

A Topical Approach to

# LIFE-SPAN DEVELOPMENT

EIGHTH EDITION

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John W. Santrock

# A TOPICAL APPROACH TO LIFE-SPAN DEVELOPMENT

Eighth Edition

**JOHN W. SANTROCK**

University of Texas at Dallas





A TOPICAL APPROACH TO LIFE-SPAN DEVELOPMENT, EIGHTH EDITION

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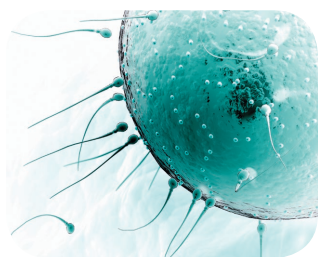
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# about the author

## John W. Santrock

John Santrock received his Ph.D. from the University of Minnesota in 1973. He taught at the University of Charleston and the University of Georgia before joining the program in Psychology in the School of Behavioral and Brain Sciences at the University

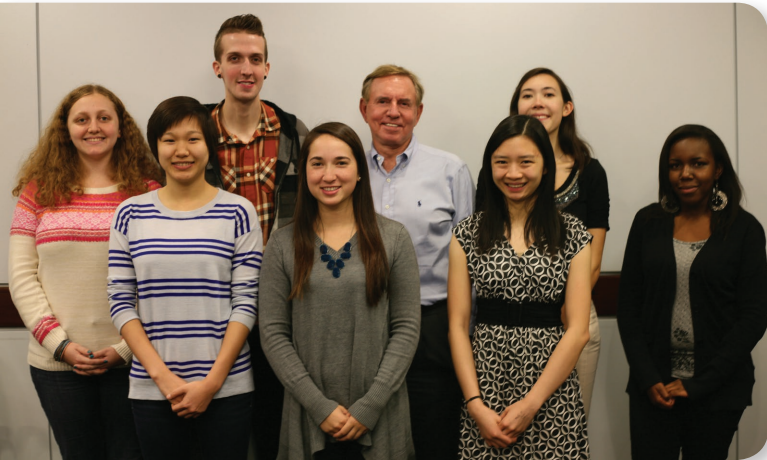
of Texas at Dallas, where he currently teaches a number of undergraduate courses and was recently given the University's Effective Teaching Award.

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: *Psychology* (7th edition), *Children* (13th edition), *Child Development* (14th edition), *Adolescence* (16th edition), *Life-Span Development* (15th edition), and *Educational Psychology* (5th edition).

For many years, John was involved in tennis as a player, teaching professional, and a coach of professional tennis players. As an undergraduate, he was a member of the University of Miami (FL) tennis team that still holds the record for most consecutive wins (137) in any NCAA Division I sport. John has been married for four decades to his wife, Mary Jo, who is a Realtor. He has two daughters—Tracy and Jennifer—both of whom are Realtors after long careers in technology marketing and medical sales, respectively. He has one granddaughter, Jordan, age 23, who recently completed her Master's degree from the Cox School of Business at SMU and currently works for Ernst & Young, and two grandsons—the Belluci brothers: Alex, age 10, and Luke, age 9. In the last decade, John also has spent time painting expressionist art.

### Dedication:

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



John Santrock (back row middle) with the 2015 recipients of the Santrock Travel Scholarship Award in developmental psychology. Created by Dr. Santrock, this annual award (now in its sixth year) provides undergraduate students with the opportunity to attend a professional meeting. A number of the students shown here attended the 2015 meeting of the Society for Research in Child Development.  
Courtesy of Jessica Serna

# 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 in this field. 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:

**Karen Adolph**  
**David Almeida**  
**Karlene Ball**  
**Martha Ann Bell**  
**Jay Belsky**  
**James Birren**  
**Kirby Deater-Deckard**  
**Susanne Denham**  
**James Garbarino**  
**Linda George**  
**Gilbert Gottlieb**

**Elena Grigorenko**  
**Scott Hofer**  
**William Hoyer**  
**Janet Shibley Hyde**  
**Rachel Keen**  
**James Marcia**  
**Linda Mayes**  
**Patricia Miller**  
**David Moore**  
**Daniel Mroczek**  
**Darcia Narváez**

**Charles Nelson**  
**Crystal Park**  
**Denise Park**  
**Ross Parke**  
**Glenn Roisman**  
**Carolyn Saarni**  
**Robert J. Sternberg**  
**Elizabeth Stine-Morrow**  
**Ross Thompson**  
**Doug Wahlsten**  
**Allan Wigfield**

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



**Ross Thompson** Dr. Thompson is one of the world's leading experts on children's socioemotional development. He currently is Distinguished 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.

*"It was once again a pleasure to read chapters that are so effectively constructed to provide students with a state-of-the-art, engaging, comprehensive overview of developmental issues. The writing enlists student interest into topics that reflect the current state of knowledge in developmental science but which are also relevant to students' experience and well-being."* —**Ross Thompson**  
University of California—Davis  
Photo courtesy of Dr. Ross Thompson, photo by V.I.P Studios Photography, Davis, CA



**Patricia Miller** Dr. 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. Topics of 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 and transfer of strategies. 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 has served on the editorial boards of several major developmental journals. 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 top journals such as *Child Development*, *Developmental Psychology*, and *Cognitive Development*.

*"This book continues to have the qualities that led me to adopt it several years ago: It is clear, interesting, and up to date. Moreover, it captures the current controversies in the field. The applications, especially to education, are strong. The new material strengthens the book. I certainly will continue to use it in my courses."* —**Patricia Miller** San Francisco State University  
Photo courtesy of Dr. Patricia Miller



**William J. Hoyer** Dr. Hoyer is a leading expert on cognitive aging and life-span development. He obtained his Ph.D. from West Virginia University and is currently Professor of Psychology at Syracuse University. Dr. Hoyer is also a faculty affiliate of the Aging Studies Institute at Syracuse University. His research focuses on age-related changes in memory, attention, and learning. His research appears in journals such as *Psychology of Aging*; *Aging, Neuropsychology, and Cognition*; and *Journal of Gerontology: Psychological Sciences*. He is co-author of *Adult*

*Development and Aging.* Dr. Hoyer is a Fellow in the American Psychological Association, the Association for Psychological Science, and The Gerontological Society of America.

“Importantly, Dr. Santrock presents the essential information that students need to know about physical development and biological aging. Further, in the revised material, he adds new material that is solid and intriguing, and that reflects the emerging state of the field. . . Clearly, Dr. Santrock stays abreast of the latest work by leading researchers that comprise the field of life-span development. . . This new edition effectively represents the field in his choice of core topics, and provides a solid across-the-board background requisite to advanced, specialized study of topics in psychological science that have implications for human development, or its course and outcomes.” —**William Hoyer** Syracuse University

Photo courtesy of Dr. William Hoyer



**Mandy Maguire** Dr. Maguire is a leading expert in language development. She obtained her Ph.D. from Temple University and completed a post-doctoral fellowship in the Developmental Neuroscience Lab at the University of Louisville. She is currently an Associate Professor in the School of Behavioral and Brain Sciences at the University of Texas at Dallas. Her research focuses on the behavioral and neurological aspects of how typically developing children acquire language. Topics of current projects include using EEG to identify individual differences in word learning across children, specifically why some children struggle more than others in this task, and the impact of poverty on language and the neural correlates of language in school-aged children. Dr. Maguire’s work has been published in journals such as *Brain and Language*, *Developmental Science*, *Developmental Psychology*, *Cognition*, and *Developmental Cognitive Neuroscience*.

“. . . I really liked the chapter (*Language Development*). It is well laid out and includes a great deal of the information that I believe is necessary for students at this level of education. . . I’m impressed by how much of this work is very new and how the chapter highlights exactly where the field of language development is today. . . The book also provides a lot of the ‘why’ for important findings in the field. . . There also is a good deal of practical information. . . The linking of topics across chapters is also very important.” —**Mandy McGuire** University of Texas–Dallas

Photo courtesy of Dr. Mandy Maguire, photo by Roxanne Minnish



**John Bates** Dr. Bates is one of the world’s leading experts on temperament and socioemotional development in infants and young children. He currently is Professor of Psychological and Brain Sciences at Indiana University. Dr. Bates obtained his Ph.D. in clinical psychology at UCLA. A major focus of his research is the development of behavior problems versus positive adjustment. Dr. Bates has especially been interested in children’s temperament characteristics, in combination with parenting. Most of his research has been longitudinal in nature, including one study conducted from 6 months to 17 years of age, another from 5 to 25 years of age (which includes analyses of temperament-environment and gene-environment interactions), and yet another study from 30 to 42 months of age.

“Largely the chapter (*Emotional Development and Attachment*) is highly current. It is clear that Dr. Santrock systematically reviews

the literature as it emerges. Overall, the scholarship is impressive. . . I expect that the students who work through this chapter and the others will end up with a relatively deep and broad understanding of development. . . I really like how the book sets up a new topic by reviewing some previously presented ideas and putting them in a new context. I also like how it presents a lot of advanced concepts for understanding the current literature in an accessible way. The writing is almost always quite clear and easy to read, even if it is talking about fairly complex topics.” —**John Bates** Indiana University

Photo courtesy of Indiana University



**Kristen M. Kennedy** Dr. Kennedy is an expert in the cognitive neuroscience of aging. She obtained her Ph.D. from Wayne State University and currently is a professor in the School of Behavioral and Brain Sciences at The University of Texas at Dallas and the Center for Vital Longevity, as well as

Adjunct Assistant Professor of Advanced Imaging Research at The University of Texas Southwestern Medical Center. Her research focuses on adult life-span (ages 20 to 90+) differences and changes in brain structure and function, and associated cognitive consequences. Current projects include studying the role of differences in brain structure on brain function using a variety of neuroimaging techniques (such as functional magnetic resonance imaging and diffusion tensor imaging). She is also currently investigating the modifying influence of genetics and gene  $\times$  environment interaction on the brain and cognitive aging. Dr. Kennedy was recently named a Rising Star by the Association for Psychological Science. She currently serves on the Editorial Board of *NeuroImage*. Dr. Kennedy’s work has been published in journals such as *Cerebral Cortex*, *NeuroImage*, *Neuropsychologia*, and *Journal of Neuroscience*.

“There is a strong framework for the chapter (*Physical Development and Biological Aging*). . . I like the discussion of major theories of biological aging. . . The *Information Processing* chapter is a great chapter. . . I like the organization of different types of information processing and the epochs of life-span subsections. It works very well.” —**Kristen Kennedy** University of Texas–Dallas

Photo courtesy of Dr. Kristen Kennedy



**Jennifer E. Lansford** Dr. Lansford is a developmental psychologist who studies the development of aggression and other behavior problems in children and adolescents. She earned her Ph.D. from the University of Michigan and is currently Research Professor at Duke University in the Center for Child

and Family Policy and Social Science Research Institute. Dr. Lansford’s research focuses on understanding how contexts (such as culture and schools) affect socializing agents (such as parents and peers) on trajectories of social and behavioral development from childhood to adulthood. She leads the Parenting Across Cultures project, a longitudinal study of mothers, fathers, and children in nine countries that investigates biological, familial, and cultural processes in development. Dr. Lansford has been Associate Editor of *Aggressive Behavior* and currently serves on the Editorial Boards of several journals. She has over 150 publications in journals such as *Child Development* and *Development and Psychopathology*.

“. . . from the preface, the textbook appears to offer well-organized, up-to-date overviews on key topics of importance in

development over the life course. The ‘Connect,’ ‘Reflect on Your Own Personal Journey’ and ‘Review’ sections appear to be strengths in terms of promoting student learning.” —**Jennifer**

**Lansford** Duke University

Photo courtesy of Dr. Jennifer Lansford, Center for Child and Family Policy, Duke University



**Crystal Park** Dr. Park is Professor of Clinical Psychology at the University of Connecticut–Storrs and an affiliate professor of the University of Connecticut Center for Health, Intervention, and Prevention. Her research focuses on multiple aspects of coping with stressful events, including the roles of religious beliefs and religious coping, stress-related growth, and the making of meaning in the context of traumatic events and life-threatening

illnesses, especially cancer and congestive heart failure. She is currently Principal Investigator of NIH and foundation-funded studies of yoga interventions, breast cancer survivors’ health behaviors, and college student self-regulation and success. She is co-author of *Empathic Counseling: Meaning, Context, Ethics, and Skill* and co-editor of *The Handbook of the Psychology of Religion and Spirituality* (first and second editions) and *Medical Illness and Positive Life Change: Can Crisis Lead to Personal Transformation?*

“I think there is a strong framework for this chapter (*Death, Dying, and Grieving*). . . I like the interweaving of previous chapters with this one. . . The narrative is quite up-to-date. . . I think the coverage is fine.” —**Crystal Park** University of Connecticut–Storrs

Photo courtesy of Dr. Crystal Park, photo by Craig Esposito

# Sanrock—connecting *research and results!*

As a master teacher, John Sanrock connects current research and real-world applications. Through an integrated, personalized digital learning program, students gain the insight they need to study smarter and improve performance.

## Real People, Real World, Real Life

The McGraw-Hill Education Milestones video series is a powerful tool that allows students to experience life as it unfolds, from infancy to late adulthood. This ground-breaking, longitudinal video series tracks the development of real children as they progress through the early stages of physical, social, and emotional development in their first few weeks, months, and years of life. Assignable and assessable within Connect Psychology, Milestones also includes interviews with adolescents and adults to reflect development throughout the entire lifespan.

## Better Data, Smarter Revision, Improved Results

Students helped inform the revision strategy of *A Topical Approach to 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's LearnSmart®.

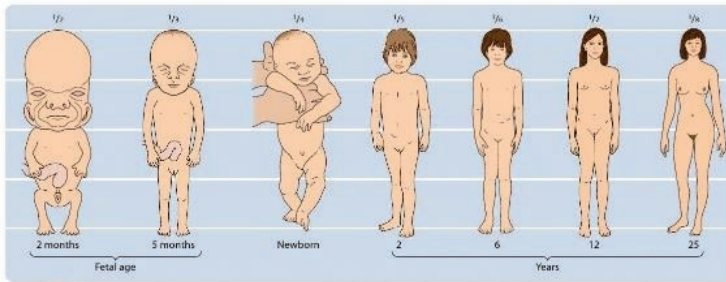
**STEP 2.** The data from LearnSmart was provided to the author in the form of a *Heat Map*, which graphically illustrates “hot spots” in the text that impacts student learning (see image below).

