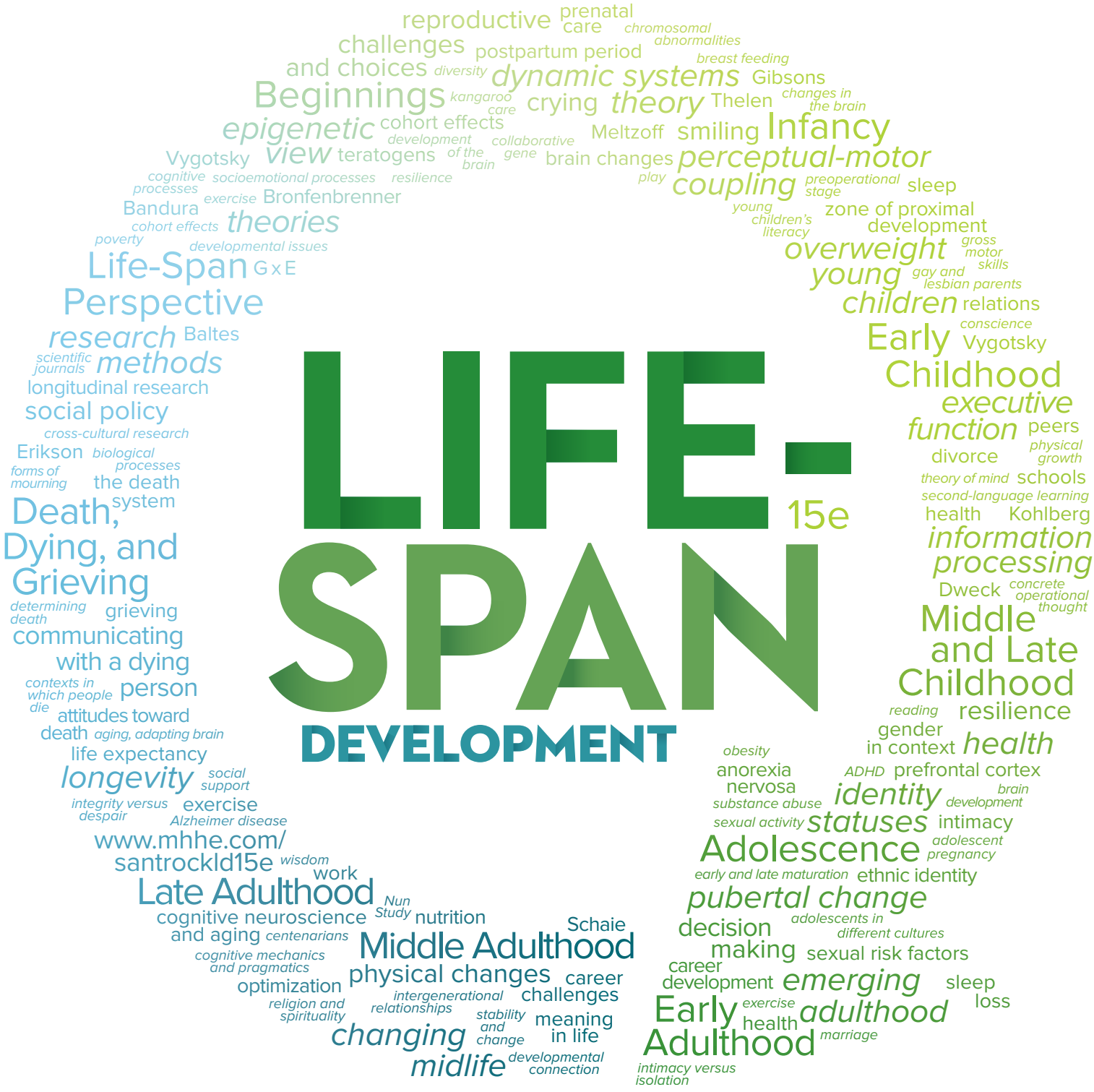

JOHN W. SANTROCK

Mc Graw Hill Education

LIFE-SPAN DEVELOPMENT

Fifteenth Edition

JOHN W. SANTROCK
University of Texas at Dallas

Mc Graw Hill Education

LIFE-SPAN DEVELOPMENT, FIFTEENTH EDITION

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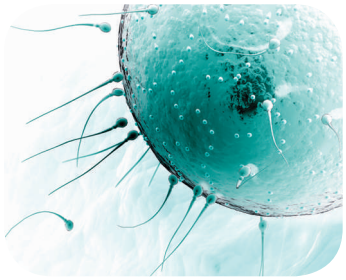

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about the author

John W. Santrock

John Santrock received his Ph.D. from the University of Minnesota. He taught at the University of Charleston and the University of Georgia before joining the Program in Psychology at the University of Texas at Dallas, where he currently teaches a number of undergraduate courses and was recently given the University's Effective Teaching Award. In 2010, he created the UT-Dallas Santrock undergraduate scholarship, an annual award that is given to outstanding undergraduate students majoring in developmental psychology to enable them to attend research conventions.

John Santrock, teaching in his undergraduate course in life-span development.

John has been a member of the editorial boards of *Child Development* and *Developmental Psychology*. His research on father custody is widely cited and used in expert witness testimony to promote flexibility and alternative considerations in custody disputes. John also has authored these exceptional McGraw-Hill texts: *Children* (13th edition), *Adolescence* (15th edition), *A Topical Approach to Life-Span Development* (7th edition), and *Educational Psychology* (5th edition).

For many years, John was involved in tennis as a player, teaching professional, and coach of professional tennis players. At the University of Miami (FL), the tennis team on which he played still holds the NCAA Division I record for most consecutive wins (137) in any sport. His wife, Mary Jo, has a master's degree in special education and has worked as a teacher and a Realtor. He has two daughters—Tracy, who also is a Realtor, and Jennifer, who is a medical sales specialist. He has one granddaughter, Jordan, age 21, currently a graduate student in Cox School of Business at Southern Methodist University, and two grandsons, Alex, age 9, and Luke, age 7. In the last two decades, John also has spent time painting expressionist art.

Dedication:

With special appreciation to my mother, Ruth Santrock, and my father, John Santrock.

expert consultants

Life-span development has become an enormous, complex field, and no single author, or even several authors, can possibly keep up with all of the rapidly changing content in the many periods and different areas of life-span development. To solve this problem, author John Santrock has sought the input of leading experts about content in a number of areas of life-span development. These experts have provided detailed evaluations and recommendations in their area(s) of expertise.

The following individuals were among those who served as expert consultants for one or more of the previous editions of this text:

Urie Bronfenbrenner, *Cornell University*
K. Warner Schaie, *Pennsylvania State University*
Paul Baltes, *Max Planck Institute, Berlin*
Tiffany Field, *University of Miami*
James Birren, *University of Southern California*
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Arthur Kramer, *University of Illinois*
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Cigdem Kagitcibasi, *Koc University*
Robert Kastenbaum, *Arizona State University*

Following are the expert consultants for the fifteenth edition, who (like those of previous editions) literally represent a *Who's Who* in the field of life-span development.

K. Warner Schaie

Dr. Schaie is widely recognized as one of the pioneers who created the field of life-span development and continues to be one of its leading experts. He is currently the Evan Pugh Professor Emeritus of Human Development and Psychology at Pennsylvania State University. Dr. Schaie also holds an appointment as Affiliate Professor of Psychiatry and Behavioral Sciences at the University of Washington. He received his Ph.D. in psychology from the University of Washington, an honorary Ph.D. from the Friedrich-Schiller University of Jena, Germany, and an honorary Sc.D. degree from West Virginia University. He received the Kleemeier Award for Distinguished Research Contributions and the Distinguished Career Contribution to Gerontology Award from the Gerontological Society of America, the MENSA lifetime career award, and the Distinguished Scientific Contributions award from the American Psychological Association. He is author or editor of 60 books, including the textbook *Adult Development and Aging* (5th ed., with S. L. Willis), the *Handbook of the Psychology of Aging* (7th ed., with Sherry Willis), and *Developmental Influences on Adult Intelligence* (2013, 2nd ed.). He has directed the Seattle Longitudinal Study of cognitive aging since 1956 and is the author of more than 300 journal articles and chapters on the psychology of aging. Dr. Schaie's current research interest focuses on the life course of adult intelligence, its antecedents and modifiability, the influence of cognitive behavior in midlife on the integrity of brain structures in old age, the early detection of risk for dementia, as well as methodological issues in the developmental sciences.

"In my view, this text continues to set the standard by which other texts on this topic must be measured. . . . It is my belief that the 15th edition will continue the tradition of providing the most comprehensive and user-friendly life-span developmental psychology textbook available for a large range of undergraduate students. It is soundly based on the current state of the scientific knowledge and continues to convey developing new concepts and content in a readily understandable manner." **—K. Warner Schaie**

Kirby Deater-Deckard

Dr. Deater-Deckard is a leading expert on biological foundations of development, heredity-environment interaction, and parenting. He obtained his Ph.D. from the University of Virginia and currently is a professor of psychology and psychiatry and the director of developmental science graduate training at Virginia Tech. Dr. Deater-Deckard's research focuses on the development of individual differences in childhood and adolescence, with an emphasis on gene-environment processes. He has written papers, book chapters, and books in the areas of developmental psychology and psychopathology. His current research on parenting, schooling, and children's development is funded by the NIH and NSF. Dr. Deater-Deckard has been joint editor of the *Journal of Child Psychology and Psychiatry*, and currently is on the editorial boards of *Infant and Child Development*, *International Journal of Behavioral Development, Journal of Family Psychology*, and *Parenting: Science and Practice*.

"This book continues to be the standard against which other texts should be compared. The narrative provides a good balance between breadth of coverage and depth in certain topics that are foundational, as well as 'leading edge' new directions in the human development

research domain. Emphasis is properly placed on theories and classic/seminal concepts as well as recent ideas about how biology influences human development at the species level (i.e., evolutionary) and at the level of populations and individuals (e.g., gene-environment interaction). In addition, John Santrock provides adequate circumspection about the limitations of bio-social integration methods and theories in a clear and concise way. Students will come away from this chapter with a well-rounded understanding of why all that high school and college-level biology was useful for their understanding of human psychological development and functioning." **—Kirby Deater-Deckard**

Patricia Miller Dr. Patricia Miller is a leading expert in the cognitive development of children. She obtained her Ph.D. from the University of Minnesota and currently is Professor of Psychology at San Francisco State University, having previously been a professor at the University of Michigan, University of Georgia, and University of Florida. Her research focuses on children's executive function, memory, attention, and learning strategies. Current projects include the development of executive function in preschoolers, the effects of exercise on children's executive function and academic achievement, and the development of strategies in French and U.S. children. Dr. Miller is a recent president of the developmental psychology division of the American Psychological Association and is a Fellow of that organization as well as the Association for Psychological Science. She also has been an Associate Editor of *Child Development* and is on the Editorial Board at *Cognitive Development*. Her book, *Theories of Developmental Psychology*, is in its fifth edition, and she is co-author or co-editor of three other volumes. Dr. Miller's work has been published in journals such as *Child Development*, *Developmental Psychology*, and *Cognitive Development*.

"As in earlier editions of John Santrock's texts, the writing is clear and beautiful, and the topics are well chosen because of their interest to students and their importance. The research is up to date. The learning system and multiple summary/review sections keep the key ideas in front of the student throughout the chapter. (A strength is) connections to interesting and personally relevant real-life topics." **—Patricia Miller**

John Schulenberg Dr. Schulenberg is a leading expert on adolescent development and emerging adulthood. He currently is a professor of psychology in the Institute of Social Research and the Center for Human Growth and Development at the University of Michigan. His research expertise focuses on developmental transitions in adolescence and emerging adulthood that involve health and well-being, substance use and abuse, and conceptualization of developmental change. Dr. Schulenberg is one of the key members of the research team that conducts the ongoing Monitoring the Future study at the Institute of Social Research. He recently became President of the Society for Research on Adolescent Development. He is a Fellow of the American Psychological Association and President of the Society for Research on Adolescence. His work has been funded by NIDA, NIAAA, NICHD, NIMH, NSF, and the Robert Wood Johnson Foundation. Dr. Schulenberg serves on several editorial boards and has guest-edited special issues of *Addiction, Applied Developmental Science, Development and Psychopathology*, and *Journal of Longitudinal and Life Course Studies*. Finally, he has been a baseball and softball coach for community and travel youth teams for the past dozen years.

"I enjoyed reading these excellent chapters. I reviewed previous versions of these chapters for the previous edition of this book, and I see that these chapters continue to evolve in a positive and compelling way. I suspect that these chapters do well in capturing the attention of college students, given the content and approach. In particular, the real-life examples, 'developmental connections,' various touchpoints throughout the chapters, and the review material at the end work well to encourage and maintain student interest and focus." **—John Schulenberg**

Patricia Reuter-Lorenz Dr. Reuter-Lorenz is one of the world's leading experts on cognitive neuroscience and aging. She received her Masters and Doctor of Philosophy degrees from the University of Toronto and did postdoctoral training in cognitive neuroscience at Cornell Medical Center (New York). Dr. Reuter-Lorenz is currently Professor of Psychology and Neuroscience at the University of Michigan—Ann Arbor where she directs the Cognitive and Affective Neuropsychology Laboratory. She is also the co-director of the International Max Planck Research School in Life Span Development, the Co-Editor-in-Chief of *Aging, Neuropsychology & Cognition*, and section editor for *Neuropsychologia*. Using imaging, behavioral, and case study approaches, she has published on a wide range of topics from neurocognitive aging to neuropsychological studies of attention, neglect and eye movement control, laterality, executive functions, and working memory. Dr. Reuter-Lorenz has received numerous awards for her research, mentorship and teaching, including the Outstanding Mentor Award from Division 20 of the American Psychological Association and the Justine Sergent Prize for International Research in Cognitive Neuroscience. Dr. Reuter-Lorenz is cofounder of the Cognitive Neuroscience Society and has played a leadership role in this organization for over twenty years.

