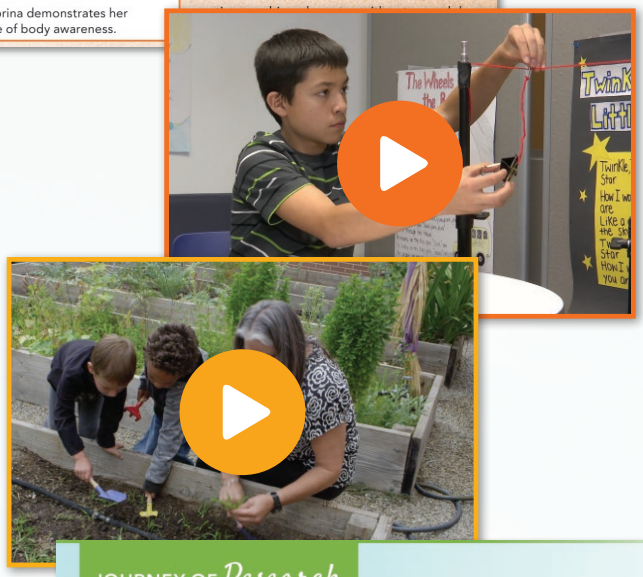


VISUAL

Abundant *illustrations, charts, photos,* and *videos* bring concepts to life.

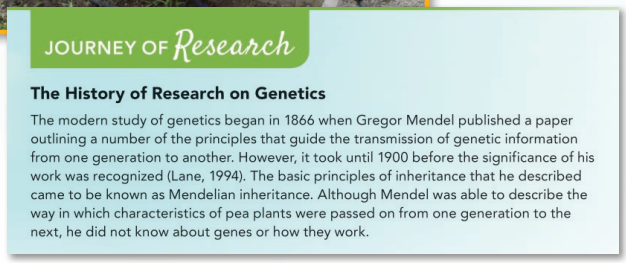
Active Learning videos: Demonstrations Videos are available for many of the ***Active Learning*** activities that involve interviewing or conducting an activity with a child or adolescent.

Development In Action videos: Professionals in the field of child development discuss various topics from the book, and videos taped in child care settings show children engaged in a number of the activities described in the text.



EVIDENCE-BASED

Journey of Research features trace the evolution of ideas in the field, enhancing the focus on deep learning, critical thinking, and analysis.



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PRAISE FOR *Child Development*

"[Test Your Knowledge is] very engaging and effective. **ATTENTION GRABBER**. The questions/your answers stick with you as you read the chapter allowing one to either confirm or change their thinking."

—Aaliyah Baker, *Cardinal Stritch University*

"I really like the **LEARNING GOALS** and the end-of-chapter summaries. With so much content, it is helpful to have a reminder of the **MOST IMPORTANT POINTS** from the chapter at the end."

—Amy M. Claridge, *Central Washington University*

"I really appreciated the *Active Learning* exercises! Wow. These are probably the best that I have seen for these. I also appreciated the **FOCUS ON CAREERS**, as well as being a good consumer of research…. I was especially impressed with the *Test Your Knowledge* openers. I could envision myself using these for each chapter as a **DISCUSSION STARTER** in class."

—Tara M. Stoppa, *Eastern University*

"The *Active Learning* sections are particularly engaging. I believe students will really enjoy doing these on their own, and it is also something that I can facilitate in the classroom…. The *Test Your Knowledge* section is also a favorite of mine. This is an **ENGAGING** and **USEFUL** tool to help students focus their learning…My students would enjoy a text that encourages such deep and effective interaction—less passive reading—and **PUSHES CRITICAL THINKING**.

—Dawn N. Hicks Tafari, *Winston-Salem State University*

"There are a lot of examples, activity suggestions for students, and questions to get students thinking about the material…. The content is **EVIDENCE BASED** and **UP TO DATE**, and research studies are explained in a way students can understand."

—Amy M. Claridge, *Central Washington University*

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Dedicated to the memory of my father, Julian Levine. –LL

With gratitude to Jeff and Liz, Gabi and Madi, for all that they have taught me. –jm

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JOURNEY OF RESEARCH

TEST YOUR KNOWLEDGE

Preface

This third 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. In this topically organized book we provide the field's most 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 in 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. We believe that this narrative style is the best way to engage students in the learning process.

We also believe that learning is an active process. Therefore, we have created activities spread throughout the book designed to encourage students to engage in an active journey to discover the principles and to understand the findings from the field of child development. 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.

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

PHILOSOPHICAL APPROACH

EMPHASIS ON LEARNING HOW TO LEARN

Long after they leave the classroom, students who interact with children and adolescents will need to find information to answer questions that arise. We want to encourage students' independent pursuit of knowledge about child development so we provide tools that will help them do that. They are introduced to the use of databases including PsycInfo, as well as the Internet, as research tools. Activities in the text suggest ways in which students can conduct their own research and independently find information on topics that interest them.