**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.

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





**FIGURE 3.1**  
**CHANGES IN PROPORTIONS OF THE HUMAN BODY DURING GROWTH.** As individuals develop from infancy through adulthood, one of the most noticeable physical changes is that the head becomes smaller in relation to the rest of the body. The fractions listed refer to head size as a proportion of total body length at different ages.

**Infancy** The average North American newborn is 20 inches long and weighs 7½ pounds. Ninety-five percent of full-term newborns are 18 to 22 inches long and weigh between 5½ and 10 pounds.

In the first several days of life, most newborns lose 5 to 7 percent of their body weight. Once infants adjust to sucking, swallowing, and digesting, they grow rapidly, gaining an average of 5 to 6 ounces per week during the first month. Typically they have doubled their birth weight by the age of 4 months and have nearly tripled it by their first birthday. Infants grow about ½ inch per month during the first year, increasing their birth length by about 40 percent by their first birthday.

Infants' rate of growth slows considerably in the second year of life (Barris & others, 2013). By 2 years of age, infants weigh approximately 26 to 32 pounds, having gained a quarter to half a pound per month during the second year; at age 2 they have reached about one-fifth of their adult weight. The average 2-year-old is 32 to 35 inches tall, which is nearly one-half of adult height.

**Early Childhood** As the preschool child grows older, the percentage of increase in height and weight decreases with each additional year (Leifer, 2011). Girls are only slightly smaller and lighter than boys during these years. Both boys and girls slim down as the trunks of their bodies lengthen. Although their heads are still somewhat large for their bodies, by the end of the preschool years most children have lost their top-heavy look. Body fat also shows a slow, steady decline during the preschool years. Girls have more fatty tissue than boys; boys have more muscle tissue (McMahon & Strydomski, 2012).

Growth patterns vary individually (Wilson & Hockenberry, 2012). Think back to your preschool years. This was probably the first time you noticed that some children were taller than you, some shorter; some were fatter, some thinner; some were stronger, some weaker.

Much of the variation is due to heredity, but environmental experiences are also involved. A review of the height and weight of children around the world concluded that two important contributors to height differences are ethnic origin and nutrition (Meredith, 1978).

Why are some children unusually short? The answer is congenital defects, genetic or prenatal problems, growth hormone deficiency, a physical problem that develops in childhood, maternal smoking during pregnancy, or an emotional difficulty (Wit, Kiess, & Mullis, 2011).

**Middle and Late Childhood** The period of middle and late childhood involves slow, consistent growth. This is a period of calm before the rapid growth spurt of adolescence.



The bodies of 5-year-olds and 2-year-olds are different from one another. The 5-year-old not only is taller and heavier, but also has a longer trunk and legs than the 2-year-old. What might be some other physical differences between 2- and 5-year-olds?

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.

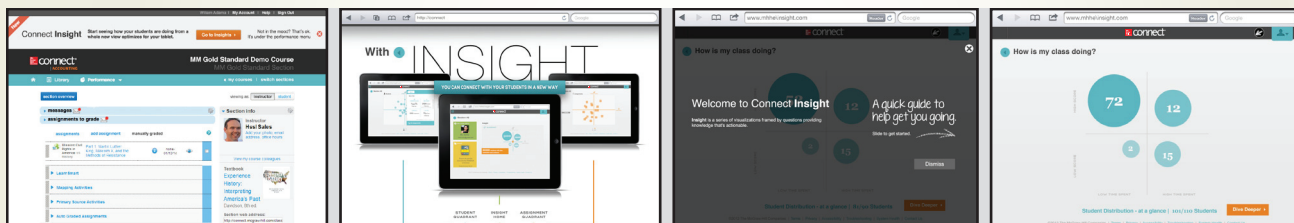
# Personalized Grading, on the Go, Made Easier



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Connect Insight is a one-of-a-kind visual analytics dashboard—now available for both instructors and students—that provides at-a-glance information regarding student performance. The immediate analysis from Connect Insight empowers students and helps instructors improve class performance efficiently and effectively.

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# preface

## Making Connections . . . From My Classroom to *A Topical Approach to Life-Span Development* to You

Having taught life-span development every semester for three decades now, I'm always looking for ways to improve my course and *A Topical Approach to Life-Span Development*. Just as McGraw-Hill looks to those who teach the life-span development course for input, each year I ask the approximately 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 *A Topical Approach to Life-Span Development*:

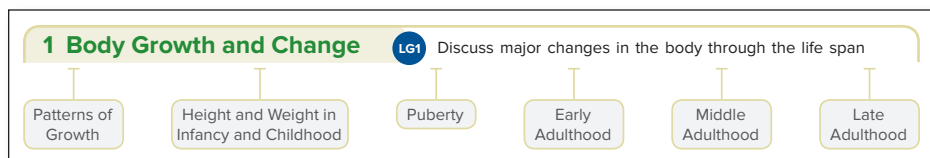
1. **Connecting with today's students** To help students learn about life-span development more effectively.
2. **Connecting research to what we know about development** To provide students with the best and most recent theory and research in the world today about each of the periods of the human life span.
3. **Connecting topical processes in development** To guide students in making *topical connections* across different aspects of development through the 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 *A Topical Approach to 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 xv–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 *A Topical Approach to Life-Span Development*



provides extensive learning connections throughout the chapters. The learning system connects the chapter opening outline, learning goals for the chapter, mini-chapter maps that open each main section of the chapter, *Review*, *Connect*, *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*, *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*, *Reflect* questions at the end of major chapter sections.

## reach your learning goals

### Physical Development and Biological Aging

1 Body Growth and Change

LG1

Discuss major changes in the body through the life span

Patterns of Growth

- Human growth follows cephalocaudal (fastest growth occurs at the top) and proximodistal patterns (growth starts at the center of the body and moves toward the extremities).

Height and Weight in Infancy and Childhood

- Height and weight increase rapidly in infancy and then take a slower course during childhood.

Puberty

- Puberty is a brain-neuroendocrine process occurring primarily in early adolescence that provides stimulation for the rapid physical changes that accompany this period of development. A number of changes occur in sexual maturation. The growth spurt involves rapid increases in height and weight and occurs about two years earlier for girls than for boys. Extensive hormonal changes characterize puberty. Puberty began occurring much earlier in the twentieth century mainly because of improved health and nutrition. The basic genetic program for puberty is wired into the nature of the species, but nutrition, health, and other environmental factors affect the timing of puberty. Adolescents show heightened interest in their bodies and body images. Younger adolescents are more preoccupied with these images than older adolescents. Adoles-

## 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 with 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 *How Are Preterm Infants Affected by Touch?* (Chapter 2) to *Does Intervention Reduce Juvenile Delinquency?* (Chapter 13) to *Parenting and Children's Achievement: My Child Is My Report Card, Tiger Moms, and Tiger Babies Strike Back* (Chapter 16).

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 xii to xiv, and the chapter-by-chapter highlights of new research content are listed on pages xxii to xxxix. Finally, the research discussions have been updated in every area and topic. I expended every effort to make this edition of *A Topical Approach to Life-Span Development* as contemporary and up-to-date as possible. To that end, there are more than 1,500 citations from 2014, 2015, and 2016 in the text.

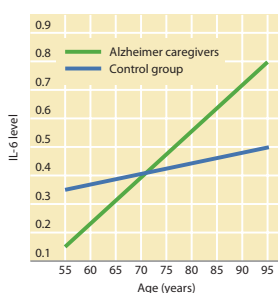
### connecting with research

#### How Stressful Is Caring for an Alzheimer Patient at Home?

Researchers have recently found that the stress of caring for an Alzheimer patient at home can prematurely age the immune system, putting caregivers at risk for developing age-related diseases (Chiu, Wesson, & Sadavoy, 2014; Glaser & Kiecolt-Glaser, 2005). In one study, 119 older adults who were caring for a spouse with Alzheimer disease or another form of dementia (which can require up to 100 hours a week of time) were compared with 106 older adults who did not have to care for a chronically ill spouse (Kiecolt-Glaser & others, 2003). The age of the older adults upon entry into the study ranged from 55 to 89, with an average age of 70.

Periodically during the six-year study, blood samples were taken and the levels of a naturally produced immune chemical called interleukin-6, or IL-6, were measured. IL-6 increases with age and can place people at risk for a number of illnesses, including cardiovascular disease, type 2 diabetes, frailty, and certain cancers. The researchers found that the levels of IL-6 increased much faster in the Alzheimer caregivers than in the older adults who did not have to care for a critically ill spouse (see Figure 6).

Each time IL-6 was assessed by drawing blood, the participants also completed a 10-item perceived stress scale to assess the extent to which they perceived their daily life during the prior week as being "unpredictable, uncontrollable, and overloading" (Kiecolt-Glaser & others, 2003, p. 9091). Participants rated each item from 0 (never) to 4 (very often). Alzheimer caregivers reported greater stress than the noncaregiver controls across each of the six annual assessments.



**FIGURE 6**  
**COMPARISON OF IL-6 LEVELS IN ALZHEIMER CAREGIVERS AND A CONTROL GROUP OF NONCAREGIVERS.** Notice that IL-6 (an immune chemical that places individuals at risk for a number of diseases) increased for both the Alzheimer caregivers and a control group of noncaregivers. However, also note that IL-6 increased significantly more in the Alzheimer caregivers. A higher score for IL-6 reflects a higher level of the immune chemical.

Since family members are especially important in helping Alzheimer patients cope, an important research agenda is to assess the benefits of respite care and to find other ways to relieve the stress the disease can impose on others. What kinds of studies might help provide some answers? What challenges will researchers face in collecting data?

## developmental connection

### Peers

How is adult friendship different among female friends, male friends, and cross-gender friends? Connect to “Peers and the Sociocultural World.”

## Connecting Developmental Processes

Too often we forget or fail to notice the many connections from one point or topic in development to another. *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 topics and 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.

Also, a *Connect* question appears in the section self-reviews—*Review, Connect, Reflect*—so students can practice making connections between topics. For example, in Chapter 12, students are asked to connect the chapter’s discussion of the gender-intensification hypothesis to what they have already read about identity development in adolescence.

## Connecting Development to the Real World

In addition to helping students make research and developmental connections, *A Topical Approach to 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 *Connecting Development to Life*, the *Milestones* program that helps students watch life as it unfolds, and *Connecting with Careers*.

*Connecting Development to Life*, along with a variety of life-span connecting boxed features, describes the influence of development in a real-world context on topics including *Helping Overweight Children Lose Weight* (Chapter 4), *Working During College* (Chapter 16), and *Communicating with a Dying Person* (Chapter 17).

The *Milestones* program, described on page xv, 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

### connecting development to life

#### Are Social Media an Amplification Tool for Adolescent Egocentrism?

Earlier generations of adolescents did not have social media to connect with large numbers of people; instead, they connected with fewer people, either in person or via telephone. Might today’s teens be drawn to social media and its virtually unlimited friend base to express their imaginary audience and sense of uniqueness? A recent analysis concluded that amassing a large number of friends (audience) may help to validate adolescents’ perception that their life is on stage and everyone is watching them (Psychster Inc, 2010). A look at a teen’s home Twitter comments may suggest to many adults that what teens are reporting is often rather mundane and uninteresting as they update to the world at large what they are doing and having, such as: “Studying heavy. Not happy tonight.” or “At Starbucks with Jesse. Lattes are great.” Possibly for adolescents, though, such tweets are not trivial but rather an expression of the personal fable’s sense of uniqueness. (Source: Psychster Inc, 2010).

A recent study of social networking sites found that the indiscriminate monologue communication from one to many, in which the diverse interests of others are not considered, that often occurs on such sites as Facebook may produce an egocentric tendency that undermines prosocial behavior (Chiou, Chen, & Liao, 2014).

What do you think? Are social media, such as Facebook and Twitter, amplifying the expression of adolescents’ imaginary audience and personal fable sense of uniqueness?



In what ways might frequent use of social media, such as Facebook®, influence adolescents’ cognitive development?

© Brendan O’Sullivan/Getty Images

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 14) to a teacher of English language learners (Chapter 9) to a home hospice 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:

*Imagine what your development would have been like in a culture that offered fewer or distinctly different choices. How might your development have been different if your family had been significantly richer or poorer than it was when you were growing up?*

In addition, students are asked a number of personal connections questions in the photograph captions.

## connecting with careers

**Helen Hadani, Ph.D., Developmental Psychologist, Toy Designer, and Associate Director of Research for the Center for Childhood Creativity**

Helen Hadani obtained a Ph.D. from Stanford University in developmental psychology. As a graduate student at Stanford, she worked part-time for Hasbro Toys and Apple testing children's software and computer products for young children. Her first job after graduate school was with Zowie Entertainment, which was subsequently bought by LEGO. In her work as a toy designer there, Helen conducted experiments and focus groups at different stages of a toy's development, and she also studied the age-effectiveness of each toy. In Helen's words, "Even in a toy's most primitive stage of development . . . you see children's creativity in responding to challenges, their satisfaction when a problem is solved or simply their delight in having fun" (Schlegel, 2000, p. 50).

More recently, she began working with the Bay Area Discovery Museum's Center for Childhood Creativity (CCC) in Sausalito, California, an education-focused think tank that pioneers new research, thought-leadership, and teacher training programs that advance creative thinking in all children. Helen is currently the Associate Director of Research for the CCC.



Helen Hadani has worked as both a toy designer and in a museum position that involves thinking of ways to increase children's creative thinking.  
Courtesy of Helen Hadani

# Content Revisions

A significant reason why *A Topical Approach to Life-Span Development* has been successfully used by instructors for eight 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 1,500 citations from 2014, 2015, and 2016.