"I found the chapter ("Cognitive Development in Late Adulthood") to be a pleasure to read and a valuable resource for students wanting to gain a broad perspective on life-span development. The organization was effective and the writing highly accessible." **—Patricia Reuter-Lorenz**

Scott Johnson Dr. Johnson is one of the world's leading experts on perceptual and cognitive development in infancy. He is currently a Professor of Psychology and Professor of Psychiatry and Biobehavioral Sciences at UCLA. Dr. Johnson obtained his Ph.D. from Arizona State University and then did postdoctoral work in the Center for Visual Science at the University of Rochester. His research interests center on mechanisms of perceptual, cognitive, motor, social, and cortical development, and relations among different developmental processes. Current research topics include object perception, face perception, intermodal perception, visual attention, early language development, and learning mechanisms in typical and at-risk populations. In studying infants, Dr. Johnson uses a combination of methods, including preferential looking, eye movements, electroencephalography, and connectionist modeling. He is currently Associate Editor of the journal *Cognition* and has served on the editorial boards of *Infancy, Infant Behavior & Development, Developmental Psychology,* the *British Journal of Developmental Psychology,* and *Frontiers in Neuroscience*.

"Dr. Santrock has expended great effort to update all of the chapters. . . . Overall, I thought Chapters 4 ("Physical Development in Infancy") and 5 ("Cognitive Development in Infancy") were great." **—Scott Johnson**

Amanda Rose Dr. Rose is a leading expert on children's socioemotional development. She currently is a Professor in the Department of Psychological Sciences at the University of Missouri—Columbia. She obtained her doctorate in developmental psychology from the University

of Illinois. Dr. Rose's work focuses on friendships in childhood and adolescence, with particular attention to differences between girls and boys and to implications for emotional adjustment. She has published in a wide range of journals, including *Developmental Psychology, Child Development,* and *Psychological Bulletin*, and has held grants from the National Institute of Mental Health. Dr. Rose was awarded the Early Scientific Achievement Award from the Society for Research in Child Development and recently was awarded the University of Missouri's Chancellor's Award for Outstanding Research and Creative Activity. Dr. Rose also recently became a fellow in the American Psychological Association.

"Overall, based on the chapters I read, I thought the textbook had a number of strengths. The text is clear and engaging. Examples are used well and appropriately to illustrate points. In addition, real-world applications are incorporated throughout." **—Amanda Rose**

Ross Thompson Ross Thompson is one of the world's leading experts on children's socioemotional development. He currently is Professor of Psychology at the University of California–Davis, where he directs the Social and Emotional Development Lab. A developmental psychologist, Dr. Thompson studies early parent-child relationships, the development of emotion understanding and emotion regulation, early moral development, and the growth of self-understanding in young children. He also works on the applications of developmental research to public policy concerns, including school readiness and its development, early childhood investments, and early mental health. Dr. Thompson has published five books, several best-selling textbooks, and over 200 papers related to his work. He is a founding member of the National Scientific Council on the Developing Child, has twice been Associate Editor of *Child Development*, and has received the Boyd McCandless Young Scientist Award for Early Distinguished Achievement from the American Psychological Association. Dr. Thompson also recently was given the Ann Brown Award for Excellence in Developmental Research and the University of California–Davis Distinguished Scholarly Public Service Award.

". . . the chapters do a fine job of communicating the latest research clearly and engagingly, and by following a consistent outline, the reader is led through comparable topics at each chronological stage. As usual, John Santrock's writing is straightforward, easy to understand, and accessible." **—Ross Thompson**

Jerri Edwards Dr. Edwards is a leading expert in cognitive aging. She obtained her Ph.D. in life-span development from the University of Alabama at Birmingham and is currently a professor in the School of Aging Studies at the University of South Florida. Dr. Edwards' research seeks to discover how cognitive abilities can be maintained and even enhanced with advancing age. Ultimately, the goals of Dr. Edwards' research are to extend the mobility and independence of older adults, thereby improving their quality of life. Much of her work has focused on older adults' driving ability and cognitive training strategies to reduce the cognitive decline that results in driving difficulties. She is a member of the editorial board of *The Journals of Gerontology: Psychological Sciences.* Her work has been published in journals such as *Neurology, The Journal of the American Geriatrics Society, Psychology & Aging, Alzheimer's Disease and Associated Disorders,* and *Accident Analysis & Prevention.*

"I can't imagine the work and effort it takes to author a life-span development textbook. I admire Dr. Santrock's work, and he is well-known and respected among developmental psychology for his quality textbooks." **—Jerri Edwards**

Deborah Carr Dr. Carr is a leading expert on the social aspects of older adults' lives and on death, dying, and grieving. She obtained her Ph.D. from the University of Wisconsin and currently is a professor of sociology at Rutgers University. Dr. Carr is a life course sociologist who specializes in stress and health, widowhood, end-of-life issues, body weight, and later-life family relationships. She is the author of nearly 100 journal articles and book chapters, and is author or editor of five books including *Spousal Bereavement in Later Life, Encyclopedia of the Life Course and Human Development*, and *Worried Sick: Why Stress Hurts Us and What to Do About It* (2014). Dr. Carr is a fellow of the Gerontological Society of America.

"The new themes regarding 'connections' are integrative and thoughtful. I very much like the new features that emphasize cutting-edge research and careers . . . a truly impressive work; it's clear that John Santrock is not sitting on his laurels and really has made a Herculean effort in revising his book." **—Deborah Carr**

Santrock—connecting *research* and *results!*

As a master teacher, John Santrock connects students to current research and real-world applications. His integrated, personalized learning program gives students the insight they need to study smarter and improve performance.

Better Data, Smarter Revision, Improved Results

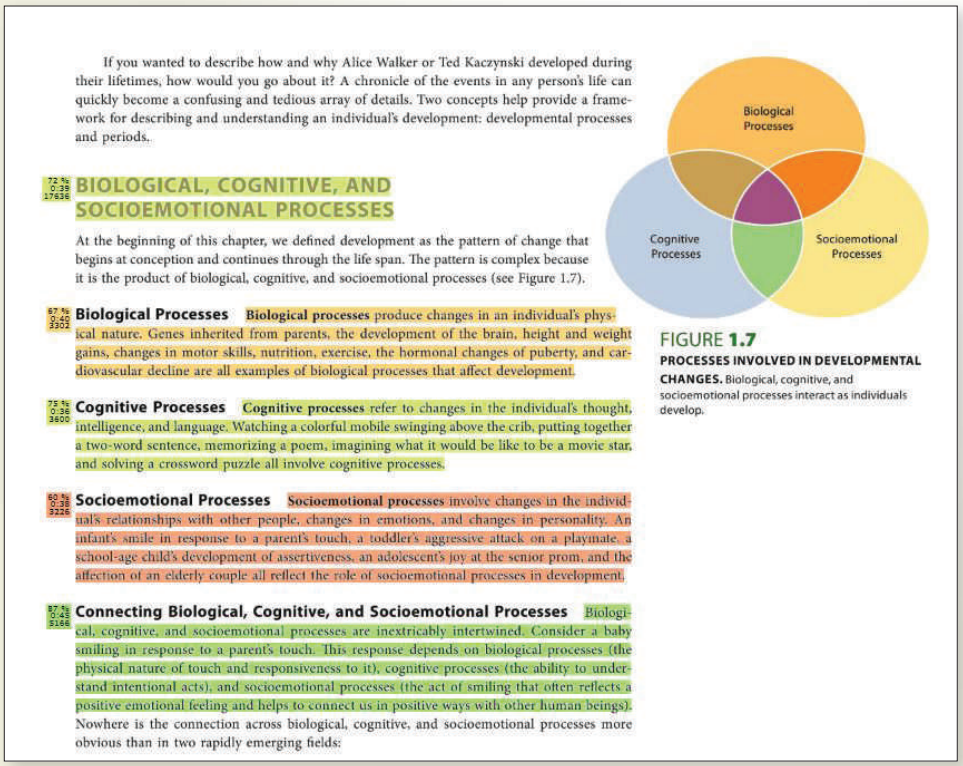
Students helped inform the revision strategy of *Life-Span Development.*

STEP 1. Over the course of three years, data points showing concepts that caused students the most difficulty were anonymously collected from Connect Lifespan Development **LearnSmart** product.

STEP 2. The data from **LearnSmart** was provided to the author in the form of a ***Heat Map***, which graphically illustrates "hot spots" in the text that impacts student learning (see image below).

STEP 3. The author used the ***Heat Map*** data to refine the content and reinforce student comprehension in the new edition. Additional quiz questions and assignable activities were created for use in Connect Lifespan Development to further support student success.

RESULT: Because the ***Heat Map*** gave the author empirically-based feedback at the paragraph and even sentence level, he was able to develop the new edition using precise student data that pinpointed concepts that gave students the most difficulty.



If you wanted to describe how and why Alice Walker or Ted Kaczynski developed during their lifetimes, how would you go about it? A chronicle of the events in any person's life can quickly become a confusing and tedious array of details. Two concepts help provide a framework for describing and understanding an individual's development: developmental processes and periods.

BIOLOGICAL, COGNITIVE, AND SOCIOEMOTIONAL PROCESSES

At the beginning of this chapter, we defined development as the pattern of change that begins at conception and continues through the life span. The pattern is complex because it is the product of biological, cognitive, and socioemotional processes (see Figure 1.7).

Biological Processes **Biological processes** produce changes in an individual's physical nature. Genes inherited from parents, the development of the brain, height and weight gains, changes in motor skills, nutrition, exercise, the hormonal changes of puberty, and cardiovascular decline are all examples of biological processes that affect development.

Cognitive Processes **Cognitive processes** refer to changes in the individual's thought, intelligence, and language. Watching a colorful mobile swinging above the crib, putting together a two-word sentence, memorizing a poem, imagining what it would be like to be a movie star, and solving a crossword puzzle all involve cognitive processes.

Socioemotional Processes **Socioemotional processes** involve changes in the individual's relationships with other people, changes in emotions, and changes in personality. An infant's smile in response to a parent's touch, a toddler's aggressive attack on a playmate, a school-age child's development of assertiveness, an adolescent's joy at the senior prom, and the affection of an elderly couple all reflect the role of socioemotional processes in development.

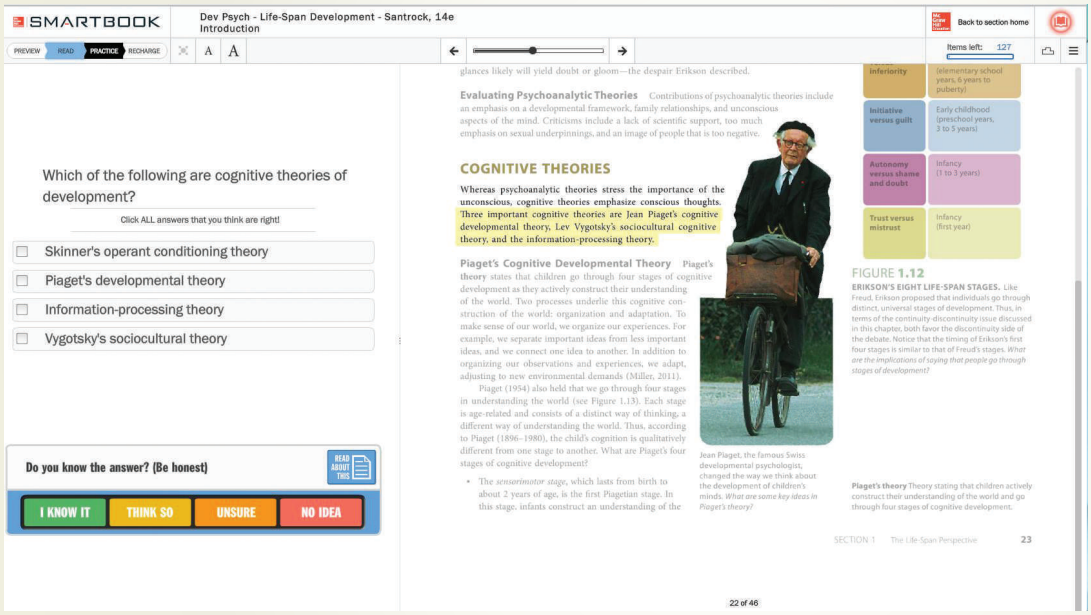
Connecting Biological, Cognitive, and Socioemotional Processes Biological, cognitive, and socioemotional processes are inextricably intertwined. Consider a baby smiling in response to a parent's touch. This response depends on biological processes (the physical nature of touch and responsiveness to it), cognitive processes (the ability to understand intentional acts), and socioemotional processes (the act of smiling that often reflects a positive emotional feeling and helps to connect us in positive ways with other human beings). Nowhere is the connection across biological, cognitive, and socioemotional processes more obvious than in two rapidly emerging fields:

FIGURE 1.7
PROCESSES INVOLVED IN DEVELOPMENTAL CHANGES. Biological, cognitive, and socioemotional processes interact as individuals develop.