CRITICAL THINKING SKILLS

When students look for answers to questions they have about child development, they need to be able to critically evaluate the information they find. In Chapter 1, we talk about how to be a smart consumer of information on development, including how to evaluate

information found on the Web. In addition, the true/false questions that appear at the beginning of each chapter and again alongside the relevant material throughout the chapter continuously challenge students to reflect on what they believe about child development and to evaluate the sources of those beliefs. The instructor teaching site and student webpage provide access to research articles that students can explore independently to add to their understanding of specific topics. This ability to critically evaluate ideas about children and their development will be beneficial to students who plan to go on for graduate study, those who will work directly with children and families in professional careers, and those who will use these ideas when caring for their own children.

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 marshalling convincing evidence within an agreed upon framework. Chapter 3 introduces students to basic concepts about research, and these ideas regarding what constitutes scientific evidence are also reinforced and developed throughout the book.

PEDAGOGICAL FEATURES

This book actively engages students to provide them with a solid foundation in theories, research, and the application of information related to child and adolescent development. Features intended to engage students are often included in textbooks as "add-ons," but our active learning philosophy is at the heart of all of the pedagogy provided throughout this book. 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 help guard 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

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, students' long-held ideas and beliefs are often quite difficult to change, and students can complete a course in child development with many of their misconceptions intact. To combat this tendency, we ask students to begin each chapter by testing their initial knowledge of topics contained in that chapter. Unexpected or surprising answers to these questions draw the students into the chapter to find information related to their misconceptions. In addition, the activities throughout the book encourage students to seek out further information and to learn to evaluate that information rather than accepting what they hear without question.

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, or to watch a SAGE-created video that illustrates the activity in the text, (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 resources or the Internet. Each of these activities is designed to consolidate student learning through personal experiences that illustrate 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

Increasingly, research has been demonstrating that the best way for students to retain information they are learning, and also to transfer that knowledge to new situations, is by testing their understanding for themselves. Other study approaches such as re-reading, highlighting, and even summarizing have not been found to be as effective as self-testing (Carpenter, 2012). For example, students who try to remember that *chien* = *dog* by repeating it over and over will not remember this new French word as well as those who study *chien* = *?* On the student webpage that accompanies this text, we provide chapter quizzes as well as flash cards for students to test themselves. However, we believe it is important to provide this opportunity within the book as well. Therefore, we begin each chapter with a set of "Learning Questions" and have organized our review at the end of the chapter using these same questions to elicit brief answers. There is also a set of questions at the end of each section of the chapter that allows students to "Check Your Understanding" before they move on to the next topic. Students can test themselves in all these ways, promoting greater retention of what they are learning and increasing the likelihood that they will be able to apply this knowledge in useful ways.

GRAPHICS AND ARTWORK

Because many individuals are visual learners and because child development is a field rich in imagery, each chapter contains photos and graphics to illustrate important concepts in a memorable way. Many of the photos 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. In addition, we have included new and updated information on brain function where it is relevant throughout the book. This information is presented in clear language that makes it appropriate for the student of child development who may not have a strong background in biology.

DIVERSITY AND CULTURE

Issues of diversity and culture are introduced at the beginning of the text. These concepts are then integrated into each topic area to give the broader picture of how each aspect of development is influenced by the many different circumstances that constitute children's lives around the world.

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.

WHAT'S NEW IN THE THIRD EDITION

CHAPTER 1

- New section on *Getting the Most From Your Textbook* introduces students to the features they can use throughout the book
- The section on *Finding and Assessing Information About Development* and *Active Learning: Evaluating Information on the Web* have been moved from Chapter 3 to this chapter, so students are immediately provided with information about being a good consumer of information on development
- Information on the pedagogical features is now interspersed through the chapter rather than appearing in the opening paragraph to make it more meaningful to students
- New example of social policy: WIC
- New coverage of positive psychology
- New information on ages and stages
- Expanded section on culture

CHAPTER 2

- New *Active Learning*: Comparing Psychoanalytic Theories
- Strengthened focus on developmental issues by omitting general discussion of Freud and *Active Learning*: Free Associations

- New figures:
  - Figure 2.1: Id, ego, and superego
  - Figure 2.3: Illustration of positive reinforcement and negative reinforcement
  - Figure 2.4: Punishment and Extinction
- New modern applications of classical conditioning
- Added coverage of applied behavioral analysis (ABA) and functional behavioral assessment in modern applications of operant conditioning; collaborative learning and dynamic assessment to modern applications of Vygotsky's theory
- New discussion of developmental cognitive neuroscience; updated information on culture and developmental theory
- Dynamic systems theory enhanced as a major heading with expanded coverage