**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 *A Topical Approach to 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

- Update on life expectancy in the United States (U.S. Census Bureau, 2014)
- Updated statistics on the increasing percentage of U.S. children under 18 years of age living in poverty, especially in African American and Latino families (U.S. Census Bureau, 2014)
- New discussion of the recently created large-scale two-generation intervention, *Ascend*, by the Aspen Institute that is designed to help children escape from poverty through three avenues: education, economic support, and social capital (Aspen Institute, 2013)
- Expanded content on ethnic minority children, including concern about the discrimination and prejudice they experience (Renzetti & Kennedy-Bergen, 2015)
- Inclusion of recent research on individuals from 22 to 93 years of age that found older adults reported having more positive emotional experiences than did young adults (English & Carstensen, 2014)
- Expanded content on the early-later experience issue regarding sensitive parenting to include the importance of positive close relationships later in childhood, in adolescence, and in adulthood (Luong, Rauers, & Fingerman, 2015; Mikulincer & Shaver, 2015; Wentzel, 2015)
- New coverage of Robert Siegler's microgenetic approach to the study of information processing (Siegler, 2006; Siegler & Lortie-Forgues, 2015; Siegler & others, 2015; Siegler & Thompson, 2014)

## Chapter 2: Biological Beginnings

- Editing and updating of chapter based on detailed reviews by leading experts Kirby Deater-Deckard and David Moore
- Updated content on the number of genes that humans have and a recent prediction that humans likely have less than 20,000 genes (Abyzov & others, 2013; Flicek & others, 2013)
- New description of recent research on how exercise and nutrition can modify the behavior of genes (Lindholm & others, 2014; Ma & others, 2015)
- New content on how sleep deprivation can influence gene expression in negative ways such as increased

inflammation, expression of stress-related genes, and impairment of protein functioning (Da Costa Souza & Ribeiro, 2015)

- New coverage of Cynthia Kenyon's important research on the search for longevity genes and interventions that might involve the use of drugs that mimic gene mutations linked to increased longevity
- Expanded discussion of how the process from genotype to phenotype works
- Coverage of a recent research review that concluded the young scientific area of gene  $\times$  environment ( $G \times E$ ) interaction is plagued by difficulties in replicating results, inflated claims, and other weaknesses (Manuck & McCaffery, 2014)
- New research indicating that the stress hormone cortisol can cross the placenta (Parrott & others, 2014)
- New organizing commentary that describes four important phases of brain development during the prenatal period
- New commentary on the conclusions reached by Great Britain's National Institutes of Care and Health Excellence that consumption of one to two drinks not more than twice a week during pregnancy is safe (O'Keeffe, Greene, & Kearney, 2014)
- Description of a recent study that found no differences in the presence of developmental problems in 7-year-olds whose mothers either were light drinkers (no more than two drinks per week) and mothers who did not drink (Kelly & others, 2013)
- Discussion of a recent research review that concluded maternal smoking during pregnancy is linked to altered neurotransmitter effects in offspring, and to elevated blood pressure in offspring when they are adults (Suter & others, 2015)
- New coverage of research indicating that prenatal smoking has been implicated in as many as 25 percent of infants being born with low birth weight (Brown & Graves, 2013)
- Inclusion of recent research indicating that smoking during pregnancy was associated with increased risk of asthma and wheezing in adolescence (Hollams & others, 2014)
- Coverage of a recent study that indicated marijuana use by pregnant women and environmental tobacco smoke during prenatal development were linked to stillbirth (Varner & others, 2014)

- Inclusion of information from a recent research review that concluded maternal obesity during pregnancy is associated with an increased likelihood of offspring becoming obese in childhood and adulthood (Santangeli, Sattar, & Huda, 2015)
- New description of a study that found stressful events prior to conception were linked with very low birth weight (Witt & others, 2014)
- Discussion of recent research that revealed maternal depression during pregnancy was linked to low birth weight (Chang & others, 2014)
- Discussion of a recent Norwegian study that found that maternal age of 30 years and older was linked to the same elevated risk for fetal deaths as 25- to 29-year-old pregnant women who were smokers or overweight/obese (Waldenstrom & others, 2014)
- Update on the continuing decline in preterm births in the United States in 2013 (March of Dimes, 2014)
- Update on the percentage of U.S. births that take place in hospitals, at home, and in birthing centers and the percentage of babies born through caesarean delivery (Martin & others, 2013)
- Coverage of a recent study that found doula-assisted mothers were four times less likely to have a low birth weight baby (Gruber, Cupito, & Dobson, 2013)
- Updated statistics on the percentage of babies born preterm and low birth weight in the United States, including ethnic variations (Martin & others, 2013)
- Inclusion of autism spectrum disorders as among the outcomes associated with low birth weight (Dudova & others, 2014; Maramba, He, & Ming, 2014)
- Discussion of a recent study that found long-term positive benefits for maternal-newborn kangaroo care through 10 years of age for respiratory and cardiovascular functioning, sleep, and cognitive functioning (Feldman, Rosenthal, & Eidelman, 2014)
- Inclusion of recent research in which kangaroo care led to better physical development in low birth weight infants (Bera & others, 2014)
- Description of a recent research review that concluded mother kangaroo care was associated with a lower incidence of mortality in low birth weight babies (Conde-Agudelo & Diaz-Rossello, 2014)
- Expanded discussion of kangaroo care including recent concerns that many NICU nurses are not using kangaroo care with high-risk newborns (Kymre, 2014) and recommendations for the use of kangaroo care with all newborns (Rodgers, 2013)
- Description of a recent study in which both massage (moderate-pressure stroking) and exercise (flexion and extension of the limbs) led to weight gain in preterm infants (Diego, Field, & Hernandez-Reif, 2014)
- Description of a recent study that found depression during pregnancy, a history of physical abuse, migrant status, and postpartum physical complications were major risk factors for postpartum depression (Gaillard & others, 2014)

### Chapter 3: Physical Development and Biological Aging

- Writing revisions were made in the chapter that involve the most difficult concepts for students on tests based on feedback from LearnSmart and Heat Maps. These changes include editing of paragraphs, addition of topical sentences, and inclusion of bullets. Examples of topics where these changes were made include the following: Key patterns of growth, factors involved in being unusually short, overall rate of growth in early childhood, main factors in height worldwide, roles of testosterone and estradiol, development of the brain in adolescence, and key aspects of brain adaptation in late adulthood.
- Content changes on physical development and biological aging based on feedback from leading experts Elizabeth Susman, Bonnie Halpern Fletcher, William Hoyer, and Kristen Kennedy
- Revised definition of puberty to include brain-neuroendocrine processes (Susman & Dorn, 2013)
- Description of a recent study of 9- to 17-year-old boys that found testosterone level peaked at 17 years of age (Khairullah & others, 2014)
- Inclusion of recent research that documented the growth of the pituitary gland during adolescence and linked its volume to circulating blood levels of estradiol and testosterone (Wong & others, 2014)
- Description of a recent research review that concluded there is insufficient quality research to confirm that changing testosterone levels in puberty are linked to adolescent males' mood and behavior (Duke, Balzer, & Steinbeck, 2014)
- New content indicating that early-maturing girls engage in sexual intercourse at younger ages and have more unstable sexual relationships (Moore, Harden, & Mendle, 2014)
- Coverage of a recent study that revealed later-maturing boys had a more negative body image in the early high school years than early-maturing boys (De Guzman & Nishina, 2014)
- Discussion of recent research in which the longer adults had smoked the more likely they were to have facial sagging and wrinkles (Okada & others, 2013)
- Description of the increasing use of the term “sarcopenic obesity” and its link to hypertension (Park & others, 2013)
- Coverage of a recent study in which hypertension in middle age was linked to lower cognitive functioning 23 years later (Virta & others, 2013)
- Discussion of recent research that found obesity was linked to mobility limitations in older adults (Murphy & others, 2014)
- Inclusion of changes in the coverage of the development of the brain based on comments by leading expert consultants Martha Ann Bell and Philip David Zelazo
- New introductory content indicating that the brain's developmental trajectory occurs in a bottom-up, top-down sequence (Zelazo, 2013)
- New Figure 8: Measuring the Activity of an Infant's Brain with Magnetoencephalography (MEG) that shows an infant in a Meg brain imaging device while listening to spoken words in Dr. Patricia Kuhl's laboratory



- Expanded and updated description of research conducted by leading experts—Martha Ann Bell, Charles Nelson, and John Richard—on the development of the brain in infancy
- Updated and expanded coverage of the development of the brain in adolescence to emphasize changes in the limbic system and its link to rewards (Casey, 2015; Steinberg, 2015b)
- New discussion of neurotransmitter changes in adolescence, particularly increased dopamine production (Leyton & Vezina, 2014; Steinberg, 2015a, b)
- New closing statement for the section on brain development in adolescence underscoring the correlational nature of research on the development of the brain, which means caution should be used in making causal statements about the brain's influence
- New commentary about the sensory regions of the brain being less vulnerable to decline than the prefrontal cortex in older adults (Rodrique & Kennedy, 2011)
- Main new section to open the coverage of sleep that focuses on different views of the functions of sleep and why we sleep, including an evolutionary perspective on its importance for survival, its restorative function in protein production and removal of neural waste (Picchioni & others, 2014; Xie & others, 2013), and its role in brain plasticity and synaptic connection (Barnes & Wilson, 2014; Pace-Schott & Spencer, 2015)
- New commentary that after prone sleeping position, the two most critical factors in predicting SIDS are (1) maternal smoking, and (2) bed sharing (Mitchell & Krous, 2015)
- New section, Sleep and Cognitive Development, including recent research that linked sleep quality in infancy with higher cognitive functioning in early childhood (Bernier & others, 2013)
- Coverage of a recent study that found poor sleep consolidation in infancy was associated with language delays in early childhood (Dionne & others, 2011)
- Discussion of a recent study of preschool children that found longer sleep duration was linked to better peer acceptance, social skills, and receptive vocabulary (Vaughn & others, 2015)
- Inclusion of recent research indicating that inadequate sleep duration at 4 years of age was linked to inadequate sleep duration at 6 years of age (Kouloughlioti & others, 2014)
- Coverage of a large-scale study of more than 270,000 adolescents from 1991 to 2012 that found adolescents have been decreasing the amount of sleep they get in recent years (Keyes & others, 2015)
- New research that found when adolescents get less than average sleep per night they have more emotional and peer-related problems, higher anxiety, and higher levels of suicidal ideation (Sarchiapone & others, 2014)
- Description of a recent Swedish study of 16- to 19-year-olds in which shorter sleep duration was associated with a greater likelihood of school absence (Hysing & others, 2015)
- New discussion citing electronic media usage and caffeine intake, along with changes in the brain coupled with early school starting times, as possible reasons for adolescents' sleep debt (Owens, 2014)
- Coverage of a recent study of fourth- and seventh-graders in which sleeping near small screens, sleeping with a TV in the room, and having more screen time were associated with shorter sleep duration (Falbe & others, 2015)
- Discussion of a recent study that revealed early school start times were linked to a higher vehicle crash rate by adolescent drivers (Vorona & others, 2014)
- Inclusion of the recent recommendation by the American Academy of Pediatrics that schools institute start times from 8:30 to 9:30 a.m. to improve students' academic performance and quality of life (Adolescent Sleep Working Group, AAP, 2014)
- Coverage of a study of individuals from 20 to 90 years of age in which total sleep decreased about 8 minutes per decade for males and about 10 minutes per decade for females (Dorffner, Vitr, & Anderer, 2015). In this study, as people aged they spent more time in light sleep and less time in deep sleep.
- Description of a recent study that found engaging in regular aerobic exercise improved the sleep profiles of older men (Melancon, Lorrain, & Dionne, 2015)
- Expanded content on the New England Centenarian Study, including recent research indicating increased support for the compression of morbidity, which involves chronic high-mortality diseases being markedly delayed in centenarians (Sebastiani & Perls, 2012)
- New commentary about ethnic differences in longevity widening and a suggestion that the powerful influence of education may make it impossible to bridge the gap (Olshansky & others, 2012)
- New coverage of the oldest person in the world in 2015 (Misao Okawo, 117 years of age) and the oldest person in the United States (Gertrude Weaver, 116 years of age) and their comments about why they were able to live so long
- Description of recent research indicating the shorter telomere length was linked to having worse social relationships, being less optimistic, and showing greater hostility (Uchino & others, 2012; Zalli & others, 2014)
- New discussion of the increased emphasis on changes in myelination and neural networks in the aging brain (Callaghan & others, 2014; Rodrique & Kennedy, 2011)

## Chapter 4: Health

- Coverage of a longitudinal study that found adolescents who had more friends who drank alcohol were more likely to binge drink in adolescence and early adulthood (Soloski, Kale Monk, & Durtschi, 2015)
- Inclusion of recent information that because of dramatic declines in smoking and increased effectiveness in treating cardiovascular disease, rates for dementia and Alzheimer disease may not increase as much in the future as was previously envisioned and might even decline (Rocca & others, 2011)
- New discussion of the current research interest in the roles that amyloid and tau play in Alzheimer disease (Avila & others, 2014; Tian & others, 2014)