LearnSmart is an adaptive learning program designed to help students learn faster, study smarter, and retain more knowledge for greater success. Distinguishing what students know from what they don't, and focusing on concepts they are most likely to forget, LearnSmart continuously adapts to each student's needs by building an individual learning path. Millions of students have answered over a billion questions in LearnSmart since 2009, making it the most widely used and intelligent adaptive study tool that's proven to strengthen memory recall, keep students in class, and boost grades.

Fueled by LearnSmart, SmartBook is the first and only adaptive reading experience currently available.

- **Make It Effective.** SmartBook™ creates a personalized reading experience by highlighting the most impactful concepts a student needs to learn at that moment in time. This ensures that every minute spent with SmartBook™ is returned to the student as the most value-added minute possible.
- **Make It Informed.** The reading experience continuously adapts by highlighting content based on what the student knows and doesn't know. Real-time reports quickly identify the concepts that require more attention from individual students—or the entire class. SmartBook™ detects the content a student is most likely to forget and brings it back to improve long-term knowledge retention.

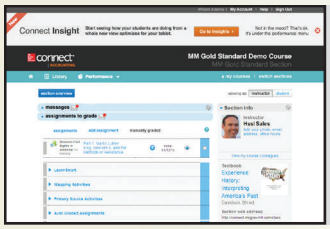


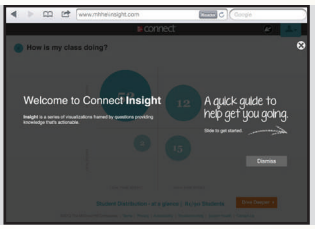
Personalized grading, on the go, made easier

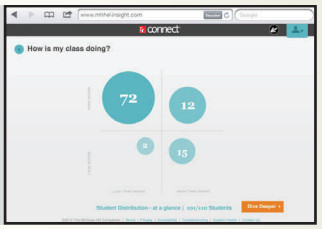
Mc Graw Hill Education connect INSIGHT™

Student performance reports show you about their progress. The first and only analytics tool of its kind, Connect Insight™ is a series of visual data displays—each framed by an intuitive question—to provide at-a-glance information regarding how your class is doing.

- **Make It Intuitive.** You receive an instant, at-a-glance view of student performance matched with student activity.
- **Make It Dynamic.** Connect Insight™ puts real-time analytics in your hands so you can take action early and keep struggling students from falling behind.
- **Make It Mobile.** Connect Insight™ travels from office to classroom, available on demand wherever and whenever it's needed.







Real people, real world, real life

McGraw-Hill's Milestones is a powerful tool that allows students to experience life as it unfolds, from infancy through emerging adulthood. Students track the early stages of physical, social, and emotional development. By letting students observe one child over time or compare various children, Milestones provides a unique, experiential learning environment that can only be achieved by watching real human development as it happens.

preface

Making Connections . . . From My Classroom to *Life-Span Development* to You

Having taught life-span development every semester for 30 years now, I'm always looking for ways to improve my course and *Life-Span Development*. Just as McGraw-Hill looks to those who teach the life-span development course for input, each year I ask the almost 200 students in my life-span development course to tell me what they like about the course and the text, and what they think could be improved. What have my students told me lately about my course and text? Students said that highlighting connections among the different aspects of life-span development would help them to better understand the concepts. As I thought about this, it became clear that a *connections* theme would provide a systematic, integrative approach to the course material. I used this theme to shape my current goals for my life-span development course, which, in turn, I've incorporated into *Life-Span Development:*

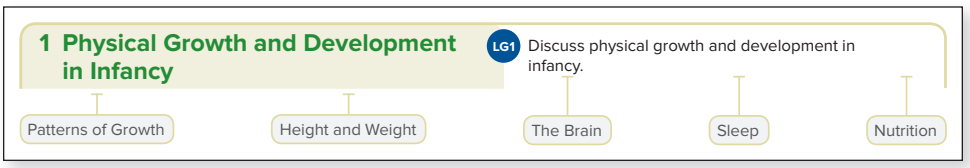
1. **Connecting with today's students** To help students learn about life-span development more effectively.
2. **Connecting research to what we know about development** To provide students with the best and most recent theory and research in the world today about each of the periods of the human life span.
3. **Connecting developmental processes** To guide students in making developmental connections across different points in the human life span.
4. **Connecting development to the real world** To help students understand ways to apply content about the human life span to the real world and improve people's lives; and to motivate them to think deeply about their own personal journey through life and better understand who they were, are, and will be.

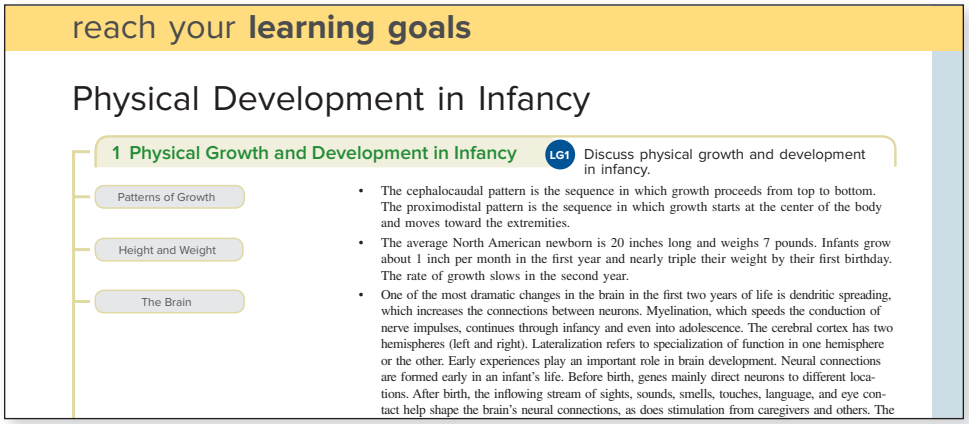
Connecting with Today's Students

In *Life-Span Development,* I recognize that today's students are as different in some ways from the learners of the last generation as today's discipline of life-span development is different from the field 30 years ago. Students now learn in multiple modalities; rather than sitting down and reading traditional printed chapters in linear fashion from beginning to end, their work preferences tend to be more visual and more interactive, and their reading and study often occur in short bursts. For many students, a traditionally formatted printed textbook is no longer enough when they have instant, 24/7 access to news and information from around the globe. Two features that specifically support today's students are the adaptive ebook, Smartbook, (see pages xvi-xvii) and the learning goals system.

The Learning Goals System

My students often report that the life-span development course is challenging because of the amount of material covered. To help today's students focus on the key ideas, the Learning Goals System I developed for *Life-Span Development* provides extensive learning connections throughout the chapters. The learning




reach your **learning goals**

Physical Development in Infancy

1 Physical Growth and Development in Infancy

LG1 Discuss physical growth and development in infancy.

Patterns of Growth

Height and Weight

The Brain

- The cephalocaudal pattern is the sequence in which growth proceeds from top to bottom. The proximodistal pattern is the sequence in which growth starts at the center of the body and moves toward the extremities.
- The average North American newborn is 20 inches long and weighs 7 pounds. Infants grow about 1 inch per month in the first year and nearly triple their weight by their first birthday. The rate of growth slows in the second year.
- One of the most dramatic changes in the brain in the first two years of life is dendritic spreading, which increases the connections between neurons. Myelination, which speeds the conduction of nerve impulses, continues through infancy and even into adolescence. The cerebral cortex has two hemispheres (left and right). Lateralization refers to specialization of function in one hemisphere or the other. Early experiences play an important role in brain development. Neural connections are formed early in an infant's life. Before birth, genes mainly direct neurons to different locations. After birth, the inflowing stream of sights, sounds, smells, touches, language, and eye contact help shape the brain's neural connections, as does stimulation from caregivers and others. The

system connects the chapter opening outline, learning goals for the chapter, mini-chapter maps that open each main section of the chapter, *Review, Connect, and Reflect* questions at the end of each main section, and the chapter summary at the end of each chapter.

The learning system keeps the key ideas in front of the student from the beginning to the end of the chapter. The main headings of each chapter correspond to the learning goals that are presented in the chapter-opening spread. Mini-chapter maps that link up with the learning goals are presented at the beginning of each major section in the chapter.

Then, at the end of each main section of a chapter, the learning goal is repeated in *Review, Connect, and Reflect,* which prompts students to review the key topics in the section, connect to existing knowledge, and relate what they learned to their own personal journey through life. *Reach Your Learning Goals,* at the end of the chapter, guides students through the bulleted chapter review, connecting with the chapter outline/learning goals at the beginning of the chapter and the *Review, Connect, and Reflect* questions at the end of major chapter sections.

connecting through research

How Does the Quality and Quantity of Child Care Affect Children?

In 1991, the National Institute of Child Health and Human Development (NICHD) began a comprehensive, longitudinal study of child-care experiences. Data were collected on a diverse sample of almost 1,400 children and their families at 10 locations across the United States over a period of seven years. Researchers used multiple methods (trained observers, interviews, questionnaires, and testing) and measured many facets of children's development, including physical health, cognitive development, and socioemotional development. Following are some of the results of what is now referred to as the NICHD Study of Early Child Care and Youth Development or NICHD SECCYD (NICHD Early Child Care Research Network, 2001, 2002, 2003, 2004, 2005, 2006, 2010).

- ***Patterns of use.*** Many families placed their infants in child care very soon after the child's birth, and there was considerable instability in the child-care arrangements. By 4 months of age, nearly three-fourths of the infants had entered some form of nonmaternal child care. Almost half of the infants were cared for by a relative when they first entered care; only 12 percent were enrolled in child-care centers.

Socioeconomic factors were

What are some important findings from the national longitudinal study of child care conducted by the National Institute of Child Health and Human Development?

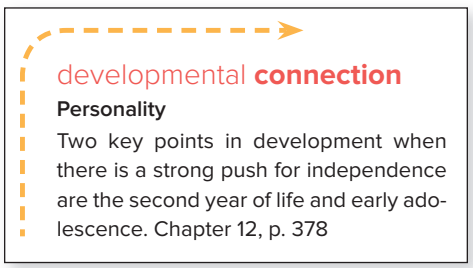
and flat affect, and language stimulation). Further, infants from low-income families experienced lower-quality child care than did infants from higher-income families. When quality of caregivers' care was high, children performed better on cognitive and language tasks, were more cooperative with their mothers during play, showed more positive and skilled interaction with peers, and had fewer behavior problems. Caregiver training and good child-staff ratios were linked with higher cognitive and social competence when children were 54 months of age. Using data collected as part of the NICHD early child care longitudinal study, a recent analysis indicated that higher-quality early childhood care, especially at 27 months of age, was linked to children's higher vocabulary scores in the fifth grade (Belsky & others, 2007).

Higher-quality child care was also related to higher-quality mother-child interaction among the families that used nonmaternal care. Further, poor-quality care was related to an increase of insecure attachment to the mother among infants who were 15 months of age, but only when the mother was low in sensitivity and responsiveness. However, child-care quality was not linked to attachment security at 36 months of age. A recent study revealed that

Connecting Research to What We Know about Development

Over the years, it has been important for me to include the most up-to-date research available. I continue that tradition in this edition by looking closely at specific areas of research, involving experts in related fields, and updating research throughout. ***Connecting Through Research*** describes a study or program to illustrate how research in life-span development is conducted and how it influences our understanding of the discipline. Topics range from *Do Children Conceived through In Vitro Fertilization Show Significant Differences in Developmental Outcomes in Adolescence?* (Chapter 2) to *How Much Does the Environment Affect Intelligence*? (Chapter 9) to *What Is the Relationship Between Fitness in Young Adults and Cardiovascular Health in Middle Age?* (Chapter 15).

The tradition of obtaining detailed, extensive input from a number of leading experts in different areas of life-span development also continues in this edition. Biographies and photographs of the leading experts in the field of life-span development appear on pages xiii to xiv, and the chapter-by-chapter highlights of new research content are listed on pages xxiii to xxvii. Finally, the research discussions have been updated in every period and topic. I expended every effort to make this edition of *Life-Span Development* as contemporary and up-to-date as possible. To that end, there are more than 1,900 citations from 2013, 2014, and 2015 in the text.


developmental **connection**

Personality

Two key points in development when there is a strong push for independence are the second year of life and early adolescence. Chapter 12, p. 378

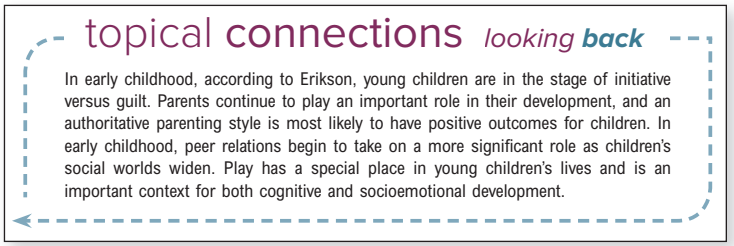
Connecting Developmental Processes

Development through the life span is a long journey, and too often we forget or fail to notice the many connections from one point in development to another. I have substantially increased these connections made in the text narrative and included features to help students connect topics across the periods of development.

Developmental Connections, which appear multiple times in each chapter, point readers to where the topic is discussed in a previous or subsequent chapter. *Developmental Connections* highlight links across age periods of development *and* connections between biological, cognitive, and socioemotional processes. These key developmental processes are typically discussed in isolation from each other, and students often fail to see their connections. Included in the *Developmental Connections* is a brief description of the backward or forward connection. For example, consider the development of the brain. In recent editions, I have significantly expanded content on the changes in the brain through the life span, including new coverage of changes in the brain during prenatal development and an expanded discussion of the aging brain in older adults. The prenatal brain discussion appears in Chapter 3 and the aging brain is described in Chapter 17. An important brain topic that we discuss in Chapters 3 and 17 is neurogenesis, the production of new neurons. Connections between these topics in Chapters 3 and 17 are highlighted through *Developmental Connections*.