CHAPTER 3

- New Figure 3.1: The Scientific Method
- Revised description of the difference between reliability and validity, including a new example; new coverage of the concept of random sampling, ethnography and microgenetic research designs
- New Table 3.1: A comparison of research methods and Table 3.3: Comparison of Developmental Research Designs
- Expanded and clarified discussion of the distinction between research methods and research design
- Increased coverage of a variety of physiological measures
- Added discussion of the pitfalls of anecdotal evidence

CHAPTER 4

- New *Active Learning* features: Assessing Genetic Risk, Concordance Rates
- Strengthened the focus of this chapter on the interaction of genes and environment by moving the information on culture to Chapter 1
- New Figure 4.1: Human chromosomes as spectral karyotypes
- New discussion of mutations and single nucleotide polymorphism (SNP); new discussion of identifying genes
- Updated information on generalist genes
- New Table 4.2: Who should receive genetic counseling?
- Updated figures illustrating amniocentesis and CVS
- New coverage of commercial genetic tests, ethical considerations in genetic testing, adoption studies, and new research showing environmental effects on genetic expression using twin studies
- Updated information on studies of identical twins reared apart
- Updated discussion of canalization; new information about inheritance of epigenetic change, stress and epigenetic changes

CHAPTER 5

- Coverage of new topics including:
  - prenatal ultrasound
  - preconception health care
  - the emotional toll of infertility
  - environmental toxins as a pregnancy risk
  - abusive head trauma and shaken baby syndrome
  - the Neonatal Behavioral Assessment Scale
  - mirror neurons in the newborn
  - the impact of the Zika virus on a pregnancy
  - prenatal exercise for women
  - depression with peripartum onset
- New information on the sex ratio of conceptions and births, the 2015 outbreak of rubella, the effect of maternal smoking on asthma risk among children, consequences of the legalization of recreational and medical marijuana, the impact of endocrine disruptors, paid and unpaid parental leave
- Expanded information on miscarriage and its emotional consequences, prematurity and low birth weight; new description of prenatal ultrasounds
- Updated information and statistics on
  - Choice of birth settings
  - maternal diseases during pregnancy
  - international maternal mortality rates
  - infant mortality rates
  - number of cesarean births
  - out-of-hospital births
  - effects of prenatal alcohol use

CHAPTER 6

- New *Active Learning* feature: School Lunches
- Added coverage of brain development during early and middle childhood and adolescence
- New sections on Body Awareness, Motor Disability: Developmental Coordination Disorder
- Updated information on neuronal development, autism spectrum disorder
- New research on the impact of the Back to Sleep program on motor skill development; more coverage of motor skill development in early and middle childhood
- Updated information on teen pregnancy, the HPV vaccine

- New Figure 6.12: Estimated new HIV diagnoses among youth ages 13 to 24 in the United States, by race/ethnicity and sex
- New coverage of food allergies, prepubescence
- Expanded coverage of nutrition in early and middle childhood and adolescence
- New information on media use and obesity
- Updated information about anorexia and bulimia
- Updated and expanded information on neurological research on autism; information on autism spectrum disorder (ASD) has been updated to reflect the criteria in DSM-5
- New information on the possible role of folate in autism, the HPV vaccine for boys, the role of endocrine disruptors in pubertal timing

CHAPTER 7

- New *Active Learning* feature: Metacognition
- *Journey of Research* feature: Is Object Permanence Learned or Innate appear in the section on the theory of core knowledge with new information about the assessment of object permanence
- New Table 7.2: Six substages of the sensorimotor period
- New coverage of Piaget's concept of intuitive thought; expanded coverage of Piaget's stage of formal operations, including scientific thinking
- New information on social media and the imaginary audience, and the context of the imaginary audience in adolescence; new example of scaffolding in education
- Expanded discussion of postformal operations, private speech
- Updated information about ADHD to reflect changes in DSM-5
- New information about the impact of early attention span, distracted driving by teens, memory in toddlers, false memory in adults; new example of developmental changes in encoding processes
- Expanded coverage of memory in adolescence, executive function skills in childhood, cognitive flexibility, inhibitory control, and planning
- New coverage of processing capacity, executive function in adolescence, neurocognitive development as evidence for Piaget's theory

CHAPTER 8

- Major reorganization of the chapter with new headings to more clearly differentiate coverage of defining/assessing intelligence, variations in intellectual ability, learning in the school context, and group differences in academic achievement
- Added coverage of new research on the neurological basis of intelligence and intrinsic and extrinsic motivation
- New Figure 8.3: *Percentage distribution of children ages 3–21 served under the Individuals with Disabilities Education Act (IDEA), Part B, by disability type*; new Figure 8.4: *The three-ring conception of giftedness*; new Figure 8.5: *The gender gap in undergraduate enrollment*