- Discussion of a recent study that highlighted several key factors involved in the change from mild cognitive impairment to Alzheimer disease (Alegret & others, 2014)
- Coverage of a recent study in which cognitively impaired older adults receiving home-based care had better cognitive function, were less depressed, and reported better social connectedness than their counterparts living in institutionalized care (Nikmat, Al-Mashoor, & Hashim, 2015)
- Description of recent research indicating that chronic stress increased pancreatic cancer growth (Kim-Fuchs & others, 2014)
- New discussion of a recent study of middle-aged adults that found a high level of allostatic load (wearing down of bodily systems in response to high stress levels) was linked to lower levels of episodic memory and executive function (Karlamangia & others, 2013)
- Expanded and updated content on links between chronic stress and a downturn in immune system functioning in a number of contexts, including living next to a nuclear reactor, failures in close relationships, loneliness, depression, and burdensome caregiving for a family member with a progressive illness (Fagundes & others, 2013; Jaremka & others, 2014)
- New coverage of recent data (2011–2012) indicating a substantial drop in obesity for U.S. preschool children, possibly due to parents' increased purchasing of low-calorie foods (Ogden & others, 2014). Also in this study, obese preschool children were five times more likely than normal-weight children to be overweight or obese as adults.
- Inclusion of a recent large-scale study of U.S. children that found overweight 5-year-olds were four times more likely to be obese at 14 years of age than their 5-year-old counterparts who began kindergarten at a normal weight (Cunningham & others, 2014)
- Description of recent research indicating that 17.5 percent of U.S. 6- to 11-year-olds were obese in 2011–2012, essentially unchanged from 2009–2010 (Ogden & others, 2014)
- Updated data on the increasing percentage of U.S. adolescents who are obese (Ogden & others, 2014) and developmental changes in obesity from kindergarten to early adolescence (Cunningham, Kramer, & Narayan, 2014)
- Updated information about the continuing drop in vegetable and fruit consumption by U.S. adolescents through 2013 (Kann & others, 2014)
- Inclusion of a recent international study of adolescents in 56 countries that found fast food consumption was linked to higher body mass index (Braithwaite & others, 2014)
- Description of a recent study in which participation in family meals during adolescence protected against overweight or obesity in adulthood (Berge & others, 2015)
- New discussion of the likely brain changes in adolescents who are anorexic (Fuglset & others, 2014)
- Coverage of a recent study that found bulimics have difficulty controlling their emotions (Lavender & others, 2014)
- Description of a recent study that revealed rates of overweight or obesity increased from 25.6 percent for college freshmen to 32 percent for college seniors (Nicoteri & Miskovsky, 2014)
- Inclusion of information from a recent Gallup (2013a) survey on the increase in obesity in 2013 in 30- to 44-year-olds
- Expanded and updated coverage of links between children's exercise and their physical well-being (McCormack & others, 2014; Shin & others, 2014)
- Coverage of a recent study in which in-class high-intensity exercise improved the selective attention of 9- to 11-year-olds (Ma, Le Mare, & Gurd, 2015)
- New content on research that strongly supports the positive effects of exercise on children's bone strength and even on the prevention of osteoporosis in aging adults (Janz & others, 2015)
- Description of recent research that found moderate-intensity aerobic exercise improved children's cognitive inhibitory control (Drollette & others, 2014)
- Discussion of recent research that found adolescents who were high in physical fitness had better connectivity between brain regions than adolescents who were less fit (Herting & others, 2014)
- New information about recent survey data on the percentage of U.S. adults who exercise regularly (Gallup, 2013b)
- Coverage of a study in Copenhagen, Denmark, in which engaging in light or moderate jogging on a regular basis was linked to increased longevity (Schnohr & others, 2015)
- Description of a recent study in which a brief water-based exercise program improved the attention, memory, and executive function of older adults (Fedor, Garcia, & Gunstad, 2015)
- Discussion of a recent research review that concluded more active and physically fit older adults can allocate more attentional resources in interacting with the environment than their less physically fit counterparts (Gomez-Pinilla & Hillman, 2013). This review also concluded that exercise's influence on cognition occurs through changes in molecular events associated with the management of energy metabolism and synaptic plasticity.
- Updated coverage of the Monitoring the Future study's assessment of drug use by secondary school students with 2014 data on U.S. eighth-, tenth-, and twelfth-graders (Johnston & others, 2015)
- Updated data from the Monitoring the Future indicating that the peak of binge drinking occurs at 21 to 22 years of age in 2012 (Johnston & others, 2013)
- Description of recent research on adolescents indicating that neighborhood disadvantage was linked to a higher level of alcohol use two years later, mainly through a pathway that included exposure to delinquent peers (Trucco & others, 2014)
- Coverage of a recent study in which low parental knowledge of adolescents' peer relations and behavior, coupled with friends' delinquency, predicted adolescent substance abuse (McAdams & others, 2014)
- Discussion of a recent study that found early onset of drinking and a quick progression to drinking to intoxication were linked to drinking problems in high school (Morean & others, 2014)

- New research that revealed early- and rapid-onset trajectories of alcohol, marijuana, and substance use were associated with substance use in early adulthood (Nelson, Van Ryzin, & Dishion, 2015)

## Chapter 5: Motor, Sensory, and Perceptual Development

- A number of changes made in the content on motor development based on feedback from leading experts Karen Adolph and Scott Johnson
- New description of how the development of sitting skills in infancy might produce a developmental cascade of changes (Adolph & Robinson, 2015)
- New discussion of how advances in walking skills might produce a developmental cascade of changes in infancy, including increased language skills (Adolph & Robinson, 2015; Walle & Campos, 2014)
- Coverage of a recent study indicating that children, especially girls, who participate in sports have a higher quality of life than children who do not participate (Vella & others, 2014)
- New commentary about the increasing concern about the risk of concussions when children play football or soccer (Purcell & others, 2014)
- Expanded and updated coverage of the dramatic increase in the use of sophisticated eye-tracking equipment in the study of infant perception (Guimard-Brunault & others, 2013; Kretch, Franchak, & Adolph, 2014; Righi & others, 2014; Sasson & Touchstone, 2014)
- New commentary noting that most studies of infant eye-tracking use remote optics eye trackers in which the camera is not attached to the infant's head
- Coverage of a recent meta-analysis that found exercise reduced the rate of falls in adults 60 years of age and older (Stubbs, Brefka, & Denking, 2015)
- Description of a recent study that revealed walking was more effective than balance training in reducing falls in older adults (Okubo & others, 2015)
- Expanded and updated discussion of pain in older adults, including the frequency of persistent pain, most frequent pain complaints, and lower tolerance of pain (Farrell, 2012; Molton & Terrill, 2014)

## Chapter 6: Cognitive Developmental Approaches

- New discussion of a recent study of 10-month-olds that found a wide variation in search behaviors on the A-not-B task, possibly due to temperament, maturity of short-term/long-term memory, inhibition, and cognitive flexibility (Johansson, Forssman, & Bohlin, 2014)
- Discussion of recent research indicating that preverbal infants might have an inborn sense of morality, which supports the core knowledge approach (Hamlin, 2013, 2014)
- Added criticism of the nativist approach for ignoring the immersion of the infant in a social world and instead focusing only on what happens within the infant's head (Nelson, 2013)

- New commentary noting that some critics argue that the Baillargeon and Spelke experiments mainly demonstrate perceptual competencies or detection of consistencies in the environment, therefore reflecting only rudimentary understanding that likely differs from older children's understanding (Heyes, 2014; Ruffman, 2014)
- New description of a recent study of social networking sites that found the indiscriminate monologue involving communication from one to many that often occurs on such sites as Facebook may produce an egocentric tendency that undermines prosocial behavior (Chiou, Chen, & Liao, 2014)
- New coverage of factors that influence the effectiveness of the zone of proximal development in advancing young children's learning and development (Gauvain, 2013)
- New discussion of a recent study that found the following scaffolding techniques improved 4- to 5-year-olds' geometric knowledge: heightened engagement, direct exploration, and facilitation of "sense making" through techniques such as guided play (Fisher & others, 2013)

## Chapter 7: Information Processing

- Inclusion of changes based on feedback from leading experts Patricia Miller, William Hoyer, and Kristen Kennedy
- Inclusion of information from a recent meta-analysis of research indicating that processing speed increases through the childhood and adolescent years, begins to decline during the latter part of early adulthood, and then declines further through the remainder of the adult years (Verhaeghen, 2013).
- Description of recent research that found older adults especially have difficulty in processing the change from green to yellow at traffic intersections and that a cue 1.5 seconds prior to the light change reduces their accident likelihood (Mischel, 2014)
- Discussion of a recent study in which slow processing speed at baseline was linked to the emergence of dementia over the next 6 years (Welmer & others, 2014)
- Coverage of a recent study that found infants visually attend to events that are of intermediate complexity and are more likely to look away from events that are overly simple or complex (Kidd, Piantadosi, & Aslin, 2012)
- Description of recent research indicating that individual differences in attention at 5 months of age that involve efficiency in processing information were linked to executive function in the preschool years (Cuevas & Bell, 2014)
- Coverage of recent research that revealed problems in joint attention as early as 8 months of age were linked to a child being diagnosed with autism by 7 years of age (Veness & others, 2014)
- Expanded description of sustained attention and vigilance with research indicating that the greatest increase in vigilance occurs during early childhood (Rueda & Posner, 2013)
- Inclusion of recent research indicating that the ability to focus attention better at age 5 was linked to a higher level of academic achievement at age 9 (Razza, Martin, & Brooks-Gunn, 2012)

- Discussion of recent research indicating that 10 weeks of training in speed of processing resulted in improved selective attention in older adults (O'Brien & others, 2013)
- Inclusion of recent research in which older adults who participated in a video game training session showed a significant reduction in distraction and increased alertness (Mayas & others, 2014)
- Discussion of recent research indicating that infantile amnesia begins to especially become stronger by the time children are 8 to 9 years of age (Bauer & Larkina, 2014)
- New research indicating that children with learning disabilities in reading and math have working memory deficits (Peng & Fuchs, 2015)
- Description of the early onset of explicit memory deficits, but not implicit memory deficits, in individuals with Alzheimer disease (Boccia, Silveri, & Guariglia, 2014)
- Coverage of recent research that found visually encoded working memory was linked to older adults' mobility (Kawagoe & Sekiyama, 2014)
- Discussion of a recent study in which strategy training improved older adults' working memory (Borella & others, 2013)
- Description of a recent experimental study that linked moderate exercise in older adults to faster reaction times on a working memory task (Hogan, Mata, & Carstensen, 2013)
- New coverage of classic research by Walter Mischel and his colleagues (Mischel, Cantor, & Feldman, 1996; Mischel & Moore, 1980) on the role of "hot thoughts" and "cool thoughts" in influencing young children's delay of gratification and recent research indicating a link between this delay of gratification and body mass index (BMI) three decades later (Schlam & others, 2013)
- Inclusion of recent research that found executive function skills predicted math gains in kindergarten (Fuhs & others, 2014)
- Description of recent research in which sensitive parenting at 3 years of age predicted fewer problems with executive function at 4 years of age (Kok & others, 2014)
- New discussion of the importance of adolescents quickly getting the gist of a dangerous situation, which can cue personal values that will reduce the likelihood adolescents will engage in risky decision making (Reyna & Zayas, 2014)
- Inclusion of recent research that revealed more physically fit older adults were more cognitively flexible than their less physically fit counterparts (Berryman & others, 2013)
- New description of increasing research evidence that aerobic exercise improves executive function in older adults (Guiney & Machado, 2013)
- Inclusion of a recent meta-analysis that found tai chi participation was associated with better executive function in older adults (Wayne & others, 2014)
- Coverage of a recent study in which various executive functions predicted mobility function over a one-year period (Gothe & others, 2014)
- Discussion of a recent study that revealed a higher level of education was linked to better cognitive functioning in older adults (Rapp & others, 2013)
- Coverage of recent research that found working in an occupation with a high level of cognitive demands was linked to higher levels of cognitive functioning before retirement and a slower rate of cognitive decline after retirement (Fisher & others, 2014)
- Description of a recent study in which sustained engagement in cognitively demanding activities for three months improved the episodic memory of older adults (Park & others, 2014)
- Inclusion of recent research that found iPad training improved the episodic memory and processing speed of 60- to 90-year-olds (Chan & others, 2015)
- Coverage of recent research on older adults that revealed fish oil had beneficial effects on executive function and a number of areas of brain functioning (Witte & others, 2014)
- Discussion of a recent study that found playing a multitasking video game improved the cognitive skills of older adults (Anguera & others, 2013)
- New commentary noting that some critics argue that the research evidence for the effectiveness of brain training games is weak or unfounded (Hambrick, 2014; Redick & others, 2013)
- New content indicating that some experts conclude that, in most cases, cognitive training of older adults is effective only when it involves extensive effortful practice over a long period of time (Lovden & others, 2012; Nyberg & others, 2012)
- Various changes made in the discussion of cognitive functioning in older adults based on feedback from leading experts K. Warner Schaie and Patricia Reuter-Lorenz
- New coverage of the influence of symbolic thinking skills on the development of theory of mind (Lillard & Kavanaugh, 2014)
- New discussion of a recent study of young children in which their metacognitive ability in the numerical domain predicted their school-based math knowledge (Vo & others, 2014)

## Chapter 8: Intelligence

- Discussion of Robert Sternberg's (2015b) recent definition of intelligence as the ability to adapt to, shape, and select environments
- Inclusion of the most recent version of the WPPSI—Fourth Edition (revised in 2012 for young children) (Syeda & Climie, 2014)
- Coverage of a recent study that found children who are gifted engage in faster processing speed and more accurate processing of information than do children who are not gifted (Duan, Dan, & Shi, 2014)
- Inclusion of Robert Sternberg's (2014b) commentary about how research on the brain's role in intelligence has been more productive in producing answers to some questions than to others
- Discussion of a recent study in which emotional intelligence abilities were linked to academic achievement above and beyond cognitive and personality factors (Lanciano & Curci, 2014)
- Description of a recent meta-analysis of 53 studies since 1972 that found IQ scores have been rising about 3 points

per decade since that year and that the increase in IQ scores does not seem to be diminishing (Trahan & others, 2014)

- New discussion of the increase in intelligence test scores even for the brightest individuals in recent years (Wai, Putallaz, & Makel, 2012)
- Inclusion of a recent study using the Stanford Binet Scales that found no differences between non-Latino White and African American preschool children when they were matched for age, gender, and level of parent education (Dale & others, 2014)
- Description of a recent analysis that concluded the underrepresentation of African Americans in STEM subjects and careers is linked to practitioners' expectations that they have less innate talent than non-Latino Whites (Leslie & others, 2015)
- Coverage of a longitudinal study in which children identified before 13 years of age as having profound math and verbal reasoning skills (top 1 in 10,000 children) had achieved considerable success in their various careers by the time they were 38 years of age (Kell, Lubinski, & Benbow, 2013)
- Inclusion of recent research in which parents and teachers rated elementary school children who are not gifted as having more emotional and behavioral problems than children who are gifted (Eklund & others, 2015). Also in this study, when children who are gifted have emotional and behavioral problems, they are more likely to be internalized rather than externalized problems.
- Description of a recent experimental study that compared individuals after they had participated in four activities and found that the most creative thinking occurred following the activity of walking (Oppezzo & Schwartz, 2014)

## Chapter 9: Language Development

- Inclusion of changes recommended by leading expert Mandy Maguire
- New discussion of how infants in the second half of their first year rely on statistical information such as the co-occurrence of phonemes and syllables to help them extract potential word forms (Werker & Gervain, 2013; Willits, Seidenberg, & Saffran, 2014; Zamuner, Fais, & Werker, 2014)
- New coverage of cross-linguistic differences in word learning
- Revised and updated content on bilingualism, including information about whether parents of infants and young children should teach them two languages simultaneously (Bialystok, 2014, 2015)
- Discussion of a recent study that revealed 18- to 24-month-old infants in low-SES families already had a smaller vocabulary and less efficient language processing than their infant counterparts in middle-SES families (Fernald, Marchman, & Weisleder, 2013)
- Description of a recent study in which child-directed speech in a one-to-one context at 11 to 14 months of age was linked to greater word production at two years of age than standard speech and speech in a group setting (Ramirez-Esparza, Garcia-Sierra, & Kuhl, 2014)

- Coverage of a recent study of low-SES Spanish-speaking families that found infants who experienced more child-directed speech were better at processing words in real time and had larger vocabularies at 2 years of age (Weisleder & Fernald, 2013)
- New discussion of the possibility that bilingualism may delay the onset of Alzheimer disease, including recent research on this topic (Alladi & others, 2013; Bialystok & others, 2014; Fischer & Schweizer, 2014)
- Inclusion of recent research that found Japanese mothers who used more elaborative information-seeking responses during joint picture-book reading at 20 months had children with a better productive vocabulary at 27 months (Murase, 2014)
- New content on whether infants learn language effectively through television and videos
- Discussion of a recent study of toddlers in which frequent TV exposure increased the risk of delayed language development (Lin & others, 2015)
- Coverage of a recent study that found use of Skype technology provides some improvement in children's language learning over television and videos (Roseberry & others, 2014)