Topical Connections: Looking Back begin and conclude each chapter by placing the chapter's coverage in the larger context of development. The Looking Back section reminds the reader of what happened developmentally in previous periods of development.

Finally, a *Connect* question appears in the section self-reviews—*Review, Connect, and Reflect*—so students can practice making connections between topics. For example, in Chapter 9, students are asked to connect what they learned in Chapter 7 about the genetic links of autism to what they have just read about specific brain abnormalities associated with autism spectrum disorders.

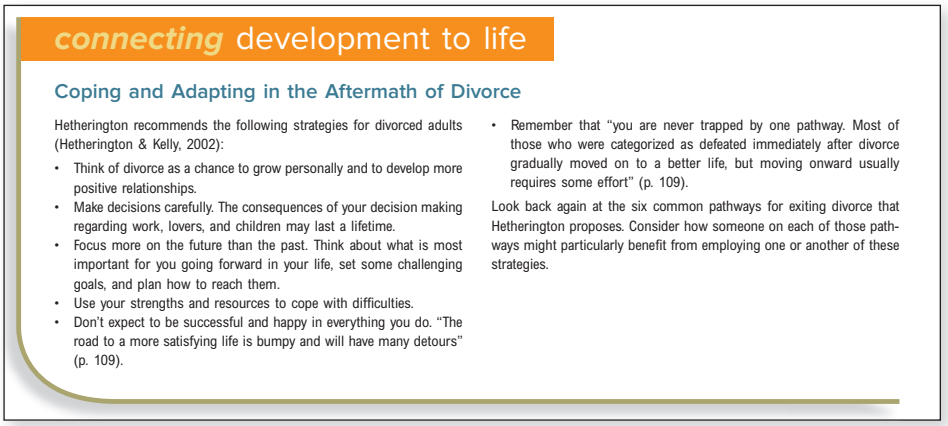


Connecting Development to the Real World

In addition to helping students make research and developmental connections, *Life-Span Development* shows the important connections between the concepts discussed and the real world. In recent years, students in my life-span development course have increasingly told me that they want more of this type of information. In this edition, real-life connections are explicitly made through the chapter opening vignette, *Connecting Development to Life,* the *Milestones* program that helps students watch life as it unfolds, and *Connecting with Careers*.

Each chapter also begins with a story designed to increase students' interest and motivation to read the chapter. For example, Chapter 18 begins with a description of the remarkable 93-year-old Helen Small, who published her first book at age 91 and completed her undergraduate degree 70 years after she started.

Connecting Development to Life describes the influence of development in a real-world context on topics including *From Waterbirth to Music Therapy* (Chapter 3), *Increasing Children's Self-Esteem* (Chapter 10), and *Health Care Providers and Older Adults* (Chapter 17).



The ***Milestones*** program, described on pg. xviii, shows students what developmental concepts look like by letting them watch actual humans develop. Starting from infancy, students track several individuals, seeing them achieve major developmental milestones, both physically and cognitively. Clips continue through adolescence and adulthood, capturing attitudes toward issues such as family, sexuality, and death and dying.

Connecting with Careers profiles careers ranging from an educational psychologist (Chapter 1) to a toy designer (Chapter 7) to a marriage and family therapist (Chapter 8) to the director of an organization that promotes positive adolescent development (Chapter 11)

connecting with careers

Karen Fingerman, Professor, Department of Human Development and Family Sciences, and Researcher on Families and Aging

Dr. Karen Fingerman is a leading expert on aging, families, and socioemotional development. She currently is a Professor in the Department of Human Development and Family Sciences within the School of Human Ecology at the University of Texas at Austin. Prior to coming to UT-Austin, she was the Berner Hanley Professor of Gerontology at Purdue University. Dr. Fingerman obtained her Ph.D. from the University of Michigan and did post-doctoral work at Stanford University. She has published numerous articles on the positive and negative aspects of relationships involving mothers and daughters, grandparents and grandchildren, friends, and acquaintances, and peripheral social ties. The National Institute of Aging, the Brookdale Foundation, and the MacArthur Transitions to Adulthood group have funded her research. Dr. Fingerman has received the Springer Award for Early Career Achievement in Research on Adult Development and Aging from the American Psychological Association, as well as the Margaret Baltes Award for Early Career Achievement in Behavioral and Social Gerontology from the Gerontological Association of America.

Dr. Karen Fingerman, leading expert on aging, families, and socioemotional development. Also you can use the following from what was in the previous Connecting with Careers on p. 528 of LSD 14th: *For more information on what professors and researchers do, see page 41 in the Careers in Life-Span Development appendix.*

to a geriatric nurse (Chapter 17), each of which requires knowledge about human development.

The careers highlighted extend from the Careers Appendix in Chapter 1 that provides a comprehensive overview of careers in life-span development to show students where knowledge of human development could lead them.

Part of applying development to the real world is understanding its impact on oneself. An important goal I have established for my life-span development course and this text is to motivate students to think deeply about their own journey of life. To further encourage students to make personal connections to content in the text, *Reflect: Your Own Personal Journey of Life* appears in the end-of-section review in each chapter. This feature involves a question that asks students to reflect on some aspect of the discussion in the section they have just read and connect it to their own life. For example, in Chapter 1, students are asked:

Do you think there is, was/will be a best age for you to be? If so, what is it? Why?

I always include this question in the first content lecture I give in life-span development and it generates thoughtful and interesting class discussion. Earlier in that section of Chapter 1 is a research discussion on whether there is a best age to be, which includes recent research on the topic and a self-assessment that lets students evaluate their own life satisfaction. In addition, students are asked a number of personal connections questions in the photograph captions.

Content Revisions

A significant reason why *Life-Span Development* has been successfully used by instructors for fifteen editions now is the painstaking effort and review that goes into making sure the text provides the latest research on all topic areas discussed in the classroom. This new edition is no exception, with more than 1,900 citations from 2013, 2014, and 2015.

New research highlights include very recent studies on outcomes of adoption; links of infant attachment (including attachment to both parents) to developmental outcomes; whether delay of gratification in early childhood can predict physical and mental health in adulthood; more precise discoveries about the adolescent's changing brain; cohabitation contexts that are or are not linked to divorce; the far-reaching benefits of exercise in the lives of older adults; and genetic, cellular, and lifestyle factors that characterize individuals with Alzheimer disease. **New techniques** are described, such as neurofeedback and mindfulness training to reduce ADHD symptoms; and **ongoing debates** are explored, such as whether supportive or tiger parenting is better for Chinese American children, and if adolescence is taking too long.

Below is a sample of the many chapter-by-chapter changes that were made in this new edition of *Life-Span Development*. A more extensive, detailed list of chapter-by-chapter changes can be obtained by contacting your McGraw-Hill sales representative.

Chapter 1: Introduction

- Expanded and updated coverage of ethnic minority children and children living in poverty
- Discussion of Ann Masten's recent research on resilience, including the lives of homeless children
- New description of Robert Siegler's microgenetic method for studying cognitive changes
- Expanded content on physiological assessment of development, including cortisol, EEG, heart rate, and eye movement

Chapter 2: Biological Beginnings

- Extensive editing and updating based on feedback from leading experts Kirby Deater-Deckard and David Moore
- Expanded coverage of recently developed genetic methods, including linkage analysis, next-generation sequencing, and the Thousand Genomes Project
- Updated and expanded content on gene-gene interaction to include alcoholism and Alzheimer disease
- Significantly updated information about adoption, including Harold Grotevant's recent research review on adoption outcomes, as well as "open adoption"
- New discussion of the challenges identical twins face in developing a unique identity
- Updated and expanded coverage of gene-environment interaction research, including some difficulties in replicating results

Chapter 3: Prenatal Development and Birth

- Updated research on substances and stress hormones that can cross the placenta
- New research on outcomes for offspring of women who drank various amounts of alcohol during pregnancy
- Inclusion of recent research on the negative effects on the fetus of maternal overweight and obesity during pregnancy
- Coverage of recent research on the effects of maternal stress and depression on the fetus and infant outcomes
- Extensive updating of research on prenatal care, including pregnant women's exercise and CenteringPregnancy outcomes
- Inclusion of recent research on doulas
- Discussion of an extensive number of new research studies on reducing negative outcomes for preterm and low birth weight infants
- Updated research on the positive effects of kangaroo care
- Much expanded and updated research on postpartum depression

Chapter 4: Physical Development in Infancy

- Inclusion of information on the development of the brain by leading expert Martha Ann Bell
- New Figure 4.3 that shows a new imaging device, magnetoencephalography (MEG), being used in Patricia Kuhl's laboratory while an infant listens to spoken words
- New section on links between infant sleep and cognitive development
- Editing and changes made to the material on infant perceptual development based on leading expert Scott Johnson's feedback
- Much expanded and updated coverage of the dramatic increase in the use of sophisticated eye-tracking equipment in the study of infant perception
- New coverage of Karen Adolph's recent research indicating why infants do or do not cross the visual cliff
- New discussion of Daphne Maurer's research on infants who have cataracts removed at different points in development and links to how deprivation and experience influence visual development

Chapter 5: Cognitive Development in Infancy

- Inclusion of recent research on how preverbal infants as young as 4 months of age may show an innate sense of morality
- Expanded criticism of the nativist approach to infant cognition
- Coverage of recent research on infant attention and links to executive function in the preschool years
- New discussion of how infants in the second half of the first year rely on the co-occurrence of phonemes and syllables to help them extract potential word forms
- Description of recent research on child-directed speech in low-SES Spanish-speaking families

Chapter 6: Socioemotional Development in Infancy

- Expanded and updated discussion of infants' biological recovery from stressors and the role that caregivers play in the recovery
- Inclusion of recent research on infants' possible display of jealousy-related behavior and changes in the infants' EEG patterns
- Description of recent research on infants' emotions, including how babies pick up on their mothers' stress and negative emotion, the role of maternal effortful control in infant emotion, and parents' elicitation of emotion talk and its link to toddlers' sharing and helping behaviors
- Updates on developmental outcomes of infant attachment, including a recent study showing that infants' insecure attachment to both their mother and father is linked to more externalizing problems later in childhood, along with a research review of stability and change in attachment from infancy to early adulthood
- New discussion of the inconsistency in gene-environment interaction studies related to infant attachment
- Inclusion of recent research on the role of fathers in infant development
- Updates on research on variations in child care and links to child outcomes

Chapter 7: Physical and Cognitive Development in Early Childhood

- New section on changes in perceptual development in early childhood
- Inclusion of a number of recent studies of sleep duration in early childhood and its link to various outcomes, as well as leading expert Mona El-Sheikh's recommendations for improving children's sleep environment
- Expanded and updated coverage of recent trends in overweight and obesity in early childhood and connections with later outcomes
- Coverage of a number of recent studies on the positive role of exercise and physical activity in young children's lives
- Inclusion of new information on young children's cognitive development based on leading expert Philip Zelazo's feedback
- Expanded discussion of Vygotsky's theory, including factors that influence the zone of proximal development and the positive role of scaffolding
- Expanded and updated coverage of sustained attention in young children
- New section on young children's autobiographical memories
- Expanded and updated coverage of delay of gratification, including recent research on connections of delay of gratification in early childhood to outcomes three decades later
- Inclusion of recent research on theory of mind, including the role of language and links to executive function
- Coverage of recent research on Head Start participation and Early Head Start outcomes

Chapter 8: Socioemotional Development in Early Childhood

- Discussion of recent research that found young children's ability to understand their own and others' emotions preceded advances in theory of mind
- Description of recent research on children's emotion regulation
- New *Connecting Through Research* box that details Dan McCoy and Cybele Raver's research on links between caregiver expressiveness, children's emotion expression, and children's internalizing and externalizing problems
- Coverage of recent research that found parents were more satisfied with their lives than were nonparents
- Updated discussion of punishment's effects on children, including commentary from a recent research review by Elizabeth Gershoff
- Expanded description of family-related factors that contribute to child maltreatment and recent research linking child maltreatment to depression in early adulthood
- Coverage of recent research on the positive aspects of gay and lesbian parenting, including higher rates of co-parenting compared with heterosexual parents
- Expanded and updated content on the stressors that immigrant families face, as well as a new discussion of transnational parents
- Description of a recent meta-analysis of research in 14 countries indicating positive effects of *Sesame Street* viewing in a number of areas of children's development

Chapter 9: Physical and Cognitive Development in Middle and Late Childhood

- Coverage of a number of recent research studies on the positive outcomes of exercise for elementary-school-aged children
- Inclusion of recent research on the negative outcomes of extensive screen time in the lives of children
- Updated research on ADHD, including executive function deficits, links of stimulant drug use to substance abuse later in development, and the role of neurofeedback, mindfulness training, and exercise in reducing ADHD symptoms
- New discussion of autobiographical memories, including how they change from early childhood to adolescence and cultural variations
- Description of recent research on children's working memory
- Inclusion of recent ideas on the use of mindfulness training, as well as other aspects of contemplative science such as yoga, to improve children's cognitive and socioemotional skills
- New coverage of the underrepresentation of ethnic minority children in programs for children who are gifted
- New discussion of the role that metacognitive strategies play in children's writing
- Updated and revised content on English language learners (ELL)