- Expanded and updated information on IQ testing, including new coverage of WISC-V
- Updated statistics and information on intellectual disability and specific learning disorders to reflect changes in DSM-5
- Updated research on the long-term developmental outcomes for children with specific learning disorders
- Addition of Renzulli's three-ring model of giftedness
- Expanded information on creativity, including a distinction between big-C and small-c creativity and how to encourage creativity in a classroom setting
- Descriptive information on Head Start reorganized with more emphasis on program outcomes; new information on Early Head Start
- Updated information on the impact of class size, teacher expectancy, and statistics on the possible "boy problem" in schools
- New information on the impact of media on girls' attitudes toward math and science
- New discussion of implicit associations and gender stereotypes
- New statistics throughout the chapter on academic outcomes
- Updated and expanded information on school dropouts and high school graduates
- New section on *College-Bound Students*

CHAPTER 9

- New Table 9.1: *Five aspects of language*
- New discussion of morphology
- New information about cognitive processing theory and statistical learning
- New information about cochlear implants
- Coverage of literacy reorganized to be separate from oral language development
- Updated coverage of SES and language development and of differences in parental communication within SES groups
- New information about the earliest age when infants recognize words
- New Table 9.3: *Milestones of Language Development*
- New Table 9.2: *A comparison of 4 theories of language development*
- New information on the impact of using sign language with babies, acquisition of nouns and verbs in infancy across cultures, and development of humor
- New discussion of development of discourse skills in middle childhood
- New information about how school-age children learn to read and updated coverage of the reading performance of U.S. children
- New Table 9.5: Writing skills in three different language groups
- New information about the impact of the physical act of writing on spelling ability; blogging and writing skills among teens; bilingual children and their vocabulary development
- New section on *Culture, identity and bilingualism*

- Updated coverage of bilingual education and children learning English as a second language
- Updated information on communication disorders and dyslexia

CHAPTER 10

- New information on the use of emoji in electronic messages, emotional display rules and cultural differences
- Expanded coverage of Rothbart's theory of temperament
- Added coverage on *emotion coaching* and *emotion dismissing* parents
- New and updated information on children's fears
- Additional information on anxiety disorders to reflect changes in DSM-5
- Updated information on depression and suicide in adolescence, oppositional defiant disorder and conduct disorder
- New discussion of disruptive mood dysregulation disorder (DMDD)
- Reorganized coverage of attachment
- New information on the relationship between attachment status and physiological responses to stress
- Updated and expanded information on the role of fathers in attachment relationships
- Coverage of attachment to nonparental caregivers revised to focus specifically on attachment issues
- Updated research on cross-cultural studies of attachment
- Updated information on children's use of a secure base script to get help in times of distress
- Coverage of attachment disorders has been updated to reflect changes in DSM-5

CHAPTER 11

- Added discussion of cultural differences in infant mirror self-recognition
- New information on parents' use of personal pronouns and the child's name to promote pronoun use
- New information on culture and autobiographical memory, identity status and family relationships in adolescence, and cultural variations in identity status in adolescence
- New description of Harter's five dimensions of self-esteem
- New information on school and adolescent self-esteem
- New sections on *Media, Self-Concept, and Self-Esteem* and the *Gender Self-Socialization Model*, and *Transgender, Transsexual and Gender Nonconforming Children and Teens*
- New information about the experiences of LGBT youth
- New coverage of the debate about bathroom use by transgender people, the role of innate processes in moral development, social domain theory of moral development, service learning and morality

CHAPTER 12

- Several updated or revised *Active Learning* features
- New information about theory of mind in infancy
- New discussion of developmental trends in theory of mind, relationship between development of theory of mind and siblings
- New information on culture and theory of mind
- New information about recess and obesity
- New discussion of discovery learning,
- New coverage of AAP guidelines concerning recess in schools
- Updated Figure 12.5: Bullying at school
- New information on peer status that distinguishes popular-prosocial children from popular-antisocial children, and rejected-aggressive children from rejected-withdrawn children
- Updated and expanded information on peer pressure and children's resistance to it
- Updated statistics on bullying and peer violence

CHAPTER 13

- New discussion of family systems theory
- Updated Figures 13.1: Children's household living arrangements and Figure 13.2: Statistics on the rise in number of unmarried mothers in the U.S.
- New Figure 13.3: A cohort comparison of divorce risk and Table 13.1: Your chances of divorce may be much lower than you think
- Updated Figure 13.6: Workforce participation by U.S. mothers
- New Figure 13.7: Growth in the number of stay-at-home fathers in the United States.
- New Figure 13.9: Paid maternity leave, 2015
- Statistical information on family structure is focused to deal more specifically on children's current living arrangements
- New information on the impact of divorce on infants, young children, and preschoolers;
- impact of caring for grandchildren on elderly grandparents
- Expanded discussion of foster care, including new information on foster care for young children
- Chapter now more clearly distinguishes between family structure and function
- New information on managing the stress associated with balancing work and family, the differential effect of maternal employment on adolescents in different socioeconomic statuses.
- Information on parenting styles has been updated to use the terminology *disengaged parents;* updated and expanded info on the consequences of various parenting styles; expanded information on the impact of culture on parenting style outcomes; new discussion of coparenting