## Chapter 10: Emotional Development and Attachment

- Changes in chapter based on feedback from leading experts John Bates and Ross Thompson
- New discussion of biological factors involved in the temperament dimension of negative emotionality
- New description of how some leading researchers have recently argued that empathy can be expressed before the infant's first birthday (Davidov & others, 2013)
- Inclusion of information about the Emotion-Based Prevention Program (EBP) that is designed to improve young children's understanding of emotions and a recent study that found EBP was effective in improving Head Start children's emotional understanding and decreasing their negative emotions (Finion & others, 2015)
- Coverage of a recent study of 10- to 12-year-olds in which mothers of anxious children were more likely to engage in more psychologically controlling behavior intended to manipulate the children's emotional state, showed less interest in the children, and elaborated less during conversations about an emotionally negative event (Brumariu & Kerns, 2015)
- Description of a recent study of 9- to 15-year-olds in which those who had a higher level of emotion regulation were less likely to be depressed in stressful environments even though they had a short version of the serotonin transporter gene (Ford & others, 2014)
- Inclusion of recent research showing that babies quickly pick up on their mothers' stress and negative emotions when they are reunited with them after the mothers have experienced a negative, stressful circumstance (Waters, West, & Mendes, 2014)
- Discussion of a recent research study indicating that 9-month-old infants displayed jealousy-related behavior and

- EEG patterns characteristic of jealousy when their mothers gave attention to a social rival (Mize & others, 2014)
- Coverage of recent research indicating that smiling and laughing at 7 months of age was associated with self-regulation at 7 years of age (Posner & others, 2014)
- Description of recent research indicating that a higher level of positive emotionality predicted more initial infant smiling and laughter, while a higher level of parenting stress predicted a lower trajectory of infant smiling and laughter (Bridgett & others, 2013)
- Description of recent research indicating that understanding others' emotions was linked to children's emotion regulation (Hudson & Jacques, 2014)
- Coverage of a recent study that revealed fathers' internalizing problems were linked to a higher level of negative affectivity in 6-year-olds (Potapova, Gartstein, & Bridgett, 2014)
- New content on how during middle and late childhood, as part of their understanding of emotions, children can engage in "mental time travel" in which they anticipate and recall the cognitive and emotional aspects of events (Lagattuta, 2014b)
- New discussion of describing temperament in terms of its reactivity and self-regulation (Bates & Pettit, 2015)
- Description of recent research that found an inhibited temperament at 2 to 3 years of age was related to symptoms of social phobia at 7 years of age (Lahat & others, 2014)
- Inclusion of recent findings indicating that an inhibited temperament in infants and young children is linked to the development of social anxiety disorder in adolescence and adulthood (Rapee, 2014; Perez-Edgar & Guyer, 2014)
- Discussion of recent research that found preschool children with high levels of surgency and negative affectivity were more likely to engage in a number of obesity-related eating behaviors (Leung & others, 2014)
- New research that revealed effortful control was a strong predictor of academic success skills in kindergarten children from low-income families (Morris & others, 2014)
- Description of a recent study in which maternal negativity and child behavior problems were most strongly linked for children who were low in effortful control and living in chaotic homes (Chen, Deater-Deckard, & Bell, 2014)
- New discussion of the recent interest in the differential susceptibility and biological sensitivity to context models emphasizing that certain characteristics—such as a difficult temperament—may render children more vulnerable to difficulty in adverse contexts but also make them more susceptible to optimal growth in very supportive conditions (Belsky & others, 2015; Belsky & van IJzendoorn, 2015; Ellis & others, 2011; Hartman & Belsky, 2015; Simpson & Belsky, 2016)
- Coverage of a recent study in which parent sensitivity during the still-face paradigm when infants were 3, 5, and 7 months old was linked to infants' emotional and behavioral trajectories, which in turn predicted secure and insecure attachment at 12 and 14 months of age (Braungart-Rieker & others, 2014)
- Inclusion of recent research in which infant attachment insecurity (especially insecure resistant attachment) and early childhood behavioral inhibition predicted adolescent social anxiety symptoms (Lewis-Morrarty & others, 2015)
- Description of a meta-analysis in which secure attachment in infancy was related to social competence with peers in early childhood (Groh & others, 2014)
- Discussion of a recent study that found fathers with lower testosterone levels engaged in more optimal parenting with their infants and that fathers who were given oxytocin showed improved parenting behavior with their infants (Weisman, Zagoory-Sharon, & Feldman, 2014)
- Description of a recent national poll that estimated there are 2 million stay-at-home dads in the United States, a significant increase from 1.6 million in 2004 and 1.1 million in 1989 (Livingston, 2014)
- Inclusion of recent research that found high-quality child care during the infant/toddler years was linked to better memory skills at the end of the preschool years (Li & others, 2013)
- Coverage of recent research indicating that insecure disorganized children (Type D) are most at risk for developing anxiety problems (Kerns & Brumariu, 2014)
- Added commentary noting that infants and toddlers are more likely to receive care in family child care and informal care settings while older children are more likely to be enrolled in child care centers and preschool and early education programs
- Coverage of recent research that revealed early daters have more externalized problems throughout adolescence than on-time and late daters (Connolly & others, 2013)
- Coverage of a recent meta-analysis that found a lower percentage of U.S. college students are securely attached and a higher percentage are insecurely attached than in the past (Konrath & others, 2014)
- New discussion of two longitudinal studies of newly married couples in which spouses were more likely to engage in infidelity when either they or their partner had a highly anxious attachment style (Russell, Baker, & McNulty, 2013)
- Description of a recent Australian study that found higher child care quality that included positive child-caregiver relationship at 2 to 3 years of age was linked to children's better self-regulation of attention and emotion at ages 4 to 5 and 6 to 7 (Gialamas & others, 2014)
- Inclusion of recent research with adults in which secure attachment was linked to fewer sleep disruptions than insecure avoidant or anxious attachment (Adams & McWilliams, 2015)
- New research in which oxytocin was associated with diminished stress among securely attached older adults (Emeny & others, 2015)
- Discussion of a recent study that revealed a heightened state of romantic love in young adults was linked to stronger depression and anxiety symptoms but better sleep quality (Bajoghli & others, 2014)
- New discussion of a recent national study of more than 19,000 individuals that found more than one-third of marriages now begin with online contact and that these marriages are slightly less likely to break up and are characterized by slightly higher marital satisfaction than marriages that begin in offline contexts (Cacioppo & others, 2013)

- Description of a recent study of individuals from 22 to 93 years of age that found older adults experienced more positive emotions than younger adults both in the morning and in the evening (English & Carstensen, 2014a)
- Coverage of a recent study of individuals from 18 to 94 years of age that found older adults had fewer peripheral social contacts but retained close relationships with people who provided them with emotional support (English & Carstensen, 2014b)

## Chapter 11: The Self, Identity, and Personality

- Writing revisions were made in this chapter that focus on the most difficult concepts for students on tests based on feedback from LearnSmart and Heat Maps. The changes made include editing of a number of paragraphs, addition of new topical sentences, and use of bullets to alert students to key ideas. Among the topic discussions that were improved include reorganization of the content on selective optimization with compensation, developmental changes in self-esteem, assessment of self-understanding, children's self-awareness, why adolescence is a unique time for identity development, parenting influences on identity development, bicultural identity, and the contemporary life events approach.
- Changes made based on recommendations from leading experts Kate McLean and Ross Thompson
- New commentary about recent evidence of infants' understanding of others (Rhodes & others, 2015), including research indicating that infants as young as 13 months of age seem to consider another's perspective when predicting their actions (Choi & Luo, 2015)
- Description of a recent study of 6- to 9-year-olds that revealed older children were less trusting and more skeptical of others' distorted claims than were younger children (Mills & Elashi, 2014)
- Inclusion of recent research on Hong Kong adolescents in which those reporting pragmatic support from parents were more likely to believe they could attain their hoped-for possible selves and avoid their feared possible selves (Zhu & others, 2014)
- Discussion of a recent study of elderly institutionalized adults in which 8 weeks of group reminiscence therapy resulted in a number of positive outcomes (Melendez-Moral & others, 2013)
- Expanded and updated coverage of the consequences of low self-esteem (O'Brien, Bartoletti, & Leitzel, 2013; Zeigler-Hill, 2013)
- Description of a recent study that found low and decreasing self-esteem during adolescence was linked with adult depression two decades later (Steiger & others, 2014)
- Discussion of a recent longitudinal study in which self-esteem predicted subsequent changes in social support but not the reverse (Marshall & others, 2014)
- Coverage of recent research indicating that inflated praise, although well intended, may cause children with low self-esteem to avoid important learning experiences such as tackling challenging tasks (Brummelman & others, 2014)
- New discussion of effortful control as a key aspect of self-regulation and a recent study that found effortful control at

17 years of age predicted academic persistence and educational attainment at 23 to 25 years of age (Veronneau & others, 2014)

- Coverage of some factors that might help individuals develop better self-regulation and some factors that might inhibit their development of self-regulation (McClelland & others, 2015)
- New description of child and adolescent precursors to adult health and longevity, including the view of Nancy Eisenberg and her colleagues (2014) that early development of self-regulation fosters conscientiousness later in life, both directly and through its link to academic motivation/success and internalized compliance with norms
- Inclusion of recent research with older adults who had dementia that found reminiscence therapy reduced their depressive symptoms and improved their self-acceptance and positive relations with others (Gonzalez & others, 2015)
- Description of a recent study in which a variation of reminiscence therapy called instrumental reminiscence therapy improved the adaptive coping and resilience of older adults in adverse situations (Melendez & others, 2015)
- Coverage of a recent study which another variation of reminiscence therapy called attachment-focused reminiscence therapy reduced the depressive symptoms, perceived stress, and emergency room visits of older African Americans (Sabir & others, 2015)
- Inclusion of recent research that revealed narcissistic parents especially overvalue their children's talents (Brummelman & others, 2015)
- Discussion of recent research indicating that self-regulation was a protective factor in helping children in low-income circumstances to avoid developing emotional problems (Flouri, Midouhas, & Joshi, 2014)
- Inclusion of recent research in which higher levels of self-control at 4 years of age were linked to improvements in math and reading achievement in the early elementary school years for children living predominantly in rural and low-income contexts (Blair & others, 2015)
- Description of recent research that found self-control played important roles in older adults' quality of life, including lower levels of depression and obesity (Levasseur & Couture, 2015; Privitera & others, 2015)
- New coverage of the narrative approach to identity, in which individuals tell their life stories and evaluate the extent to which the stories are meaningful and integrated (McAdams & McLean, 2013; Pasupathi, 2015; Singer & Kasmark, 2015)
- Expanded description of why college often produces some key changes in an individual's identity (Arnett & Fischel, 2013)
- Description of recent analysis of Vaillant's longitudinal data that found that men who achieved generativity in later life had better physical health and adjustment to aging (Landes & others, 2014)
- Coverage of a recent study in which stressful life events were associated with cardiovascular disease in middle-aged women (Kershaw & others, 2014)

- Discussion of a recent study that found stressful daily hassles were linked to increased anxiety and decreased physical well-being (Falconier & others, 2015)
- Revised organization of the discussion of the Big Five factors of personality so that research involving each of the five factors is covered separately
- Description of recent research on the link between neuroticism and a variety of outcomes, including individuals who are high in neuroticism being more drug dependent (Valero & others, 2014) and having a lower sense of well-being 40 years later (Gale & others, 2013)
- Coverage of recent research indicating that individuals high in extraversion had a more positive sense of well-being later in life (Soto, 2015)
- Description of recent research that found individuals high in openness to experience have superior cognitive functioning across the life span (Briley, Domiteaux, & Tucker-Drob, 2014)
- Inclusion of recent research in which perceived social support predicted increased conscientiousness in older adults (Hill & others, 2014)
- Inclusion of recent research that found conscientiousness was linked to college students' grade point averages but the other four Big Five factors were not (McAbee & Oswald, 2013)
- New conceptual and research content on the increasing interest in the role of conscientiousness in health and longevity (English & Carstensen, 2014; Friedman & others, 2014; Roberts & others, 2014)
- New coverage of a recent study of 66- to 102-year-olds that revealed the self-discipline component of conscientiousness was a strong predictor of living longer, with individuals having high self-discipline showing a 34 percent increase in survival time (Costa & others, 2014)
- Inclusion of recent research in which conscientiousness was linked to better cognitive status and less cognitive decline in older adults (Luchetti & others, 2015)
- New section on optimism and its links to a number of positive outcomes, including recent studies that link optimism with better health and living longer (Engberg & others, 2013; Kim, Chopik, & Smith, 2014; Wurm & Benyamini, 2014)
- New content on the special concern about sexting, including recent data on the percentage of adolescents who send and receive sexual pictures (Ybarra & Mitchell, 2014)
- New coverage of a recent study that identified two main sexual scripts in young adult men: (1) a traditional masculine "player" script, and (2) a script that emphasized mutual sexual pleasure (Morrison & others, 2014)
- Updated national data (including updated Figure 6) on the percentages of adolescents at different age levels who have engaged in sexual intercourse, including gender and ethnic variations (Kann & others, 2014)
- Description of a recent Swedish study of more than 3,000 adolescents indicating that sexual intercourse prior to age 14 was linked to a number of risky sexual behaviors at age 18 (Kastbom & others, 2015)
- Coverage of recent research indicating that 40 percent of 22-year-olds reported recently having had a casual sex partner (Lyons & others, 2015)
- Inclusion of recent research of more than 3,900 18- to 25-year-olds that found having casual sex was negatively linked to well-being and positively related to psychological distress (Bersamin & others, 2014)
- Coverage of a recent study that found difficulties and disagreements between Latino adolescents and their parents were linked to the adolescents' early sexual initiation (Cordova & others, 2014)
- Discussion of a recent study that revealed adolescent females who skipped school or failed a test were more likely to have frequent sexual intercourse and less likely to use contraceptives (Hensel & Sorge, 2014)
- New research indicating that adolescent males who play sports engage in more risky sexual behavior while adolescent females who play sports engage in less risky sexual behavior (Lipowski & others, 2015)
- Inclusion of recent research indicating that a greater age difference between sexual partners in adolescence was associated with less consistent condom use (Volpe & others, 2013)
- Updated data on the percentage of adolescents who use contraceptives when they have sexual intercourse (Kann & others, 2014)
- Inclusion of a recent cross-cultural study of adolescent pregnancy rates in 21 countries (Sedgh & others, 2015)
- Updated statistics (including updated Figure 7) on the continuing decline in overall adolescent pregnancy rates in the United States and the decline in all ethnic groups (Martin & others, 2015)
- New coverage of recent research on the negative interactions of adolescent mothers with their infants and an intervention program that improved the mothers' parenting behavior and the children's outcomes (Guttentag & others, 2014; Riva Crugnola & others, 2014)
- Description of recent research that indicated higher levels of maternal education were linked to children's reading and math achievement through the eighth grade but that the achievement of adolescent mothers' children never reached the levels of non-adolescent mothers' children (Tang & others, 2015)