Chapter 10: Socioemotional Development in Middle and Late Childhood

- Expanded and updated coverage of the consequences of low self-esteem for children
- Discussion of recent research on the negative outcomes of giving inflated praise to children
- Recent research that revealed self-regulation was a protective factor in helping children in low-income circumstances to avoid developing emotional problems
- New content on gender in school and achievement contexts, including research on same-sex schools
- Updated information about gender differences in the brain
- New research linking low peer status in childhood with work and mental health problems in early adulthood
- Considerable research updates on bullying, including outcome for victims and also the increasing incidence of cyberbullying and its effects on children
- New coverage of two recent books on the strong disciplinarian orientation of Chinese parents
- New *Connecting Through Research* box that describes the research of Eva Pomerantz and her colleagues on the role of parenting in children's learning and achievement
- Inclusion of recent research that found supportive parenting, not tiger parenting, was the most common type of parenting used by Chinese American parents and tiger parenting was associated with negative academic and emotional outcomes

Chapter 11: Physical and Cognitive Development in Adolescence

- Inclusion of changes based on feedback from leading experts Elizabeth Susman and Bonnie Halpern-Felsher
- Revised definition of puberty to include neuroendocrine processes
- Description of recent research on negative sexual relationships of early-maturing girls
- New commentary on the developmental trajectory of the adolescent brain occurring in a bottom-up, top-down sequence
- Updated and revised content on changes in the limbic system and their role in the influence of reward during adolescence
- New discussion of increased focal activity within a brain region and increasing connectedness across more distant brain regions during adolescence
- New closing statement about research on the adolescent brain being correlational in nature
- Updated data on the sexual activity of U.S. adolescents, including risk factors, condom use, and pregnancy
- Coverage of a number of recent studies on the positive outcomes of exercise during adolescence and the negative outcomes for high levels of screen activity
- New discussion of the role peers play in adolescents' exercise
- Updated data on adolescent substance use and risk factors for substance abuse
- Inclusion of some changes in the description of cognitive development based on leading expert Valerie Reyna's feedback
- New content on whether social media serve as an amplification vehicle for adolescent egocentrism
- New *Connecting with Careers* box on an individual's work to improve young adolescents' science education
- Inclusion of recent research on the positive outcomes of volunteering in adolescence

Chapter 12: Socioemotional Development in Adolescence

- Substantially updated and expanded discussion of cultural and ethnic identity
- New research on the positive outcomes of parental monitoring
- Coverage of recent research on the positive outcomes of adolescent self-disclosure to parents
- Inclusion of recent research on parent-adolescent conflict, including such conflict in immigrant families and links to negative outcomes
- Considerably expanded and updated material on the role of immigration in adolescent development, including the complexity of immigration, parents' level of education, and stressful circumstances
- Updated data on the number of juvenile delinquency cases handled by U.S. courts
- New research on depression and suicide, including links to outcomes of adolescent depression later in development, family factors, victims of dating violence, peer victimization, and cyberbullying
- Updated research on outcomes of the Fast Track delinquency intervention study

Chapter 13: Physical and Cognitive Development in Early Adulthood

- New coverage of Joseph and Claudia Allen's book, *Escaping the Endless Adolescence*, which chronicles how adolescence today is taking too long
- New research on the negative outcomes of chronic sleep deprivation
- Updated content on overweight and obesity trends in college and early adulthood
- New research on binge drinking in emerging adulthood
- Inclusion of recent research on sexual risk factors, such as those involving hooking up and "friends with benefits" relationships in emerging adulthood, as well as gender differences in sexual encounters
- New commentary about how many individuals increasingly are working at a series of jobs and short-term jobs
- Updated data on the percentage of full-time and part-time college students who work while attending college
- Inclusion of recent research on factors that predict unemployment and links between unemployment and increased rates of cardiovascular disease

Chapter 14: Socioemotional Development in Early Adulthood

- Substantially updated discussion of research on connections between attachment earlier in development and adult attachment
- New content on whether online dating is a good idea and recent research on links between online dating and marital satisfaction
- Inclusion of recent research on various aspects of cohabitation, including contextual variations in whether prior cohabitation is likely to determine whether marriages survive or not
- New research on the high expectations newly married individuals have for the success of their marriage, including which individuals' forecasts are most often too optimistic
- Updated data on the percentage of marriages that are likely to end in divorce within 20 years, as well as other recent data on marriage and divorce rates
- Expanded discussion of the negative outcomes of divorce on physical and psychological well-being
- New research exploring how attitudes about divorce, marital quality, and divorce proneness differ for remarried individuals and couples in first marriages

Chapter 15: Physical and Cognitive Development in Middle Adulthood

- Coverage of a recent British study on when middle age begins and what characterizes it
- Discussion of recent research on many facets of obesity and cardiovascular disease in middle age, including new content on resistant hypertension
- New research on sleep-related problems in middle age
- New description of research by Sheldon Cohen and his colleagues showing that stress, emotion, and lack of social support interfere with immune system functioning
- Inclusion of recent research on chronic stress and its links to lower cognitive functioning and a decline in immune system functioning
- New research on factors such as aerobic training and yoga that are associated with a decrease in menopausal symptoms
- Description of recent research on various aspects of hormone replacement therapy (HRT) and its outcomes
- New coverage of the increased use of testosterone therapy with middle-aged men and its outcomes in areas such as sexual functioning and memory
- New discussion of leading Finnish expert Clas-Haken Nygard's research indicating that the ability to work effectively peaks in middle age and explaining why this is so
- Recent data on age variations in the percentage of U.S. adults who have a religious affiliation

Chapter 16: Socioemotional Development in Middle Adulthood

- New research on emotional reactivity to daily stressors and links to health outcomes
- Inclusion of recent research studies on daily stressors and their link to cortisol secretion
- Updated commentary on stability or changes in a positive direction (lower neuroticism, for example) being associated with better health and more competent functioning
- Coverage of recent research on individuals' perceptions of the extent to which their personality changed in the past and is likely to change in the future, as well as how accurate they were about such estimations
- Recent research on outcomes for women who get divorced in middle age
- Inclusion of recent research about middle-aged adults' views on providing support for emerging adult children and aging parents

Chapter 17: Physical Development in Late Adulthood

- Updated life expectancy data, including Latinos' higher life expectancy than non-Latino Whites and the narrowing life expectancy gap between men and women
- Coverage of a number of recent studies on centenarians, including genetic factors, compression of morbidity, as well as inclusion of the Georgia Centenarian Study and the Chinese Longitudinal Healthy Longevity Survey and comments by centenarians, including the person with the longest confirmed life span—Jeanne Louise Calment—about their views on life
- Expanded and updated discussion of sleep, including its link to falls and mild cognitive impairment
- Inclusion of recent research on hearing decline and cognitive functioning, language comprehension, and hearing aids
- New discussion and research on driving and its links to perceptual motor coupling, education, cognitive training, and processing speed
- Expanded and updated coverage of pain perception, persistent pain, most frequent pain complaints, and tolerance of pain
- Coverage of a number of recent studies on the benefits of exercise on aging, including the positive effects of long-term aerobic exercise and the stress-buffering aspects of exercise on mitochondrial functioning, cardiovascular and respiratory functioning, balance and strength, allocation of attention, and positive affect
- Recent research on obesity and links to mortality risk

Chapter 18: Cognitive Development in Late Adulthood

- Inclusion of recent research on allocation of attentional resources, selective attention and video game training to reduce distraction and increase alertness
- Coverage of a number of recent studies on memory, including episodic memory, working memory, and prospective memory
- New research on executive function, including links to falls and speed of processing training
- Inclusion of recent research on the influence of exercise on aging, including studies of tai chi training and executive function, cognitive flexibility, and mobility function

- Discussion of a recent research review on definitions of wisdom and links of wisdom to various outcomes in older adults
- Coverage of a recent research review indicating that exercise's positive link to cognition is associated with management of energy metabolism and synaptic plasticity
- Recent research by Denise Park and her colleagues on the positive effects of sustained engagement in cognitively demanding novel activities
- Discussion of recent research on the effects of video game training on older adults' cognitive skills
- Coverage of recent meta-examinations of four major longitudinal studies of cognitive aging
- Description of recent research on the positive effects of fish oil consumption on executive function
- Recent research on older adults working later in their lives and the role of working in a job with high cognitive demands
- New discussion of the role that bilingualism plays in delaying the onset of Alzheimer disease
- New discussion of the roles that tau and amyloid likely play in Alzheimer disease
- Inclusion of recent research on effects of attending religious services, links between religion/spirituality and longevity, and links between religious identification and health

Chapter 19: Socioemotional Development in Late Adulthood

- Recent research on the role of physical activity in life satisfaction and social interaction
- Inclusion of recent research on changes in peripheral social contacts and close relationships from 18 to 94 years of age
- New research on rates of positive emotion from 22 to 93 years of age, including the impact of the time of day when emotion is assessed
- Description of recent research on the role of self-control in older adults' engagement in physical activities
- Discussion of recent research on the Internet activity of older adults
- New section on attachment from early adulthood to late adulthood, including a recent research review of change across these age periods
- Inclusion of recent research on social activities, social isolation, and loneliness
- Description of recent studies on links between volunteering and mortality risk as well as the connection between psychological well-being and exercise

Chapter 20: Death, Dying, and Grieving

- Inclusion of recent research studies on advance care planning and the type of care people receive at the end of life
- Updated content on assisted suicide in various countries
- Recent research on links between older adults' bereavement and dysregulated cortisol patterns
- Updated discussion of prolonged grief disorder and the American Psychiatric Association's view on this disorder
- New description of what to say and what not to say to an individual who is grieving
- Coverage of recent research studies on widowhood and its links to longevity (including gender differences), depression and marital quality, bereavement, and expectations of being reunited with loved ones in the afterlife

Online Instructor Resources

The resources listed here accompany *Life-Span Development,* 15th edition. Please contact your McGraw-Hill representative for details concerning the availability of these and other valuable materials that can help you design and enhance your course.

Instructor's Manual Broken down by chapter, these include chapter outlines, suggested lecture topics, classroom activities and demonstrations, suggested student research projects, essay questions, and critical thinking questions.

Test Bank and Computerized Test Bank This comprehensive Test Bank includes more than 1,500 multiple-choice and approximately 75 essay questions. Organized by chapter, the questions are designed to test factual, applied, and conceptual understanding. All test questions are compatible with EZ Test, McGraw-Hill's Computerized Test Bank program.

PowerPoint Slides These presentations cover the key points of each chapter and include charts and graphs from the text. They can be used as is, or you may modify them to meet your specific needs.

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EXPERT CONSULTANTS

As I develop a new edition of this text, I consult with leading experts in their respective areas of life-span development. Their invaluable feedback ensures that the latest research, knowledge, and perspectives are presented throughout the text. Their willingness to devote their time and expertise to this endeavor is greatly appreciated. The Expert Consultants who contributed to this edition, along with their biographies and commentary, can be found on pages xiii-xv.