CHAPTER 14

- New *Active Learning* feature: Encouraging Children and Teens to Engage with Nature
- New section on *The World of Work*
- Updated information on latchkey children
- Updated discussion of participation in sports and other activities, sports injuries, and concussion
- New information on the role of coaches
- Updated information on electronic media use
- New information on mobile media use
- New information on social media and texting
- Updated information on children and the natural world
- New section on *"Selfies" and narcissism*
- New figure illustrating changes in media use with age
- New figures illustrating types of media used and gender differences in media use
- Updated information on positive youth development
- Updated information on natural mentors

CHAPTER 15

- Two new *Active Learning* features: Finding Local Sources of Support, Keeping a Sleep Diary
- Updated information on common childhood illnesses
- New information on the dangers of parental refusal to vaccinate children
- Expanded coverage of HPV and the HPV vaccine; updated information on childhood cancer
- New Table 15.2: Childhood mental disorders
- Updated statistics and graphics regarding fatal and nonfatal accidental injuries
- smoking, drinking, and use of illicit drugs
- New information on e-cigarettes and vaporizers
- New discussion of substance use disorder
- New information on the effect of stress on infant brain development
- Added research on the effect of moving poor families to better neighborhoods
- New information on the risk of skin cancer from exposure to harmful ultraviolet rays
- New information on the hygiene hypothesis and the role of diet in asthma
- New coverage of the Adverse Childhood Experiences scale
- New information on the consequences of emotional and psychological abuse
- New information on opioid use by teens

- New section on *Sleep Deficit*
- New coverage of lead poisoning from water in Flint, Michigan and around the nation
- Updated Figure 15.5: Unintentional injury deaths among U.S. children
- Updated information about the rate of child poverty
- New coverage of the Moving to Opportunity program
- New coverage of Head Start Trauma Smart program
- New information on the operation of Child Protective Services
- New information on sex trafficking

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Dr. Munsch's research focused on adolescent stress and coping and social networks. Her work has been published in the *Journal of School Psychology*, *Adolescence*, *The Journal of Early Adolescence*, the *Journal of Research on Adolescence*, and the *American Journal of Orthopsychiatry*. Throughout her career, Dr. Munsch administered grants that supported community-based programs. She was the codirector of the Early Head Start program at Texas Tech University and co–principal investigator for three Texas Youth Commission (Department of Juvenile Justice) grants. At Cal State Northridge, she administered the Jumpstart program for over 10 years. Her commitment to community service learning was recognized in 2005 when she was awarded the CSUN Visionary Community Service Learning Award. In 2012, her service to the County of Los Angeles was recognized by a commendation from the County Board of Supervisors. At

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PART I

UNDERSTANDING DEVELOPMENT:
Why and How We Study Children and Adolescents

chapter 1

ISSUES AND THEMES IN CHILD DEVELOPMENT

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LEARNING QUESTIONS

1.1 Who needs to have a good understanding of child development and why?

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

1.3 What are the contexts for child development?

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

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Take a moment to think about why you want to learn about children, adolescents, and their development. You may enjoy the interactions you have 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.

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We have presented the information and designed the activities within this book to stimulate your thinking in all these ways. We want to share with you the excitement that we feel about the topic of child and adolescent development and to pique your curiosity so that you will want to learn even more about it. By the time you have finished reading this book, you will have a solid foundation in a number of important topics related to development. It is our 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 present some ways that people use knowledge about children to promote positive development. If you are curious about how *you* might apply this knowledge in a future career, the Active Learning feature in this section will lead you through the process of researching careers that require a solid understanding of child and adolescent development. We then discuss some of the 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 study child development.

WHY STUDY CHILD DEVELOPMENT?