## Chapter 12: Gender and Sex

- Description of the most recent National Assessment of Educational Progress report (2014) in which girls continue to have higher reading achievement scores than boys
- New commentary about the multiple factors that may contribute to gender differences in academic achievement in areas such as reading and math (Eccles, 2014; Wigfield & others, 2015)
- Updated research on the lack of benefits when students attend same-sex schools (Pahlke, Hyde, & Allison, 2014)
- Coverage of a longitudinal study in which preschool relational aggression predicted adolescent relational aggression for girls but not for boys (Nelson & others, 2014)
- Inclusion of information from a meta-analysis indicating that females are better than males at recognizing nonverbal displays of emotion (Thompson & Voyer, 2014)



- Coverage of a recent study of African American teen versus nonteen mothers and fathers comparing long-term life outcomes in a number of areas (Assini-Meytin & Green, 2015)
- New description of the U.S. government's Teen Pregnancy Prevention (TPP) program that is under the direction of the recently created Office of Adolescent Health (Koh, 2014)
- Description of the following recent study that reflects the uncertainty in the sexual relationships of emerging adults: More than half of daters and cohabitators reported a breakup followed by a reunion (Halpern-Meekin & others, 2013)
- Coverage of a recent study of 18- to 26-year-olds that revealed perceived relationship commitment was associated with sexual enjoyment (Galinsky & Sonenstein, 2013)
- New discussion of a recent study of almost 8,000 emerging adults that found males had more permissive sexual attitudes, especially regarding casual sexual encounters, than did females (Sprecher, Treger, & Sakaluk, 2013)
- Inclusion of a recent meta-analysis that revealed 60 percent of rape victims do not acknowledge their rape, with an especially high percent not acknowledging rape in the college years (Wilson & Miller, 2015)
- Inclusion of a recent study that revealed 20 percent of first-year college women students engaged in hooking up at least once during the school year and that certain characteristics were linked with a likelihood of hooking up (Fielder & others, 2013)
- New commentary about "friends with benefits" and the high level of casual sex that is now common among emerging adults (Owen, Fincham, & Manthos, 2013)
- Expanded content on bisexuality, including recent evidence indicating that it is not merely a stepping stone to homosexuality but rather is a stable sexual orientation that involves being sexually attracted to people of both sexes (King, 2014)
- New content indicating that women are more likely than men to change their sexual patterns and desires and that women are more likely to be bisexual (King, 2014; Mock & Eibach, 2012)
- Discussion of a recent study of sedentary women that found 6 months of aerobic training decreased their menopausal symptoms (Moilanen & others, 2012)
- Coverage of a recent study that found yoga improved the quality of life of menopausal women (Reed & others, 2014)
- Description of recent research indicating that when women start HRT in their fifties and continue its use for 5 to 30 years, there is an increase of 1.5 quality years of life (Hodis & Mack, 2014)
- Coverage of a recent meta-analysis that found hormone replacement therapy was linked to decreased rates of lung cancer in females, especially nonsmoking females and females with BMIs lower than 25kg/m (Yao & others, 2013)
- Significantly revised discussion of the role of testosterone in the lives of middle-aged men and the dramatic increase in the use of testosterone replacement therapy (TRT) to increase the level of testosterone (Khera & others, 2014; Rahnema & others, 2014)
- Coverage of two recent studies that found TRT improved older men's sexual function as well as their mood (Miner & others, 2013; Okada & others, 2014)
- Discussion of a recent study that found a higher testosterone level was linked to better episodic memory in middle-aged males (Panizzon & others, 2014)
- Description of a recent study of adults 55 years and older indicating that levels of sexual activity were associated with their physical and mental health (Bach & others, 2013)
- New commentary noting that the benefit-risk ratio for testosterone replacement therapy in older adults is uncertain (Isidori & others, 2014)

## Chapter 13: Moral Development, Values, and Religion

- Changes based on feedback from leading expert Sam Hardy
- New section on Jonathan Haidt's (2013) criticism of Kohlberg's view of moral reasoning as always conscious and deliberate, and his lack of attention to the automatic, intuitive precursors of moral reasoning
- New section on the criticism that Kohlberg's moral development theory ignores the importance of emotion in moral thinking
- Added conclusion to criticisms of Kohlberg's theory noting that although it is an important theory of moral development it is no longer as influential and dominant as it once was
- Inclusion of recent research in which young children's sympathy predicted whether they would share with others (Ongley & Malti, 2014)
- Coverage of a recent study of 18- to 30-month-olds indicating that those whose parents more frequently labeled emotions and mental states during joint play and who elicited this type of talk during book reading were more likely to quickly engage in empathic helping when the experimenter was in distress (Drummond & others, 2014)
- Expanded discussion of contemporary views of conscience to include its roots in close relationships, connection with advances in self-understanding and understanding of others, and links to affective feelings (Thompson, 2014)
- Expanded and updated discussion of the view of Sam Hardy and his colleagues (Hardy & others, 2014) about the importance of morality as part of one's identity
- Added commentary noting that the point of conducting research on moral exemplars is to study the ideal end point of moral development
- Inclusion of recent research with college students in which moral identity predicted all five health outcomes assessed (anxiety, depression, hazardous alcohol use, sexual risk taking, and self-esteem) (Hardy & others, 2013)
- Description of a recent study in which a higher level of moral identity was found to possibly reduce the negative effects of moral disengagement and low self-regulation (Hardy, Bean, & Olsen, 2015)
- Expanded description of domain theory based on the views of Judith Smetana (2013) and Eliot Turiel (2014, 2015) and addition of Smetana and Turiel as key people involved in content related to this chapter

- Coverage of a recent study exploring how extensively children cheat and factors involved in whether they cheat (Ding & others, 2014)
- Important new section on whether infants engage in prosocial behavior and have moral awareness, including recent research describing how these qualities can be assessed in preverbal infants and the outcomes of the research (Hamlin, 2013, 2014; Hamlin & others, 2011, 2015)
- Expanded discussion regarding why adolescents are more likely to engage in prosocial behavior than children are (Eisenberg, Spinrad, & Morris, 2013)
- Discussion of a recent study that found even 5-year-olds were inclined to give more to poor than wealthy individuals (Paulus, 2014)
- Description of a recent study in which 8-year-olds were more likely to donate resources to needy peers than were 4-year-olds (Ongley, Nola, & Malti, 2014)
- Inclusion of recent research involving a series of studies that found older adults engaged in altruistic behavior more than younger adults (Freund & Blanchard-Fields, 2014)
- Updated description of the controversy regarding whether adolescents should be tried as adults for certain criminal acts (Cauffman & others, 2015; Shulman & Steinberg, 2015)
- Inclusion of research on a recent intervention study that found a combination of a parenting program and a teacher development program led to a reduction in the incidence of conduct disorder in African American boys from low-income backgrounds (Dawson-McClure & others, 2015)
- Discussion of a recent study in which youth with conduct disorder that had begun in childhood had more cognitive impairment, psychiatric problems, and serious violent offenses than youth with conduct disorder characterized by the onset of antisocial behavior in adolescence (Johnson & others, 2015)
- Coverage of a recent study that found low rates of delinquency among adolescents and emerging adults from 14 to 23 years of age were associated with an authoritative parenting style (Murphy & others, 2012)
- Discussion of a recent research review indicating that prevention programs focused on the family context were more effective in reducing persistent delinquency than were individual and group-focused programs (de Vries & others, 2015)
- Inclusion of recent research in which mothers' reports of their sons' impulsiveness at 15 years of age predicted the sons' arrest records up to 6 years later (Bechtold & others, 2014)
- Description of a recent study involving the Fast Track program that revealed adolescents' delinquent behavior was linked to three social cognitive processes: reducing hostile-attribution biases, improving responses to social problems, and devaluing aggression (Dodge, Godwin, & The Conduct Problems Prevention Research Group, 2013)
- Updates on Jewel Cash's and Nina Vasan's careers and work
- Updated information about the goals of first-year college students in relation to the relative importance they place on developing a meaningful philosophy of life versus becoming well-off financially (Eagan & others, 2014)
- Description of a recent study that found when youth attend religious services with their parents, this activity enhances the positive influence of parenting on their psychological well-being (Petts, 2014)
- Inclusion of data from a recent Pew Research Center (2012) survey on age variations in the percentage of U.S. adults who have a religious affiliation
- Coverage of a recent study that found highly religious individuals were less likely than their moderately religious, somewhat religious, and nonreligious counterparts to be psychologically distressed (Park, 2013)
- Updated information about Gabriel Dy-Liacco in the *Connecting with Careers* box
- Coverage of a longitudinal study that found religious service attendance was stable in middle adulthood, increased in late adulthood, then declined in the older adult years (Hayward & Krause, 2013a)
- Inclusion of a recent study in which older adults who had a higher level of religious identification were less likely to be depressed (Ysseldyk, Haslam, & Haslam, 2013)
- Coverage of a recent study that revealed older adults who attended church regularly over a period of seven years increased the amount of emotional support they gave and received but decreased the amount of tangible support they gave and received (Hayward & Krause, 2013b)
- Description of a recent study in which religious attendance was linked to increased longevity (Kim, Smith, & Kang, 2015)

## Chapter 14: Families

- Some changes based on feedback from leading expert Jennifer Lansford
- Coverage of a recent study that found maternal scaffolding was associated with higher verbal IQ scores in preschool children born with a very low birth weight (Lowe & others, 2014)
- New research that found the increased risk of marital dissolution in cohabitators compared with those who married without previously cohabiting was much smaller when the couples had cohabited in their mid-twenties or later (Kuperberg, 2014)
- Updated information indicating that marriage and divorce rates in the United States are continuing to decline (National Center for Vital Statistics, 2013; U.S. Census Bureau, 2013)
- Discussion of recent research that found newlyweds who had a high level of general disposition optimism had higher marital satisfaction across the first year of the marriage while newlyweds who had a high level of specific relationship optimism had more marital problems across this time frame (Neff & Geers, 2013)
- Coverage of a recent study indicating that couples who participated in premarital education had higher marital quality (Rhoades & Stanley, 2014)
- Coverage of a recent study in which low levels of agreeableness and conscientiousness and high levels of

neuroticism and openness to experience were linked to daily experiences over time that reduced relationship quality and eventually led to a breakup (Solomon & Jackson, 2014)

- Inclusion of content from a recent Pew Research Center (2015) poll of 40- to 50-year-old U.S. women that found those with a master's degree or higher first became mothers at age 30 but their counterparts with lower levels of education became parents at age 24
- Discussion of recent research indicating that an increasing number of children are growing up in homes in which their parents have never been married and that this is far more likely to occur when the mother has a low level of education (Gibson-Davis & Rackin, 2014)
- Updated statistics on the marriage and divorce rates of older adults (U.S. Census Bureau, 2013)
- Description of recent research that revealed older adult men were more satisfied with their marriages than were older adult women (Boerner & others, 2014)
- New commentary about Russia having the highest divorce rate in the world (UNSTAT, 2011)
- Description of a recent study in Finland that found divorce rates peak approximately 5 to 7 years into a marriage and then gradually decline (Kulu, 2014)
- Description of recent research that found women who became divorced from 40 to 59 years of age reported becoming more lonely following the divorce than men who became divorced in this age period (Nicolaisen & Thorsen, 2014)
- Inclusion of recent research in which middle-aged women in very low-quality marriages were found to gain life satisfaction following divorce (Bourassa, Sbarra, & Whisman, 2015)
- Discussion of a recent study that revealed a positive attitude about divorce, low marital quality, and divorce proneness were more common in remarried individuals than their counterparts in first marriages (Whitton & others, 2013)
- Updated data indicating that the remarriage rate in the United States had declined in recent years, with one reason for the decline involving the dramatic increase in cohabitation (U.S. Census Bureau, 2013)
- New coverage of the higher rates of divorce in second and third marriages compared with first marriages (Banschick & Tabatsky, 2011)
- New discussion of a recent survey indicating that fathers and mothers wish they could spend more time with their children but that both mothers and fathers are spending more time with their children today than parents did a generation ago (Pew Research Center, 2013)
- Description of a recent research review that concluded parents are unhappy when they experience more negative emotions, more financial problems, more sleep problems, and have a troubled marriage (Nelson, Kushlev, & Lyubomirsky, 2014). In this study, parents were happy when they experienced meaning in life, satisfied basic needs, and had positive social roles.
- Inclusion of recent research indicating that maternal scaffolding, sensitivity, and support for autonomy were

linked to better executive function in preschool children (Blair, Raver, & Berry, 2014)