REVIEWERS

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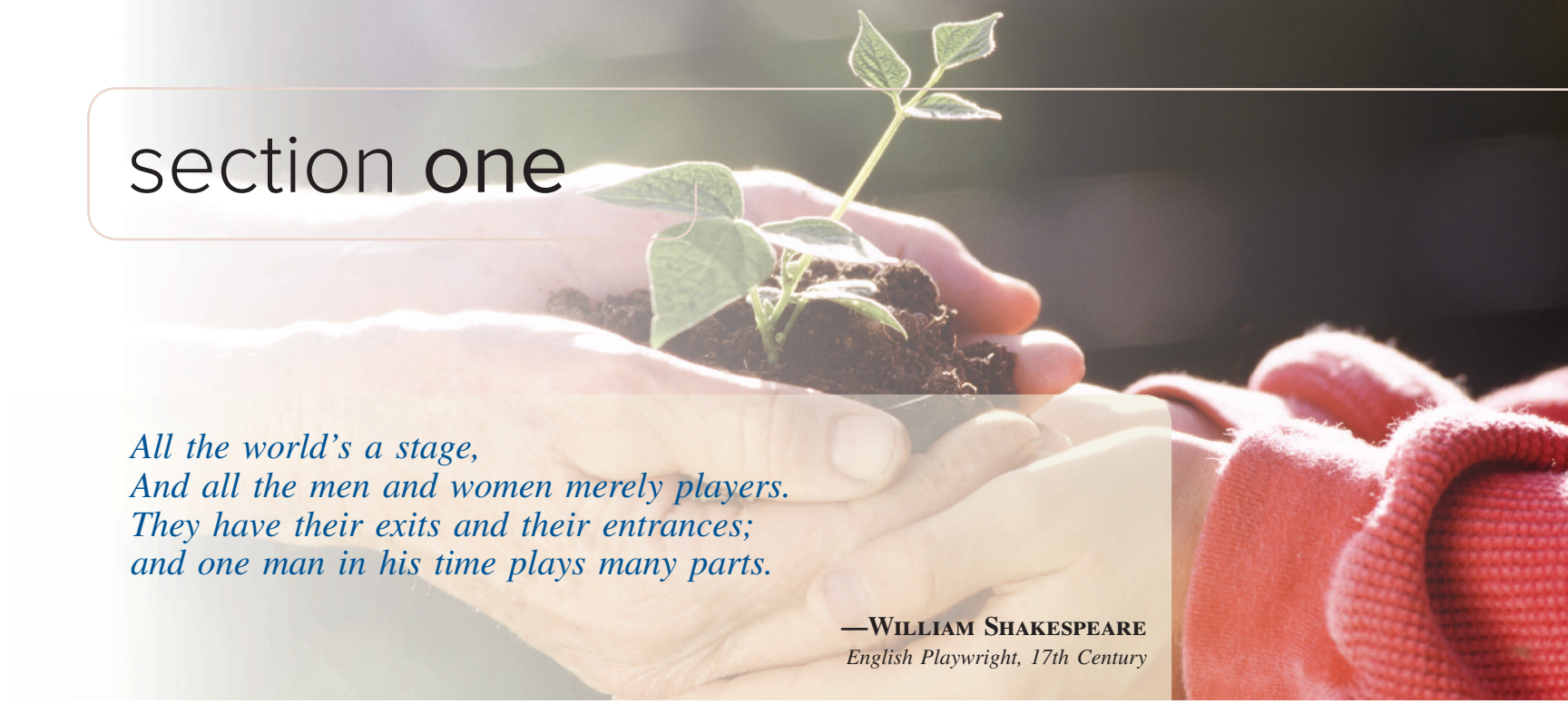
University—Kokomo; **Andrea Clements,** *East Tennessee State University;* **Meredith Cohen,** *University of Pittsburgh;* **Diane Cook,** *Gainesville College;* **Pamela Costa,** *Tacoma Community College;* **Ava Craig,** *Sacramento City College;* **Kathleen Crowley-Long,** *College of Saint Rose;* **Cynthia Crown,** *Xavier University;* **Jennifer Dale,** *Community College of Aurora;* **Dana Davidson,** *University of Hawaii—Manoa;* **Diane Davis,** *Bowie State University;* **Karen Davis,** *Chippewa Valley Technical College;* **Tom L. Day,** *Weber State University;* **Mehgen Delaney,** *College of the Canyons;* **Doreen DeSantio,** *West Chester University;* **Jill De Villiers,** *Smith College;* **Darryl M. Dietrich,** *College of St. Scholastica;* **Alisa Diop,** *The Community College of Baltimore County;* **Bailey Drechsler,** *Cuesta College;* **Joseph Durlack,** *Loyola University;* **Mary B. Eberly,** *Oakland University;* **Margaret Sutton Edmonds,** *University of Massachusetts–Boston;* **Glen Elder,** *University of North Carolina—Chapel Hill;* **Martha M. Ellis,** *Collin County Community College;* **Lena Eriksen,** *Western Washington University;* **Richard Ewy,** *Pennsylvania State University;* **Dan Fawaz,** *Georgia Perimeter College;* **Shirley Feldman,** *Stanford University;* **Roberta Ferra,** *University of Kentucky;* **Tiffany Field,** *University of Miami;* **Linda E. Flickinger,** *St. Claire Community College;* **Alan Fogel,** *University of Utah;* **Lynne Andreozzi Fontaine,** *Community College of Rhode Island;* **Tom Frangicetto,** *Northampton Community College;* **Kathleen Corrigan Fuhs,** *J. Sargeant Reynolds Community College;* **J. Steven Fulks,** *Utah State University;* **Cathy Furlong,** *Tulsa Junior College;* **Duwayne Furman,** *Western Illinois University;* **John Gat,** *Humboldt State University;* **Marvin Gelman,** *Montgomery County College;* **G.R. Germo,** *University of California—Irvine;* **Rebecca J. Glare,** *Weber State College;* **David Goldstein,** *Temple University;* **Arthur Gonchar,** *University of LaVerne;* **Judy Goodell,** *National University;* **Mary Ann Goodwyn,** *Northeast Louisiana University;* **Caroline Gould,** *Eastern Michigan University;* **Julia Graber,** *Columbia University;* **Peter C. Gram,** *Pensacola Junior College;* **Dan Grangaard,** *Austin Community College;* **Tom Gray,** *Laredo Community College;* **Michele Gregoire,** *University of Florida—Gainesville;* **Michael Green,** *University of North Carolina;* **Rea Gubler,** *Southern Utah University;* **Gary Gute,** *University of Northern Iowa;* **Laura Hanish,** *Arizona State University;* **Ester Hanson,** *Prince George's Community College;* **Marian S. Harris,** *University of Illinois—Chicago;* **Yvette R. Harris,** *Miami University of Ohio;* **Amanda W. Harrist,** *Oklahoma State University;* **Robert Heavilin,** *Greater Hartford Community College;* **Donna Henderson,** *Wake Forest University;* **Debra Hollister,** *Valencia Community College;* **Heather Holmes-Lonergan,** *Metropolitan State College of Denver;* **Ramona O. Hopkins,** *Brigham Young University;* **Donna Horbury,** *Appalachian State University;* **Susan Horton,** *Mesa Community College;* **Sharon C. Hott,** *Allegany College of Maryland;* **John Hotz,** *Saint Cloud State University;* **Tasha Howe,** *Humboldt State University;* **Kimberley Howe-Norris,** *Cape Fear Community College;* **Stephen Hoyer,** *Pittsburgh State University;* **Charles H. Huber,** *New Mexico State University;* **Kathleen Day Hulbert,** *University of Massachusetts–Lowell;* **Derek Isaacowitz,** *Brandeis University;* **Kathryn French Iroz,** *Utah Valley State College;* **Terry Isbell,** *Northwestern State University of Louisiana;* **Erwin Janek,** *Henderson State University;* **Jamia Jasper Jacobsen,** *Indiana University-Purdue University Indianapolis;* **Christina Jose-Kampfner,** *Eastern Michigan University;* **Ursula Joyce,** *St. Thomas Aquinas College;* **Barbara Kane,** *Indiana State University;* **Ulas Kaplan,** *Harvard University;* **Kevin Keating,** *Broward Community College;* **James L. Keeney,** *Middle Georgia College;* **Elinor Kinarthy,** *Rio Hondo College;* **Karen Kirkendall,** *Sangamon State University;* **A. Klingner,** *Northwest Community College;* **Steven J. Kohn,** *Nazareth College;* **Amanda Kowal,** *University of Missouri;* **Jane Krump,** *North Dakota State College of Science;* **Nadene L'Amoreaux,** *Indiana University of Pennsylvania;* **Gisela Labouvie-Vief,** *Wayne State University;* **Joseph C. LaVoie,** *University of Nebraska—Omaha;* **Kathy Lein,** *Community College of Denver;* **Jean Hill Macht,** *Montgomery County Community College;* **Salvador Macias,** *University of South Carolina—Sumter;* **Karen Macrae,** *University of South Carolina;* **Christine Malecki,** *Northern Illinois University;* **Kathy Manuel,** *Bossier Parish Community College;* **James Marcia,** *Simon Fraser University;* **Myra Marcus,** *Florida Gulf Coast University;* **Carrie Margolin,** *The Evergreen State College;* **Allan Mayotte,** *Riverland Community College;* **Susan McClure,** *Westmoreland Community College;* **Dorothy H. McDonald,** *Sandhills Community College;* **Robert C. McGinnis,** *Ancilla College;* **Clara McKinney,** *Barstow College;* **Robert McLaren,** *California State University—Fullerton;* **Deborah H. McMurtrie,** *University of South Carolina—*

Aiken; **Sharon McNeeley,** *Northeastern Illinois University;* **Daysi Mejia,** *Florida Gulf Coast University;* **Kathleen Mentink,** *Chippewa Valley Technical College;* **James Messina,** *University of Phoenix;* **Heather E. Metcalfe,** *University of Windsor;* **Karla Miley,** *Black Hawk College;* **Jessica Miller,** *Mesa State College;* **Scott Miller,** *University of Florida;* **Teri M. Miller-Schwartz,** *Milwaukee Area Technical College;* **David B. Mitchell,** *Loyola University;* **Joann Montepare,** *Emerson College;* **Gary T. Montgomery,** *University of Texas—Pan American;* **Martin D. Murphy,** *University of Akron;* **Malinda Muzi,** *Community College of Philadelphia;* **Gordon K. Nelson,** *Pennsylvania State University;* **Michael Newton,** *Sam Houston State University;* **Charisse Nixon,** *Pennsylvania State University—Erie;* **Beatrice Norrie,** *Mount Royal College;* **Jean O'Neil,** *Boston College;* **Laura Overstreet,** *Tarrant County College–Northeast;* **Karla Parise,** *The Community College of Baltimore County—Essex;* **Jennifer Parker,** *University of South Carolina;* **Barba Patton,** *University of Houston–Victoria;* **Susan Perez,** *University of North Florida;* **Pete Peterson,** *Johnson County Community College;* **Richard Pierce,** *Pennsylvania State University–Altoona;* **David Pipes,** *Caldwell Community College;* **Leslee Pollina,** *Southeast Missouri State University;* **Robert Poresky,** *Kansas State University;* **Christopher Quarto,** *Middle Tennessee State University;* **Bob Rainey,** *Florida Community College;* **Nancy Rankin,** *University of New England;* **H. Ratner,** *Wayne State University;* **Cynthia Reed,** *Tarrant County College–Northeast;* **James Reid,** *Washington University;* **Amy Reesing,** *Arizona University;* **Russell Riley,** *Lord Fairfax Community College;* **Mark P. Rittman,** *Cuyahoga Community College;* **Cathie Robertson,** *Grossmont College;* **Clarence Romeno,** *Riverside Community College;* **Paul Roodin,** *SUNY–Oswego;* **Ron Rossac,** *University of North Florida;* **Peggy Russell,** *Indiana River State College;* **Julia Rux,** *Georgia Perimeter College;* **Carolyn Saarni,** *Sonoma State University;* **Karen Salekin,** *University of Alabama;* **Gayla Sanders,** *The Community College of Baltimore County–Essex;* **Toru Sato,** *Shippensburg University;* **Nancy Sauerman,** *Kirkwood Community College;* **Cynthia Scheibe,** *Ithaca College;* **Robert Schell,** *SUNY–Oswego;* **Rachel Schremp,** *Santa Fe Community College;* **Pamela Schuetze,** *Buffalo State College;* **Edythe Schwartz,** *California State University—Sacramento;* **Lisa Scott,** *University of Minnesota–Twin Cities;* **Owen Sharkey,** *University of Prince Edward Island;* **Elisabeth Shaw,** *Texarkana College;* **Susan Nakayama Siaw,** *California State Polytechnical University;* **Jessica Siebenbruner,** *Winona State College;* **Vicki Simmons,** *University of Victoria;* **Gregory Smith,** *University of Maryland;* **Jon Snodgrass,** *California State University–Los Angeles;* **Donald Stanley,** *North Dallas Community College;* **Jean A. Steitz,** *University of Memphis;* **Terre Sullivan,** *Chippewa Valley Technical College;* **Collier Summers,** *Florida Community College at Jacksonville;* **Barbara Thomas,** *National University;* **Stacy D. Thompson,** *Oklahoma State University;* **Debbie Tindell,** *Wilkes University;* **Stephen Truhon,** *Winston-Salem State University;* **James Turcott,** *Kalamazoo Valley Community College;* **Marian Underwood,** *University of Texas—Dallas;* **Dennis Valone,** *Pennsylvania State University—Erie;* **Gaby Vandergiessen,** *Fairmount State College;* **Elisa Velasquez,** *Sonoma State University;* **Stephen Werba,** *The Community College of Baltimore County—Catonsville;* **B. D. Whetstone,** *Birmingham Southern College;* **Susan Whitbourne,** *University of Massachusetts—Amherst;* **Nancy C. White,** *Reynolds Community College;* **Lyn W. Wickelgren,** *Metropolitan State College;* **Ann M. Williams,** *Luzerne County Community College;* **Myron D. Williams,** *Great Lakes Bible College;* **Linda B. Wilson,** *Quincy College;* **Mark Winkel,** *University of Texas—Pan American;* **Mary Ann Wisniewski,** *Carroll College.*



section one

All the world's a stage,
And all the men and women merely players.
They have their exits and their entrances;
and one man in his time plays many parts.

—**William Shakespeare**
English Playwright, 17th Century

The Life-Span Perspective

This book is about human development—its universal features, its individual variations, its nature. Every life is distinct, a new biography in the world. Examining the shape of life-span development allows us to understand it better. *Life-Span Development* is about the rhythm and meaning of people's lives, about turning mystery into understanding, and about weaving a portrait of who each of us was, is, and will be. In Section 1, you will read the "Introduction" (Chapter 1).

chapter 1

INTRODUCTION

chapter **outline**

1 The Life-Span Perspective

Learning Goal 1 Discuss the distinctive features of a life-span perspective on development.

The Importance of Studying Life-Span Development
Characteristics of the Life-Span Perspective
Some Contemporary Concerns

2 The Nature of Development

Learning Goal 2 Identify the most important processes, periods, and issues in development.

Biological, Cognitive, and Socioemotional Processes
Periods of Development
The Significance of Age
Developmental Issues

3 Theories of Development

Learning Goal 3 Describe the main theories of human development.

Psychoanalytic Theories
Cognitive Theories
Behavioral and Social Cognitive Theories
Ethological Theory
Ecological Theory
An Eclectic Theoretical Orientation

4 Research on Life-Span Development

Learning Goal 4 Explain how research on life-span development is conducted.