1.1 Who needs to have a good understanding of child development and why?

Many people are interested in studying child development because the topic itself is fascinating and important. Others want information they will be able to use in their role as a parent. Many students know that they will be able to use the information in a future career as a professional who works with children or a policymaker who shapes social policy affecting children and families. These are all great 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 that experiences in childhood shape who we become as adults. Examining that process helps us to understand the role that infancy, childhood, and adolescence play in forming our abilities, beliefs, and attitudes. Researchers who study children as they develop over long periods of time have provided ample evidence that early traits, behaviors, and experiences are related to

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Conscientiousness. What long-term outcomes might result from this child's willingness to work hard?

many adult outcomes. One well-known example of this is a study of gifted children begun by Lewis Terman in 1921 (Friedman & Martin, 2011). Although Terman died many years ago, others are still mining his data to answer questions about life span development. One finding is that those children who were rated high in the quality Terman called conscientiousness or social dependability had many positive outcomes in adulthood, including a reduction of 30% in the likelihood they would die in any particular year (Friedman et al., 1995). How does earlier conscientiousness link with these later outcomes? The connection is partially explained by the fact that conscientious individuals were less likely to smoke and drink alcohol to excess, both of which are predictive of a shorter life span. Some have hypothesized that conscientious people have better marriages, while others think they may be better prepared to handle the emotional difficulties they encounter (Friedman et al., 1995). Ongoing research is continuing to explore the full complexity of these connections.

Although the earliest stages of development are clearly important for later development and functioning, Charles Nelson (1999), neuroscientist and developmental psychologist, has argued that the first 3 years of life are no more important than later periods. He likens early development to building a house. A solid foundation is essential, but the ultimate shape and function of the house depends on adding the walls, the roof, the pipes, and all the rest. Nelson's focus is on the development of the brain, but his comments could apply to many other areas of child development. He says that while the basic form of the brain is set down within the first years of life, it is continually affected by the experiences we have later in life. An example of this principle comes from research by Alan Sroufe and his colleagues, who found that the nature of infants' secure relationship with their mother was an important predictor of their ability to have close romantic relationships in adulthood. However, the nature of their peer relationships through middle childhood also related to later romantic relationships (Raby et al., 2015; Sroufe, Egeland, Carlson, & Collins, 2005). Experiences early in life have consequences for functioning later in life but experiences all along the path to adulthood also contribute to an adult's psychological functioning.

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 stay the same, is essential to the ability to foster positive development. This understanding can help parents and family members, professionals who work with children and families, and people who create and carry out social policies and programs that affect children and their families to do this.

Parents and Family Members

A solid understanding of child development can help all parents do their best in this important role. Many parents read books, search websites, and browse magazines designed to help them understand their children so they can become better parents. How useful any of these sources of information will be to an interested parent depends largely on how well the information in them is grounded in scientific research.

Parents' understanding of their children's needs and abilities at each stage of development helps them provide the appropriate amount and type of support and stimulation to

foster their children's growth and development, but for some parents, knowledge about child development is even more crucial. For example, teen parents are more likely than older parents to lack knowledge about what to expect from their children at different ages. They are likely to talk to and play less with their infants, and to use physical punishment to discipline their children (Mann, Pearl, & Behle, 2004). When teen parents learn about child development, their frustration decreases and they have more realistic expectations for their children, their ability to empathize with their children increases, and they better understand how to discipline their children without resorting to physical punishment.

AP / Rich Pedroncelli

Programs to support parents. Incarcerated parents have been helped by programs such as The Family Nurturing Program. Such programs help parents maintain a relationship with their children while they are physically separated from them and also help the parents learn how to promote positive development in their children.

Another high-risk group that can benefit from parenting interventions is incarcerated parents. When one group of incarcerated parents took part in a program called the Family Nurturing Program, many showed the same kind of gains as those found among teenagers. They became more empathic and less punitive and developed more realistic expectations for their children (Palusci, Crum, Bliss, & Bavolek, 2008).

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 are engaged in the identification and prevention of problems, in providing interventions when problems do occur, and in promoting positive development for all children and teens.

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 who help families address existing problems. In child therapy, the therapist meets individually with the child, while family therapists see

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

other family members together with the child. Social workers, psychologists, marriage and family therapists, and child psychiatrists also provide these and other types of interventions to families. Promoting the optimal development of children and adolescents is a primary goal of professionals who work in the fields of education and health care, and of mental health professionals, youth service workers, and representatives of community organizations who run a variety of programs for children. A strong foundation in the study of child development helps each of these various professionals find and use ways to support and encourage children and adolescents to reach their full potential.

We recognize that students today are interested in knowing 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 a career related to child development, how much do you know about the career you are thinking about entering? You can assess your current knowledge about a career related to child development by completing **Active Learning: How Much Do You Know About Careers in Child Development?**

Active LEARNING

How Much Do You Know About Careers in Child Development?

If you are interested in a career that includes working with children, begin by completing the table below with what you currently know about the career you would like to enter when you finish your education. If you haven't settled on a career yet, simply choose one that currently holds some interest for you. Even if you feel you have very little information on a particular topic, take your best guess at every answer.