- New coverage of the increasing number of countries (41) that are banning physical punishment as part of an effort to promote children's rights related to abuse and exploitation (Committee on Rights of the Child, 2014)
- Discussion of a recent study in which 80 percent of U.S. parents reported spanking their children by the time they reached kindergarten (Gershoff & others, 2012)
- New commentary based on a research review by Elizabeth Gershoff (2013) noting that the defenders of spanking have not produced any evidence that spanking is linked to positive outcomes for children and that negative outcomes of spanking have been replicated in many studies
- New content on the correlational nature of research on punishment, as well as bidirectional, reciprocal socialization influences that take into account child characteristics and problems (Laible, Thompson, & Froimson, 2015; Sheehan & Watson, 2008)
- Coverage of a recent study in which unmarried African American parents who were instructed in coparenting techniques during the prenatal period and also one month after the baby was born improved their rapport, communication, and problem-solving skills when the baby was 3 months old (McHale, Salman-Engin, & Coovert, 2015)
- Discussion of recent research indicating that child maltreatment at 3 to 5 years of age was more strongly associated with depression in early adulthood than maltreatment in other age periods (Dunn & others, 2013)
- Inclusion of a 30-year longitudinal study that found offspring of parents who engaged in child maltreatment and neglect are at risk for engaging in child neglect and sexual maltreatment themselves (Widom, Czaja, & DuMont, 2015)
- Description of a recent study that revealed low parental monitoring was associated with adolescent depression (Yap & others, 2014)
- Inclusion of recent research indicating that low parental monitoring was a key factor in predicting a developmental trajectory of delinquency and substance use in adolescence (Wang & others, 2014)
- Coverage of recent research on differing expectations of Mexican immigrant mothers and their U.S.-born 13- and 14-year-old daughters regarding the daughters' autonomy at 15 years of age (Romo, Mireles-Rios, & Lopez-Tello, 2014)
- Inclusion of recent research that found avoidant attachment predicted suicidal behavior in adolescents (Sheftall, Schoppe-Sullivan, & Bridge, 2014)
- Description of a recent study in which a higher level of parent-adolescent conflict was associated with higher adolescent anxiety, depression, and aggression, and lower self-esteem (Smokowski & others, 2015)
- New research indicating that childhood divorce was linked to worse cohabiting/marital relationships from 16 to 30 years of age, but that these associations were influenced by a variety of factors, such as childhood sexual abuse and lower SES status of the child at birth (Fergusson, McLeod, & Horwood, 2014)

- Inclusion of recent research in which children were more likely to have behavior problems if the post-divorce home environment was less supportive and stimulating, their mother was less sensitive and more depressed, and the household income was lower (Weaver & Schofield, 2015). Also in this study, higher levels of predivorce maternal sensitivity and child IQ served as protective factors in reducing child problems after the divorce.
- Description of recent research on almost 3,000 adolescents that revealed a negative association of the father's, but not the mother's, unemployment with the adolescents' health (Baciková-Slesková, Benka, & Orosová, 2014)
- Discussion of a recent study that found spillover effects from the mother's work on adolescents' health (Lawson & others, 2014)
- Inclusion of recent research that found more positive parenting in adoptive gay father families and fewer child externalizing problems in these families than in heterosexual families (Golombok & others, 2014)
- New content on how an increasing number of adoptions in the next decade will come from the child welfare system (Grotevant & McDermott, 2014)
- Coverage of a recent research review that concluded children who are adopted are more likely than those growing up with biological parents to have problems in three areas: externalized, internalized, and attentional (Grotevant & McDermott, 2014)
- New coverage of a longitudinal study on the positive outcomes of contact for birth mothers, adoptive parents, and birth children (Grotevant & others, 2013)
- Update on the continued increase in the age at which women have their first child (U.S. Census Bureau, 2013)
- Discussion of a recent review that concluded grandparents who raise grandchildren are especially at risk for developing depression (Hadfield, 2014)
- Coverage of a recent study that found middle-aged adults positively supported family responsibility to emerging adult children but were more ambivalent about providing care for aging parents, viewing it as both a joy and a burden (Igarashi & others, 2013)
- Inclusion of recent research in which adolescents' dating popularity was associated with their peer popularity (Houser, Mayeux, & Cross, 2014)
- Description of a recent study of 13- to 23-year-olds that revealed early adolescent pseudomature behavior was associated with a desire to be popular with peers (Allen & others, 2014). In this study, pseudomature behavior was linked to long-term problems in close relationships, substance abuse, and a higher level of criminal behavior.
- Inclusion of recent research in which college students with risky social networks (friends who drink, for example) were ten times more likely to engage in alcohol abuse (Mason, Zaharakis, & Benotsch, 2014)
- Coverage of a recent study that indicated low peer status in childhood was linked to an increased probability of being unemployed and having mental health problems in adulthood (Almquist & Brannstrom, 2014)
- Discussion of recent research revealing higher levels of depression and suicide in children who are the victims of bullying (Yen & others, 2014)
- Description of a recent study that found peer victimization in the fifth grade was linked to worse physical and mental health in the tenth grade (Bogart & others, 2014)
- Inclusion of information from a recent meta-analysis that found both negative and positive parenting practices were linked to bullying and victimization (Lereya, Samara, & Wolke, 2013)
- Discussion of a recent analysis that concluded bullying can have long-term effects, including difficulty establishing long-term relationships and problems at work (Wolke & Lereya, 2015)
- Coverage of a longitudinal study in which adolescents experiencing social and emotional difficulties were more likely to be both cyberbullied and traditionally bullied than to be traditionally bullied only (Cross, Lester, & Barnes, 2015)
- Expanded and updated discussion of the costs and benefits of bullying in the context of the peer group, including a longitudinal study that revealed short-term benefits for bullies (Reijntjes & others, 2013)
- Description of a recent study that indicated peer victimization during the elementary school years was a leading predictor of internalizing problems in adolescence (Schwartz & others, 2015)
- Discussion of a recent meta-analysis that revealed being the victim of cyberbullying was linked to stress and suicidal ideation (Kowalski & others, 2014)
- Inclusion of information from a recent meta-analysis in which traditional bullying occurred twice as much as cyberbullying and that those who engaged in cyberbullying were often likely to have also engaged in traditional bullying (Modecki & others, 2014)
- Coverage of recent research that found cyberbullying was more strongly associated with suicidal ideation than traditional bullying was (van Geel, Vedder, & Tanilon, 2014)

## Chapter 15: Peers and the Sociocultural World

- Coverage of a recent study in which having friends who engage in delinquency is associated with earlier onset of delinquent behavior and more persistent delinquency (Evans, Simons, & Simons, 2015)
- Description of a recent study that compared the effects of parent, teacher, and peer events and found that negative peer events (fighting or arguing with a peer, for example) were most likely to account for maintaining depressive symptoms across a two-year period in early adolescence (Herres & Kobak, 2015)
- Discussion of a longitudinal study of adolescents 13 to 23 years of age in which adolescents' autonomy from peer influences predicted long-term success in avoiding

- New research review in which antibullying interventions that focused on the whole school, such as Olweus', were more effective than interventions involving classroom curricula or social skills training (Cantone & others, 2015)
- Discussion of a recent study of older adults that found that activities with friends increased positive affect and life satisfaction (Huxhold, Miche, & Schüz, 2014)
- Inclusion of recent research on 60- to 80-year-olds indicating that the partner's death was more strongly associated with loneliness in men than in women (Nicolaisen & Thorsen, 2014)
- Inclusion of recent research on elderly adults that revealed both loneliness and social isolation were associated with decreased cognitive functioning four years later (Shankar & others, 2013)
- Coverage of a recent study in which the most consistent factor associated with loneliness in older adults at 70, 78, and 85 years of age was not being married (Stessman & others, 2014)
- Inclusion of recent research in which older adults with higher levels of social integration were less depressed (Ivan Santini & others, 2015)
- Description of a recent study of Canadian older adults in which those who were more physically active had higher life satisfaction and greater social interaction than their physically inactive counterparts (Azagba & Sharaf, 2014)
- Coverage of a recent study in which having multiple chronic diseases was linked to a lower level of successful aging (Hsu, 2015)
- Inclusion of recent research on 90- to 91-year-olds that found living circumstances, independence, health, and a good death were associated with successful aging (Nosratty & others, 2015)
- Discussion of a recent Canadian study on the self-rated predictability of successful aging at different age levels and factors that influenced successful aging (Meng & D'Arcy, 2014)
- Description of a study from 1990 to 2007 of 18- to 65-year-old Chinese that found individuals increasingly have been including individualistic characteristics in their descriptions of what constitutes happiness and well-being (Steele & Lynch, 2013)
- Coverage of a longitudinal study from 1970 to 2008 which found that although China is still characterized by collectivistic values, Chinese people increasingly use words that index individualistic values (Zeng & Greenfield, 2015)
- Coverage of a recent study in which playing action video games improved attentional control (Chisholm & Kingstone, 2015)
- Discussion of a recent study that found video game consumption was linked to rape myth acceptance through connections with interpersonal aggression and hostile sexism (Fox & Potocki, 2015)
- Inclusion of recent research with 9- to 11-year-olds that revealed a higher number of screens in the child's bedroom was associated with higher risk of obesity (Chaput & others, 2014)
- Description of a recent research review that found when children's and adolescents' screen time exceeded two hours a day, they were more likely to be overweight or obese (Atkin & others, 2015)
- Coverage of a recent research review that concluded more extensive screen time was linked to negative sleep outcomes, especially for computer use, video games, and mobile devices (Hale & Guan, 2015)
- Discussion of a recent study in which parental reduction in their own screen time was associated with decreased child screen time (Xu, Wen, & Rissel, 2015)
- Inclusion of recent research in which duration of screen time was linked to depression and anxiety (Maras & others, 2015)
- New description of a recent meta-analysis of studies in 14 countries that found positive outcomes of *Sesame Street* viewing on children's development in three areas: (1) cognitive, (2) learning about the world, and (3) social reasoning and attitudes toward outgroups (Mares & Pan, 2013)
- Inclusion of recent research in which a higher degree of parental monitoring of media use was linked to a number of positive outcomes (more sleep, better school performance, less aggressive behavior, and more prosocial behavior) (Gentile & others, 2014)
- Inclusion of recent data from a national study on various aspects of Internet use by older adults (Smith, 2014)
- Discussion of a longitudinal study that revealed Internet use by older adults reduced their likelihood of becoming depressed by one-third (Cotten & others, 2014)
- Discussion of a recent study of older adults that revealed increased use of the Internet was associated with greater ease in meeting new people, reduced isolation, and stronger connections with friends and family (Cotten, Anderson, & McCullough, 2013)
- Updated statistics on poverty levels in U.S. families with children and adolescents, including data for ethnic groups and single-mother-headed households (De Navas-Walt & Proctor, 2014)
- Inclusion of recent research with youth that revealed living in neighborhoods where poverty increased from the time they were 11 to 19 years of age was associated with an increased allostatic load, except when the youth experienced high emotional support (Brody & others, 2014)
- Coverage of a recent intervention program (the Positive Action program) that assessed youth from the third to eighth grades in 14 schools in low-income areas of Chicago (Lewis & others, 2013). Compared to a control group, students in the intervention program engaged in lower rates of violence-related behavior and received fewer disciplinary referrals and school suspensions.
- Discussion of a recent study of more than 500 high school students living in low-income areas of Los Angeles who were selected through a random admissions lottery to attend high-performing charter schools, which resulted in the students doing better on standardized tests of math and Eng-

lish and being less likely to drop out of school (Wong & others, 2014)

- Description of a recent study in which processing speed was slower in older adults living in poverty (Zhang & others, 2015)

## Chapter 16: Schools, Achievement, and Work

- New coverage of the recently developed Common Core Standards Initiative to provide more detailed guidelines and milestones for students to achieve at each level, and a discussion of the controversy the Standards have generated (Common Core State Standards Initiative, 2014)
- Description of a recent study in which one year of Head Start participation was linked to higher levels of performance in early math, early reading, and receptive vocabulary (Miller & others, 2014)
- Updated data on school dropout rates indicating a continuing decline in dropouts among various ethnic groups (Child Trends, 2014; National Center for Education Statistics, 2014)
- Updated and expanded coverage of differing incomes of high school and college graduates in a year and in a lifetime (Daly & Bengali, 2014)
- Updated content on how overwhelmed U.S. college students are feeling with all they have to do (Eagan & others, 2014)
- Updated data from the 2011–2012 school year (including updated Figure 3) on the percentage of students who receive special education services and the areas in which they receive those services (Condition of Education, 2014)
- New coverage of recent research interest in the possibility that neurofeedback may reduce the level of ADHD symptoms in children (Gevensleben & others, 2014; Steiner & others, 2014a, b)
- New information about how neurofeedback works, including links between EEG patterns and the main brain region involved in using neurofeedback with children who have ADHD
- Description of a recent experimental study that found biofeedback was effective in reducing ADHD symptoms and also improved children’s academic performance (Meisel & others, 2013)
- New description of the use of mindfulness in treating ADHD children (Cassone, 2015; Converse & others, 2014), and discussion of recent research indicating that mindfulness training can be effective in improving the attention of adolescents who have ADHD at least in the short term (van de Weijer-Bergsma & others, 2012)
- New coverage of the possibility that exercise might improve the functioning of children with ADHD, including recent research indicating that a single 20-minute bout of moderately intense aerobic exercise improved the neurocognitive functioning and inhibitory control of children with ADHD (Pontifex & others, 2013)
- New description of reasons that aerobic exercise might reduce negative symptoms in children with ADHD (Chang & others, 2012)
- New coverage of the proposed change in the DSM-V psychiatric classification system that involves having an overarching single category called autism spectrum disorder (Autism Research Institute, 2015)
- Updated data on the percentage of time students with disabilities spend in the general classroom, revealing that the percentage has reached the highest level (61 percent) since it was first assessed (Condition of Education, 2014)
- New discussion of recent research indicating that underachieving high school students who read online modules about how the brain changes when you learn and study improved their grade point averages (Paunesku & others, 2015)
- Description of a longitudinal study of university students in which a nonlimited theory of mind predicted better self-regulation and higher grades (Job & others, 2015)
- Inclusion of recent research indicating that the superior academic performance of Asian American children was due to their greater effort and not to advantages in tested cognitive abilities or sociodemographic factors (Hsin & Xie, 2014)
- New coverage of Eva Pomerantz’ (2014) parenting recommendations related to students’ motivation in school
- New *Connecting with Research* box that describes the research of Eva Pomerantz and her colleagues (Cheung & Pomerantz, 2012; Ng, Pomerantz, & Lam, 2013; Pomerantz, Cheung, & Qin, 2012; Pomerantz, Kim, & Cheung, 2012; Qu & Pomerantz, 2015) focusing on the role of parenting in children’s learning and achievement. Details about three studies are discussed in the Research box, one indicating that Chinese parents are more involved in their children’s learning than are U.S. parents (Cheung & Pomerantz, 2012), the second that Chinese parents use more psychological control with their children than do U.S. parents (Ng, Pomerantz, & Deng, 2014), and the third that young Chinese adolescents have a greater sense of responsibility to parents than do their U.S. counterparts, with the U.S. students’ sense of responsibility, but not the Chinese students’, declining across two years (Qu & Pomerantz, 2015)
- New discussion of recent research on some negative outcomes of authoritarian parenting on Chinese-American immigrant children (Zhou & others, 2012)
- New coverage of two recent books on the strong disciplinary orientation of Chinese parents: *Battle Hymn of the Tiger Mom* (2011) and *Tiger Babies Strike Back* (2013)
- Updated data on the percentage of full-time and part-time college students who work while attending college (National Center for Education Statistics, 2013)
- Description of a recent study in which high school students who held part-time jobs were more likely to drink alcohol, binge drink, and use marijuana (Leeman & others, 2014)
- New coverage of the unemployment rate of recent college graduates and the high percentage who must take jobs that do not require a college degree (Center for Economic and Policy Research, 2014; Gabor, 2014)
- Discussion of a recent study in which stressors at work were linked to arterial hypertension in employees (Lamy & others, 2015)