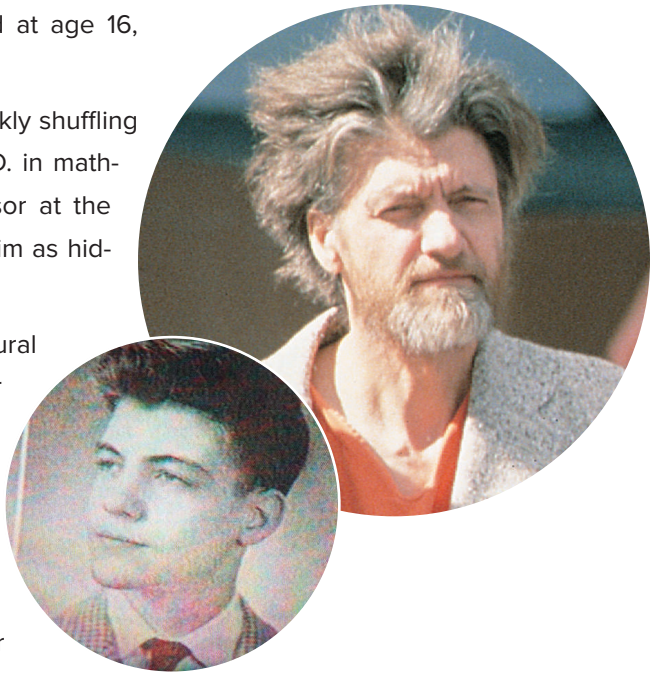
Methods for Collecting Data
Research Designs
Time Span of Research
Conducting Ethical Research
Minimizing Bias

Ted Kaczynski sprinted through high school, not bothering with his junior year and making only passing efforts at social contact. Off to Harvard at age 16, Kaczynski was a loner during his college years.

One of his roommates at Harvard said that he avoided people by quickly shuffling by them and slamming the door behind him. After obtaining his Ph.D. in mathematics at the University of Michigan, Kaczynski became a professor at the University of California at Berkeley. His colleagues there remember him as hiding from social contact—no friends, no allies, no networking.

After several years at Berkeley, Kaczynski resigned and moved to a rural area of Montana where he lived as a hermit in a crude shack for 25 years. Town residents described him as a bearded eccentric. Kaczynski traced his own difficulties to growing up as a genius in a kid's body and sticking out like a sore thumb in his surroundings as a child. In 1996, he was arrested and charged as the notorious Unabomber, America's most-wanted killer. Over the course of 17 years, Kaczynski had sent 16 mail bombs that left 23 people wounded or maimed and 3 people dead. In 1998, he pleaded guilty to the offenses and was sentenced to life in prison.

Ted Kaczynski, the convicted Unabomber, traced his difficulties to growing up as a genius in a kid's body and not fitting in when he was a child.



Ted Kaczynski, about age 15–16.

A decade before Kaczynski mailed his first bomb, Alice Walker spent her days battling racism in Mississippi. She had recently won her first writing fellowship, but rather than use the money to follow her dream of moving to Senegal, Africa, she put herself into the heart and heat of the civil rights movement. Walker had grown up knowing the brutal effects of poverty and racism. Born in 1944, she was the eighth child of Georgia sharecroppers who earned $300 a year. When Walker was 8, her brother accidentally shot her in the left eye with a BB gun. By the time her parents got her to the hospital a week later (they had no car), she was blind in that eye, and it had developed a disfiguring layer of scar tissue. Despite the counts against her, Walker overcame pain and anger and went on to win a Pulitzer Prize for her book *The Color Purple*. She became not only a novelist but also an essayist, a poet, a short-story writer, and a social activist.

Alice Walker won the Pulitzer Prize for her book *The Color Purple*. Like the characters in her book, Walker overcame pain and anger to triumph and celebrate the human spirit.

Alice Walker, about age 8.

preview

What leads one individual, so full of promise, to commit brutal acts of violence and another to turn poverty and trauma into a rich literary harvest? If you have ever wondered why people turn out the way they do, you have asked yourself the central question we will explore in this book. This book is a window into the journey of human development—your own and that of every other member of the human species. In this first chapter, we will explore what it means to take a life-span perspective on development, examine the nature of development, and outline how science helps us to understand it.

1 The Life-Span Perspective

LG1 Discuss the distinctive features of a life-span perspective on development.

The Importance of Studying Life-Span Development

Characteristics of the Life-Span Perspective

Some Contemporary Concerns

We reach backward to our parents and forward to our children, and through their children to a future we will never see, but about which we need to care.

—Carl Jung
Swiss Psychiatrist, 20th Century

Each of us develops partly like all other individuals, partly like some other individuals, and partly like no other individual. Most of the time our attention is directed to an individual's uniqueness. But as humans, we have all traveled some common paths. Each of us—Leonardo da Vinci, Joan of Arc, George Washington, Martin Luther King, Jr., and you—walked at about 1 year, engaged in fantasy play as a young child, and became more independent as a youth. Each of us, if we live long enough, will experience hearing problems and the death of family members and friends. This is the general course of our **development,** the pattern of movement or change that begins at conception and continues through the human life span.

In this section, we will explore what is meant by the concept of development and why the study of life-span development is important. We will outline the main characteristics of the life-span perspective and discuss various sources of contextual influences. In addition, we will examine some contemporary concerns in life-span development.

THE IMPORTANCE OF STUDYING LIFE-SPAN DEVELOPMENT

How might people benefit from examining life-span development? Perhaps you are, or will be, a parent or teacher. If so, responsibility for children is, or will be, a part of your everyday life. The more you learn about them, the better you can deal with them. Perhaps you hope to gain some insight about your own history—as an infant, a child, an adolescent, or a young adult. Perhaps you want to know more about what your life will be like as you grow through the adult years—as a middle-aged adult, or as an adult in old age, for example. Or perhaps you just stumbled onto this course, thinking that it sounded intriguing and that the study of the human life span might raise some provocative issues. Whatever your reasons for taking this course, you will discover that the study of life-span development is intriguing and filled with information about who we are, how we came to be this way, and where our future will take us.

Most development involves growth, but it also includes decline (as in dying). In exploring development, we will examine the life span from the point of conception until the time when life (or at least life as we know it) ends. You will see yourself as an infant, as a child, and as an adolescent, and be stimulated to think about how those years influenced the kind of individual you are today. And you will see yourself as a young adult, as a middle-aged adult, and as an adult in old age, and be motivated to think about how

development The pattern of change that begins at conception and continues through the life span. Most development involves growth, although it also includes decline brought on by aging and dying.

life-span perspective The perspective that development is lifelong, multidimensional, multidirectional, plastic, multidisciplinary, and contextual; involves growth, maintenance, and regulation; and is constructed through biological, sociocultural, and individual factors working together.

your experiences today will influence your development through the remainder of your adult years.

CHARACTERISTICS OF THE LIFE-SPAN PERSPECTIVE

Although growth and development are dramatic during the first two decades of life, development is not something that happens only to children and adolescents. The traditional approach to the study of development emphasizes extensive change from birth to adolescence (especially during infancy), little or no change in adulthood, and decline in old age. But a great deal of change does occur in the five or six decades after adolescence. The life-span approach emphasizes developmental change throughout adulthood as well as childhood (Freund & others, 2013; Schaie & Willis, 2014).

Recent increases in human life expectancy contributed to the popularity of the life-span approach to development. The upper boundary of the human life span (based on the oldest age documented) is 122 years, as indicated in Figure 1.1; this maximum life span of humans has not changed since the beginning of recorded history. What has changed is life expectancy—the average number of years that a person born in a particular year can expect to live. In the twentieth century alone, life expectancy in the United States increased by 31 years, thanks to improvements in sanitation, nutrition, and medicine (see Figure 1.2). In the first half of the second decade of the twenty-first century, the life expectancy in the United States is 78 years of age (U.S. Census Bureau, 2013). Today, for most individuals in developed countries, childhood and adolescence represent only about one-fourth of their lives.

The belief that development occurs throughout life is central to the life-span perspective on human development, but this perspective has other characteristics as well. According to life-span development expert Paul Baltes (1939–2006), the **life-span perspective** views development as lifelong, multidimensional, multidirectional, plastic, multidisciplinary, and contextual, and as a process that involves growth, maintenance, and regulation of loss (Baltes, 1987, 2003; Baltes, Lindenberger, & Staudinger, 2006). In Baltes' view, it is important to understand that development is constructed through biological, sociocultural, and individual factors working together. Let's look at each of these components of the life-span perspective.

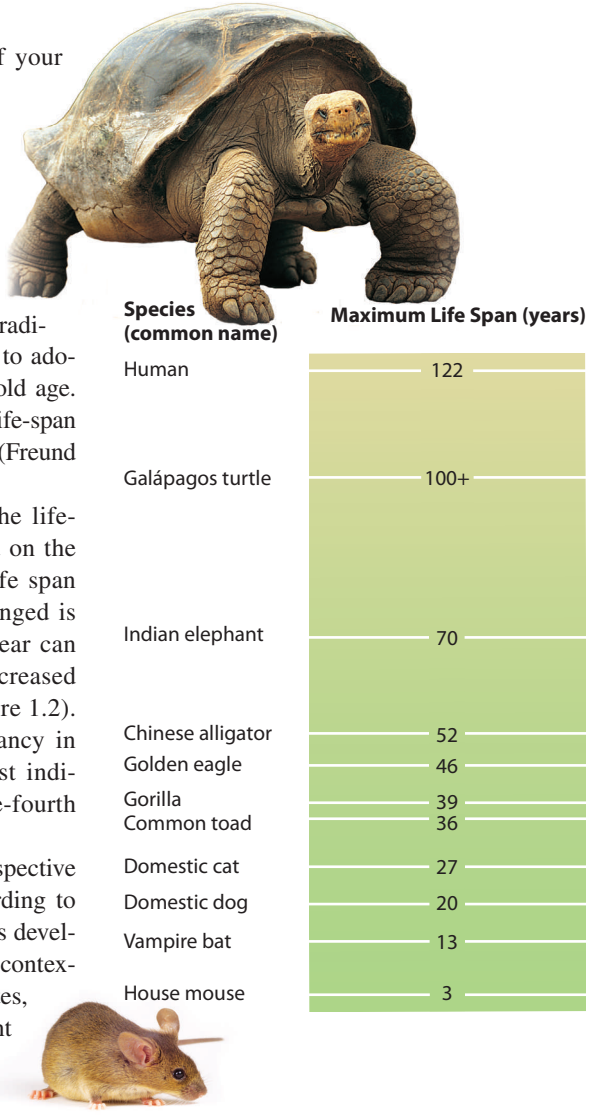


FIGURE **1.1**

MAXIMUM RECORDED LIFE SPAN FOR DIFFERENT SPECIES. Our only competitor for the maximum recorded life span is the Galápagos turtle.

Development Is Lifelong In the life-span perspective, early adulthood is not the endpoint of development; rather, no age period dominates development. Researchers increasingly study the experiences and psychological orientations of adults at different points in their lives. Later in this chapter, we will describe the age periods of development and their characteristics.

Development Is Multidimensional No matter what your age might be, your body, mind, emotions, and relationships are changing and affecting each other. Consider the development of Ted Kaczynski, the Unabomber discussed at the beginning of this chapter. When he was 6 months old, he was hospitalized with a severe allergic reaction and his parents were rarely allowed to visit the baby. According to his mother, the previously happy baby was never the same after his hospitalization. The infant became withdrawn and unresponsive. As Ted grew up, he had periodic "shutdowns" accompanied by rage. In his mother's view, a biological event in infancy warped the development of her son's mind and emotions.

Development has biological, cognitive, and socioemotional dimensions. Even within a dimension, there are many components. For example, attention, memory, abstract thinking, speed of processing information, and social intelligence are just a few of the components of the cognitive dimension.

Paul Baltes, a leading architect of the life-span perspective of development, conversing with one of the long-time research participants in the Berlin Aging Study that he directed. She joined the study in the early 1990s and participated six times in extensive physical, medical, psychological, and social assessments. In her professional life, she was a practicing medical doctor.

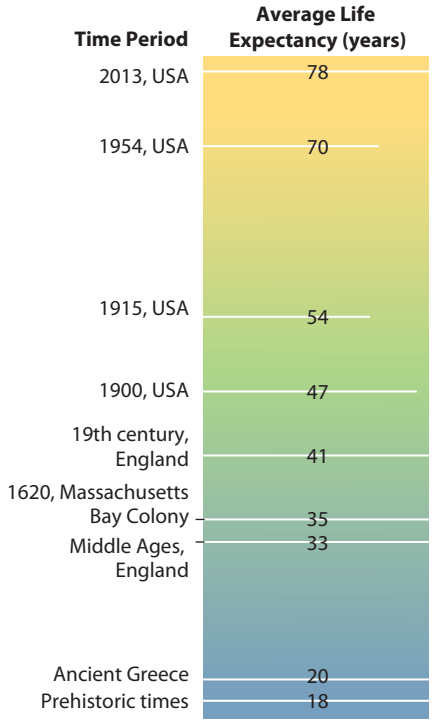


FIGURE **1.2**

HUMAN LIFE EXPECTANCY AT BIRTH FROM PREHISTORIC TO CONTEMPORARY TIMES. It took 5,000 years to extend human life expectancy from 18 to 41 years of age.

developmental **connection**

Exercise

What effect might exercise have on children's and older adults' ability to process information? Chapter 9, p. 269; Chapter 17, p. 530

What characterizes the life-span perspective on development?

Development Is Multidirectional Throughout life, some dimensions or components of a dimension expand and others shrink. For example, when one language (such as English) is acquired early in development, the capacity for acquiring second and third languages (such as Spanish and Chinese) decreases later in development, especially after early childhood (Levelt, 1989). During adolescence, as individuals establish romantic relationships, their time spent with friends may decrease. During late adulthood, older adults might become wiser because they have more experience than younger adults to draw upon to guide their decision making, but they perform more poorly on tasks that require speed in processing information (Manard & others, 2014; Salthouse, 2013).