Next, use the *Occupational Outlook Handbook* (U.S. Bureau of Labor Statistics, 2015b) to find current information on your career. At the Bureau of Labor Statistics website at www.bls.gov, type "Occupational Outlook Handbook" into the search box or select it from the drop-down menu under "Publications." There also is likely a copy of the Bureau of Labor Statistics *Occupational Outlook Handbook* in your campus library. Select the career you are interested in from the alphabetic drop-down menu, or type the name of your career in the search box on the page. For each career, you will find information on the following:

- **What people in this career do**—duties and responsibilities.
- **Work environment**—where people in this career work and conditions affecting their employment.
- **How to become a professional in this field**—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**—how many people are currently employed in this career and whether the demand for this profession is increasing or decreasing.
- **Similar occupations**—additional 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 can find that related careers include being a counselor, social worker, special education teacher, or recreation worker. If you click on any of these links, it will take you to the page in the *Occupational Outlook Handbook* that provides all the information about that alternative career.

- **Contacts for more information**—links to professional organizations that support and advocate for people working in that career. The organization webpages are rich sources of information about each career, and you should look at one or two of them before you finish exploring this page.

Although the *Occupational Outlook Handbook* lists hundreds of occupations, you won't find every conceivable job title. For instance, *child life specialist* and *early interventionist* are not yet in the handbook, but you can find information about a related career to begin your search. Child life specialists do work similar to what a counselor does, but they work in the specialized setting of a hospital, and their clients are children with chronic illnesses and life-threatening conditions and their families.

Name of the career you researched: _____

Does it appear in the *Occupational Outlook Handbook* (OOH)? _____ Yes _____ No

(If "no," name the related career you researched): _____

Topic	Your Current Knowledge	Information From the OOH
Educational level required for entry into this career (for example, high school diploma, associate's degree, bachelor's degree, master's degree, PhD, or other advanced degree)		
Educational level required for advancement in this career		
Important day-to-day work responsibilities (that is, what one does each day in this career)		
Work setting (for example, office, school, hospital), and how much travel is required (if any)		
Median annual earnings		
Demand (for example, is the demand for this career expected to increase or decrease over the next 10 years, and by how much?)		

Another very useful website to examine if you are specifically interested in a career in the field of psychology is the American Psychological Association's site. You can find career information at www.apa.org/careers/resources/guides/careers.aspx

Policymakers

As a society, we have a stake in promoting the well-being of all our citizens, including our children. Our ideas and programs designed to accomplish this constitute our **social policy** on these issues. Research on child development can guide and inform the people who make these policies. For example, Walter Gilliam (2008), director of the Edward Zigler Center in Child Development and Social Policy at Yale University, found that preschool children in Connecticut were more than 3 times as likely to be expelled as children in Grades K–12. His research also showed that when a mental health consultant was available to help teachers

Social policy Policies that to are intended to promote the welfare of individuals in a society.

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

Tracy A. Woodward/The Washington Post via Getty Images

The Women, Infants and Children Program. This pregnant woman can use vouchers from the WIC program at this farmer's market to ensure a nutritious diet essential for healthy prenatal development.

develop ways to handle problem behaviors, far fewer children were expelled. He took his findings to legislators to advocate for a solution. As a result, half of the states now provide early childhood mental health consultation (Perry, 2014). Consider how many young children are being better served because of the research and advocacy of Dr. Gilliam.

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 5 years of age. Good nutrition during a woman's pregnancy helps to ensure the healthy development of her baby, and good nutrition during early childhood is associated with a number of positive outcomes throughout a child's life. Although these are important program outcomes, the WIC program cost almost $6.2 billion in 2015 (U.S. Department of Agriculture, 2016). When the budget for an expensive program such as this one is up for renewal, lawmakers look to experts in the field for research evidence of the program's effectiveness that can justify the expenditure.

Research on WIC has found that participation in the program is associated with a reduced risk of having a low birth weight baby or one who is born prematurely, and an increased probability that a mother will breastfeed her infant (Rossin-Slater, 2015). As you will learn in Chapter 5, both prematurity and low birth weight are associated with a number of negative developmental outcomes. The lifetime financial savings from lower levels of medical intervention needed as a result of the increased birth weight of the children born to WIC participants results in a favorable cost-benefit ratio for the program (Rossin-Slater, 2015). Information such as this helps policymakers evaluate the effectiveness of the program and make modifications to it, if necessary. **Active Learning: Social Policy Affecting Children and Adolescents** provides some additional information about the type of issues social policy organizations have focused on in recent years.

Active LEARNING

Social Policy Affecting Children and Adolescents

A number of organizations in the United States provide legislators and private citizens with information related to child development that is important to the country. Their goal is to help bring about changes in social policy based on solid research. You may want to visit their websites to retrieve reports that interest you.

The mission of the *Annie E. Casey Foundation* (2015a) is to "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" (para. 2). From its home page at www.aecf.org, click on one of the headings (Kids, Families, Communities, or Leaders) and it will take you to a page that lists reports, blogs, and policy statements related to that topic. One of the most widely used resources from the foundation is its annual *Kids Count* report which provides up-to-date statistics on children's health, education, and well-being. From this page, you can create your own state-by-state report using these data.

The mission of the *Future of Children* (2010) is "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" (para. 1). You will find the website at futureofchildren.org. This organization publishes two issues of its journal each year, each devoted to a single topic. Recent issues have included promoting children's health, military children and families, and postsecondary education in the United States.

The Society for Research in Child Development is a professional organization with almost 6,000 members in the United States and around the world. It periodically produces policy briefs on a variety of topics related to child development. Go to its home page at www.srcd.org and use the drop-down menu under Publications to select Social Policy Report. On that page, you will find a list of their recent reports.

There is a wealth of information at each site. Visit at least one site now and identify a topic or two that interest you, review the information available, and make a mental note to visit these sites again when you are looking for up-to-date information for a course paper.

As citizens, we bear a responsibility to vote and to speak out for the well-being of our children. The more we understand about their needs, the more effective we will be in advocating on their behalf and supporting the policies we believe will best serve them.

CHECK YOUR UNDERSTANDING

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 social policy and research on child development?

UNDERSTANDING HOW DEVELOPMENT HAPPENS

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

Understanding everything about children's development is certainly a daunting task. To make it more manageable we organize the material in several ways. 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 need to keep our focus on the developmental process, so we also organize information by the ages and stages of life. There also are

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Domains of development. When we study development, we look at changes in the physical, cognitive, and social-emotional development of children and adolescents.

a number of issues that have been debated in the field of child development over the years. We briefly introduce several of those ideas here, but we will revisit them in more detail at various points throughout the book.

DOMAINS OF DEVELOPMENT

When studying development, we often 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 our emotions and the emotions of others, and express and regulate our emotions.

Physical development Biological changes that occur in the body and brain, including changes in size and strength, integration of sensory and motor activities, and development of fine and gross motor skills.

Cognitive development Changes in the way children think, understand, and reason as they grow older.

Social-emotional development Changes in the ways we connect to other individuals and express and understand emotions.

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 caregivers changes. The word *no* is heard much 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 the environment gives them many new opportunities to learn about the world in ways that advance their cognitive development.

AGES AND STAGES

As we describe each of the domains of development, we examine how changes occur at the different ages and stages during childhood and adolescence: infancy, toddlerhood, early childhood, middle childhood, and adolescence. These terms are used 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 of their senses to begin exploring their world and 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 explore their physical world more actively. 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 are learning about the physical and social world through play. As peers become more important, young children are learning 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 sense of self and an 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 are able to think and reason at a more abstract level and they 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 of your own with you when you entered this class. Stop for a few minutes 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. We briefly discuss several of those issues here but we will revisit them at various points throughout 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 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 in more recent times it has become clear that any developmental outcome is a mixture of both.

Nature The influence of genetic inheritance on development.

Nurture The influence of learning and the environment on children's development.

Sandro Di Carlo Darsa/PhotoAlto/Corbis

Quantitative change and qualitative change. As children grow, there are quantitative changes that are evident in this photo (for example, they grow taller and weigh more), but there are also qualitative changes that are less easy to see (for example, they move from one cognitive stage to the next).

Researcher D. O. Hebb said that asking whether behavior is due to nature or to nurture is similar to asking whether the area of a rectangle is due to its length or its width (Meaney, 2004). Just as both length and width are necessary to determine area, genes and environment interact to determine behavioral development. More recent research has continued to show how nature and nurture are inextricably intertwined in surprising and complex ways. 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 (Meaney, 2010; Stiles, 2009). We discuss these ideas further in Chapter 4.

Continuous Versus Stagelike Development

Is development a series of small steps 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" described previously. 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 and, therefore, are described as *continuous* theories.

Quantitative changes Changes in the amount or quantity of what you are measuring.

Qualitative changes Changes in the overall nature of what you are examining.

Stage theories Theories of development in which each stage in life is seen as qualitatively different from the ones that come before and after.

Incremental theories Theories in which development is a result of continuous quantitative changes.

Another way to think about how we describe the process of development is to differentiate between quantitative and 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 new 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. **Stage theories** typically describe qualitative changes in development, while **incremental theories** describe quantitative changes. Both types of change occur, and that is why we don't have just one theory that describes all aspects of development. Some theories are more appropriate for describing certain types of changes than others.

Stability Versus Change

How much do we change during the process of development? 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? We find evidence of both stability and change as we look at development. For instance, characteristics such as anxiety (Weems, 2008), shyness (Dennissen, Asendorpf, & van Aken, 2008; Schmidt & Tasker, 2000), and aggressiveness (Dennissen et al., 2008; Kokko & Pulkkinen, 2005) 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 may express