Development Is Plastic Even at 10 years old, Ted Kaczynski was extraordinarily shy. Was he destined to remain forever uncomfortable with people? Developmentalists debate how much plasticity people have in various dimensions at different points in their development. Plasticity means the capacity for change. For example, can you still improve your intellectual skills when you are in your seventies or eighties? Or might these intellectual skills be fixed by the time you are in your thirties so that further improvement is impossible? Researchers have found that the cognitive skills of older adults can be improved through training and developing better strategies (Dixon & others, 2013; Rebok & others, 2014). However, possibly we possess less capacity for change as we grow older (Salthouse, 2013). The search for plasticity and its constraints is a key element on the contemporary agenda for developmental research (de Frias & Dixon, 2014; Yu & others, 2014).

Developmental Science Is Multidisciplinary Psychologists, sociologists, anthropologists, neuroscientists, and medical researchers all share an interest in unlocking the mysteries of development through the life span. How do your heredity and health limit your intelligence? Do intelligence and social relationships change with age in the same way around the world? How do families and schools influence intellectual development? These are examples of research questions that cut across disciplines.

Development Is Contextual All development occurs within a context, or setting. Contexts include families, schools, peer groups, churches, cities, neighborhoods, university laboratories, countries, and so on. Each of these settings is influenced by historical, economic, social, and cultural factors.

Contexts, like individuals, change (Clarke-Stewart & Parke, 2014; Gauvain, 2013). Thus, individuals are changing beings in a changing world. As a result of these changes, contexts exert three types of influences (Baltes, 2003): (1) normative age-graded influences, (2) normative history-graded influences, and (3) nonnormative or highly individualized life events. Each of these types can have a biological or environmental impact on development. **Normative age-graded influences** are similar for individuals in a particular age group. These influences include biological processes such as puberty and menopause. They also include sociocultural, environmental processes such as beginning formal education (usually at about age 6 in most cultures) and retirement from the workforce (which takes place during the fifties and sixties in most cultures).

Normative history-graded influences are common to people of a particular generation because of historical circumstances. For example, in their youth American baby boomers shared the experience of the Cuban missile crisis, the assassination of John F. Kennedy, and the Beatles invasion. Other examples of normative history-graded influences include economic, political, and social upheavals such as the Great Depression in the 1930s, World War II in the 1940s, the civil rights and women's rights movements of the 1960s and 1970s, the terrorist attacks of 9/11/2001, as well as the integration of computers and cell phones into everyday life during the 1990s (Schaie, 2013). Long-term changes in the genetic and cultural makeup of a population (due to immigration or changes in fertility rates) are also part of normative historical change.

Nonnormative life events are unusual occurrences that have a major impact on the lives of individual people. These events do not happen to everyone, and when they do occur they

can influence people in different ways. Examples include the death of a parent when a child is young, pregnancy in early adolescence, a fire that destroys a home, winning the lottery, or getting an unexpected career opportunity.

Development Involves Growth, Maintenance, and Regulation of Loss

Baltes and his colleagues (2006) assert that the mastery of life often involves conflicts and competition among three goals of human development: growth, maintenance, and regulation of loss. As individuals age into middle and late adulthood, the maintenance and regulation of loss in their capacities takes center stage. Thus, a 75-year-old man might aim not to improve his memory or his golf swing but to maintain his independence and his ability to play golf at all. In Chapters 15 and 16, we will discuss these ideas about maintenance and regulation of loss in greater depth.

Development Is a Co-construction of Biology, Culture, and the Individual

Development is a co-construction of biological, cultural, and individual factors working together (Baltes, Reuter-Lorenz, & Rösler, 2011). For example, the brain shapes culture, but it is also shaped by culture and the experiences that individuals have or pursue. In terms of individual factors, we can go beyond what our genetic inheritance and environment give us. We can author a unique developmental path by actively choosing from the environment the things that optimize our lives (Rathunde & Csikszentmihalyi, 2006).

SOME CONTEMPORARY CONCERNS

Pick up a newspaper or magazine and you might see headlines like these: "Political Leanings May Be Written in the Genes," "Mother Accused of Tossing Children into Bay," "Gender Gap Widens," "FDA Warns About ADHD Drug," "Heart Attack Deaths Higher in African American Patients," "Test May Predict Alzheimer's Disease." Researchers using the life-span perspective are examining these and many other topics of contemporary concern. The roles that health and well-being, parenting, education, and sociocultural contexts play in life-span development, as well as how social policy is related to these issues, are a particular focus of this textbook.

Health and Well-Being Health professionals today recognize the power of lifestyles and psychological states in health and well-being (Donatelle, 2015; Insel & Roth, 2014). In every chapter of this book, issues of health and well-being are integrated into our discussion.

Clinical psychologists are among the health professionals who help people improve their well-being. Read about one clinical psychologist who helps adolescents who have become juvenile delinquents or substance abusers in *Connecting with Careers*.

Parenting and Education Can two gay men raise a healthy family? Are children harmed if both parents work outside the home? Are U.S. schools failing to teach children how to read and write and calculate adequately? We hear many questions like these involving pressures on the contemporary family and the problems of U.S. schools (Bredekamp, 2014; Cicchetti & Toth, 2015). In later chapters, we will analyze child care, the effects of divorce, parenting styles, child maltreatment, intergenerational relationships, early childhood education, links between childhood poverty and education, bilingual education, new educational efforts to improve lifelong learning, and many other issues related to parenting and education (Collins, Duncanson, & Burrows, 2014; Powell, 2015).

Sociocultural Contexts and Diversity Health, parenting, and education—like development itself—are all shaped by their sociocultural context. To analyze this context, four concepts are especially useful: culture, ethnicity, socioeconomic status, and gender.

Nonnormative life events, such as Hurricane Sandy, are unusual circumstances that have a major impact on a person's life.

developmental **connection**

Middle Age

Adults typically face more losses in middle age than earlier in life. Chapter 15, p. 460

How might growth versus maintenance and regulation be reflected in the development of this grandfather and his grandchild?

normative age-graded influences Influences that are similar for individuals in a particular age group.

normative history-graded influences Influences that are common to people of a particular generation because of historical circumstances.

nonnormative life events Unusual occurrences that have a major impact on an individual's life.

connecting with careers

Luis Vargas, Clinical Child Psychologist

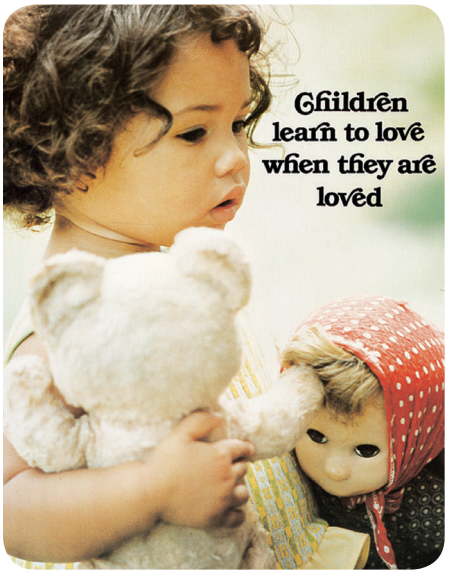
Luis Vargas is Director of the Clinical Child Psychology Internship Program and a professor in the Department of Psychiatry at the University of New Mexico Health Sciences Center. He also is Director of Psychology at the University of New Mexico Children's Psychiatric Center.

Vargas obtained an undergraduate degree in psychology from St. Edward's University in Texas, a master's degree in psychology from Trinity University in Texas, and a Ph.D. in clinical psychology from the University of Nebraska-Lincoln.

Vargas' main interests are cultural issues and the assessment and treatment of children, adolescents, and families. He is motivated to find better ways to provide culturally responsive mental health services. One of his special interests is the treatment of Latino youth for delinquency and substance abuse.

Luis Vargas (*left*) conducting a child therapy session.

For more information about what clinical psychologists do, see page 42 in the Careers in Life-Span Development appendix immediately following this chapter.



culture The behavior patterns, beliefs, and all other products of a group that are passed on from generation to generation.

cross-cultural studies Comparison of one culture with one or more other cultures. These provide information about the degree to which development is similar, or universal, across cultures, and the degree to which it is culture-specific.

ethnicity A characteristic based on cultural heritage, nationality characteristics, race, religion, and language.

socioeconomic status (SES) Refers to the grouping of people with similar occupational, educational, and economic characteristics.

gender The characteristics of people as males or females.

social policy A national government's course of action designed to promote the welfare of its citizens.

Culture encompasses the behavior patterns, beliefs, and all other products of a particular group of people that are passed on from generation to generation. Culture results from the interaction of people over many years (Mistry, Contreras, & Dutta, 2013). A cultural group can be as large as the United States or as small as an isolated Appalachian town. Whatever its size, the group's culture influences the behavior of its members (Hooyman, Kiyak, & Kawamoto, 2015). **Cross-cultural studies** compare aspects of two or more cultures. The comparison provides information about the degree to which development is similar, or universal, across cultures, or is instead culture-specific (Gauvain, 2013).

Ethnicity (the word *ethnic* comes from the Greek word for "nation") is rooted in cultural heritage, nationality, race, religion, and language. African Americans, Latinos, Asian Americans, Native Americans, European Americans, and Arab Americans are a few examples of broad ethnic groups in the United States. Diversity exists within each ethnic group (Banks, 2014; Renzetti & Kennedy-Bergen, 2015). A special concern is the discrimination and prejudice experienced by ethnic minority children (Benner & Graham, 2013).

Socioeconomic status (SES) refers to a person's position within society based on occupational, educational, and economic characteristics. Socioeconomic status implies certain inequalities. Differences in the ability to control resources and to participate in society's rewards produce unequal opportunities (Huston, 2013).

Gender refers to the characteristics of people as males and females. Few aspects of our development are more central to our identity and social relationships than gender (Hyde, 2014; Leaper, 2013).

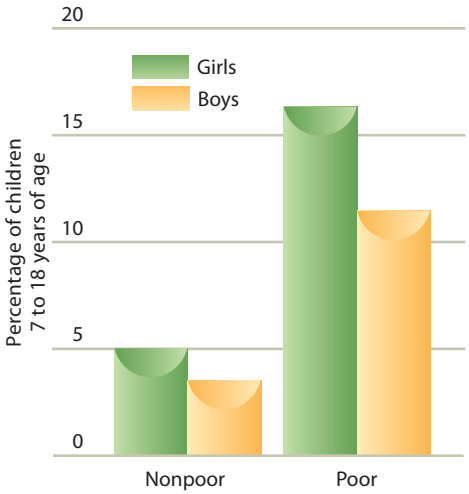


FIGURE 1.3

PERCENTAGE OF CHILDREN 7 TO 18 YEARS OF AGE AROUND THE WORLD WHO HAVE NEVER BEEN TO SCHOOL OF ANY KIND. When UNICEF (2004) surveyed the education that children around the world were receiving, it found that far more girls than boys received no formal schooling at all.

Two Korean-born children on the day they became United States citizens. Asian American and Latino children are the fastest-growing immigrant groups in the United States. *How diverse are the students in your life-span development class? How are their experiences in growing up likely to have been similar to or different from yours?*

Doly Akter, age 17, lives in a slum in Dhaka, Bangladesh, where sewers overflow, garbage rots in the streets, and children are undernourished. Nearly two-thirds of young women in Bangladesh get married before they are 18. Doly organized a club supported by UNICEF in which girls go door-to-door to monitor the hygiene habits of households in their neighborhood. The monitoring has led to improved hygiene and health in the families. Also, her group has managed to stop several child marriages by meeting with parents and convincing them that it is not in their daughters' best interests. When talking with parents in their neighborhoods, the girls in the club emphasize the importance of staying in school and how this will improve their daughters' future. Doly says that the girls in her UNICEF group are far more aware of their rights than their mothers ever were (UNICEF, 2007).

In the United States, the sociocultural context has become increasingly diverse in recent years (Koppelman, 2014). The U.S. population includes a greater variety of cultures and ethnic groups than ever before. This changing demographic tapestry promises not only the richness that diversity produces but also difficult challenges in extending the American dream to all individuals (Spring, 2014). We will discuss sociocultural contexts and diversity in each chapter.

A special cross-cultural concern is the educational and psychological conditions of women around the world (UNICEF, 2014). Inadequate educational opportunities, violence, and mental health issues are among the problems faced by many women.

One analysis found that a higher percentage of girls than boys around the world have never had any education (UNICEF, 2004) (see Figure 1.3). The countries with the fewest females being educated are in Africa, where girls and women in some areas are receiving no education at all. Canada, the United States, and Russia have the highest percentages of educated women. In developing countries, 67 percent of women over the age of 25 (compared with 50 percent of men) have never been to school. At the beginning of the twenty-first century, 80 million more boys than girls were in primary and secondary educational settings around the world (United Nations, 2002).

Social Policy

Social policy is a government's course of action designed to promote the welfare of its citizens. Values, economics, and politics all shape a nation's social policy (Yeung & Mui-Teng, 2015). Out of concern that policy makers are doing too little to protect the well-being of children and older adults, life-span researchers are increasingly undertaking studies that they hope will lead to effective social policy (McLoyd, Mistry, & Hardaway, 2013; Ruzek & others, 2014).

Statistics such as infant mortality rates, mortality among children under 5, and the percentage of children who are malnourished or living in poverty provide benchmarks for evaluating how well children are doing in a particular society (Hernandez & Pressler, 2014). Marian Wright Edelman, a tireless advocate for children's rights, has pointed out that indicators like

Marian Wright Edelman, president of the Children's Defense Fund (shown here advocating for health care), has been a tireless advocate for children's rights and has been instrumental in calling attention to the needs of children. *What are some of these needs?*