- Coverage of a recent study in which 90 or more days of unemployment was associated with subsequent cardiovascular disease across an 8-year follow-up period (Lundin & others, 2014)
- Expanded outcomes of unemployment to include research on an increase in substance abuse (Compton & others, 2014)
- Description of recent studies that found unemployment was linked to an increase in cardiovascular disease (Lundin & others, 2014) and suicide (Milner & others, 2014; Phillips & Nugent, 2014)
- Discussion of a recent study in which unemployment was associated with higher mortality but the link was stronger for those who were unmarried (Van Hedel & others, 2015)
- Coverage of longitudinal data that revealed low self-control in childhood was linked to the emergence and persistence of self-control from 21 to 50 years of age (Daly & others, 2015)
- Updated information about fastest-growing job categories through 2022 in the United States (Occupational Outlook Handbook, 2014)
- Description of recent research in which women reported more family interference from work than did men (Allen & Finkelstein, 2014)
- Inclusion of recent research in which partner coping, having a positive attitude about multiple roles, using planning and management skills, and not having to cut back on professional responsibilities were linked to better relationships between dual earners (Matias & Fontaine, 2015)
- Coverage of a recent study of middle-aged adults that found difficulty managing different job demands was associated with poor health (Nabe-Nielsen & others, 2014)
- New discussion of research by leading Finnish expert Clas-Haken Nygard (2013) indicating that the ability to work effectively peaks in middle age, including coverage of factors related to quality of work in middle age, and links between various aspects of work in middle age and health and well-being in late adulthood
- Description of research indicating that work performance in middle age was associated with mortality and disability 28 years later (von Bonsdorff & others, 2011, 2012)
- Updated data on the dramatic increase in the percentage of older adults who are in the work force and projections to 2020, including gender differences (Short, 2015)
- Updated content on the increasing number of countries and U.S. states in which assisted suicide is legal
- Commentary that although Canada has yet to legalize assisted suicide, a recent survey indicated that a majority of Canadians favored legalization (Schafer, 2013)
- Inclusion of information from a recent research review indicating that the percentage of physician-assisted deaths range from 0.1 to 0.2 percent in the United States compared with 1.8 to 2.9 percent in the Netherlands (Steck & others, 2013). This review found that the percentage of assisted suicides has increased in recent years and the individuals who die through assisted suicide are most likely to be males from 60 to 75 years of age.
- New content on why euthanasia is such a controversial issue
- Updated data on the percentage of U.S. adolescents who seriously consider suicide each year (Kann & others, 2014)
- Inclusion of recent research in which both depression and hopelessness were predictors of whether adolescents would repeat a suicide attempt across a six-month period (Consoli & others, 2015)
- Updated data on the countries with the highest suicide rates for males and females, including data for the United States (Centers for Disease Control and Prevention, 2013) and new data on the age ranges in which suicide happens most often
- New discussion of the lack of a national study of suicide rates in sexual minority adolescents and inclusion of recent research in Boston indicating that suicidal ideation and attempts were higher in adolescents living in neighborhoods with higher rates of crimes against gay, lesbian, and bisexual adolescents (Duncan & Hatzenbuehler, 2014)
- Coverage of recent research that found peer victimization was linked to suicidal ideation and suicide attempts, with cyberbullying more strongly associated with suicidal ideation than traditional bullying (van Geel, Vedder, & Tanilon, 2014)
- Description of a recent study that revealed playing sports predicted lower suicidal ideation in boys and that venting by talking to others was associated with lower suicidal ideation in girls (Kim & others, 2014)
- Inclusion of recent research indicating that authoritative parenting was linked to fewer adolescent suicide attempts while rejecting/neglecting parenting was associated with a higher likelihood of adolescent suicide attempts (Donath & others, 2014)
- New Figure 5 on what to do and what not to do when someone is likely to attempt suicide
- Coverage of recent research that identified four meaning-making processes (sense making, benefit finding, continuing bonds, and identity reconstruction) in parent-physician bereavement meetings following a child's death (Meert & others, 2015)
- Description of a recent study in which older adults who were bereaved had more dysregulated cortisol patterns, indicative of the intensity of their stress (Holland & others, 2014)
- Discussion of recent research that found college students who had lost someone close to them in college shootings

## Chapter 17: Death, Dying, and Grieving

- Some changes based on feedback from leading expert Crystal Park
- New commentary that while the color black is associated with death in the United States, white is associated with death in China
- Discussion of a recent study in which advance care planning decreased life-sustaining treatment, increased hospice use, and decreased hospital use (Brinkman-Stoppelenburg, Rietjens, & van der Heide, 2014)
- Description of a recent study that revealed physicians have a positive view of advance directives (Coleman, 2013)

and had severe posttraumatic stress symptoms four months later were more likely to have severe grief one year after the shootings (Smith & others, 2015)

- In a study of individuals diagnosed with complicated grief, 40 percent reported at least one full or limited-symptom grief-related panic attack in the past week (Bui & others, 2015)
- Inclusion of recent data indicating that approximately 7 to 10 percent of bereaved individuals experience prolonged or complicated grief (Maccalum & Bryant, 2013; Shear, Ghesquiere, & Glickman, 2013)
- Description of a recent study in which widowed individuals in 2011, especially women, reported fewer social and financial difficulties than their counterparts in 1979 (Perrig-Chiello & others, 2015). Nonetheless, there were no differences in the widowed individuals' depression and psychological difficulties across the two time frames.
- New commentary noting that becoming widowed is especially difficult for individuals who have been happily married for a number of decades
- Coverage of a recent study that found individuals in the early stages of spousal bereavement are at increased risk of distress in situations with special significance for the couple, such as the late spouse's birthday or a wedding anniversary (Carr & others, 2014)
- Updated discussion of complicated or prolonged grief disorder and DSM-5, including the recent decision by the

American Psychiatric Association (2013) not to include it as a psychiatric disorder but to relegate a description of the condition to an appendix. The main reason complicated or prolonged grief was not included as a psychiatric disorder was the concern that a normal grieving process would be turned into a medical condition.

- New description of what to say and do versus what not to say and do when a person is grieving
- Updated data on the dramatic increase in the percentage of people in the United States who choose cremation (45 percent in 2013, 27 percent in 2000, and 14 percent in 1985) (Cremation Association of North America, 2015)
- Description of a recent study in which becoming widowed was associated with a 48 percent increase in risk of mortality (Sullivan & Fenelon, 2014). In this study, mortality risk increased for men if their wives' deaths were unexpected, but unexpected death of a husband mattered less for women in terms of mortality risk.
- Coverage of a recent study in which widowed individuals, especially those in age-heterogamous unions (between partners of significantly different ages), had worse mental health than married persons but not worse physical health (Choi & Vasunilashorn, 2014)
- Description of a recent study that found widowed persons who did not expect to be reunited with their loved ones in the afterlife reported more depression, anger, and intrusive thoughts 6 and 18 months after their loss (Carr & Sharp, 2014)



## Online Instructor Resources

The resources listed here accompany *A Topical Approach to Life-Span Development*, 8th 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 xii-xiv.

## REVIEWERS

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## 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. *A Topical Approach to 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 one chapter titled "Introduction."

# 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



# preview

This book is a window into the journey of human development—your own and that of every other member of the human species. Every life is distinct, a new biography in the world. Examining the shape of life-span development helps us to understand it better. In this first chapter, we explore what it means to take a life-span perspective on development, examine the nature of development, discuss theories 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

Each of us develops partly like all other individuals, partly like some other individuals, and partly like no other individuals. 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 explore what is meant by the concept of development and why the study of life-span development is important. We outline the main characteristics of the life-span perspective and discuss various sources of contextual influences. In addition, we examine some contemporary concerns in life-span development.

## THE IMPORTANCE OF STUDYING LIFE-SPAN DEVELOPMENT

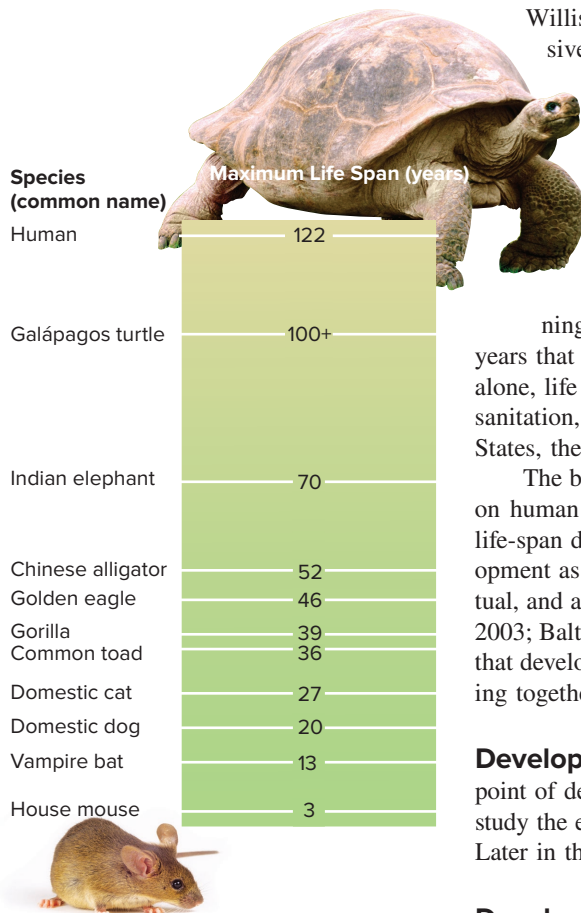
How might people benefit from examining life-span development? Perhaps you are, or will be, a parent or a teacher. If so, responsibility for children is, or will be, a part of your everyday life. The more you learn about them, the better you can deal with them. Perhaps you hope to gain some insight about your own history—as an infant, a child, an adolescent, or an adult. Perhaps you want to know more about what your life will be like as you move through the adult years—as a middle-aged adult or as an adult in old age, for example. Or perhaps you have just stumbled upon this course, thinking that it sounded intriguing and that the study of the human life span might raise some provocative issues. Whatever your reasons, you will discover that the study of life-span development is filled with intriguing 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 and dying. In exploring development, we examine the life span from the point of conception until the time when life—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 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 (Park & others, 2014;

**development** The pattern of movement or change that begins at conception and continues through the human life span.



**FIGURE 1**

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

(tortoise): © MediImages/SuperStock RF;  
(mouse): © Redmond Durrell/Alamy RF



What characterizes the life-span perspective on development?

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Willis, 2015). The traditional approach to the study of development emphasizes extensive change from birth to adolescence (especially during infancy), little or no change during 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 perspective emphasizes developmental change throughout adulthood as well as during childhood (Kennedy & Raz, 2015).

The recent increase in human life expectancy has 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; 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. During the twentieth century alone, life expectancy in the United States increased by 30 years, thanks to improvements in sanitation, nutrition, and medicine (see Figure 2). For individuals born today in the United States, their life expectancy is 79 years of age (U.S. Census Bureau, 2014).

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 characteristics.

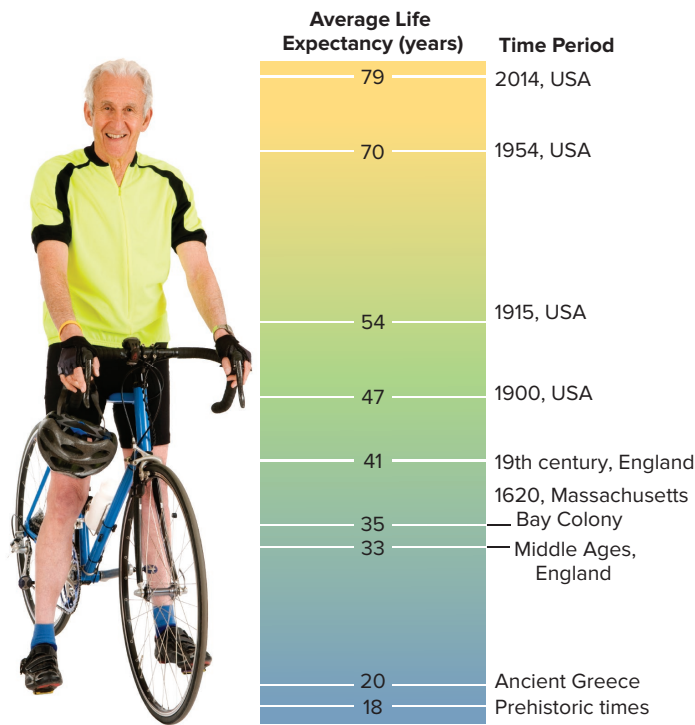
**Development Is Lifelong** In the life-span perspective, early adulthood is not the endpoint of development; rather, no age period dominates development. Researchers increasingly study the experiences and psychological orientations of adults at different points in their lives. Later in this chapter,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

**Development Is Multidimensional** At every age, your body, your mind, your emotions, and your relationships change and affect each other. Development has biological, cognitive, and socioemotional dimensions. Within each of these dimensions 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.

**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 (Levitt, 1989). During adolescence, as individuals establish romantic relationships, their time spent with friends may decrease. During late adulthood, older adults might become wiser by calling on past experience to guide their intellectual decision making (Maynard & others, 2014; Thomas & Kunzmann, 2014), but they perform more poorly on tasks that require speed in processing information (Hoogendam & others, 2014; Kennedy & others, 2015).

**Development Has Plasticity** 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 development of better strategies (Rebok & others, 2014). However, possibly we possess less capacity for change when we become old (Salthouse, 2015). The search for plasticity and its constraints is a key element on the contemporary agenda for developmental research (de Frias & Dixon, 2014; Luchetti & others, 2015).

**Developmental Science Is Multidisciplinary** Psychologists, sociologists, anthropologists, neuroscientists, and medical researchers all share an interest in unlocking



**FIGURE 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.  
 © Eliza Snow/iStockPhoto.com



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

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, neighborhoods, schools, peer groups, work settings, churches, university laboratories, cities, countries, and so on. Each of these settings is influenced by historical, economic, social, and cultural factors (Cushner, McClelland, & Safford, 2015).

Contexts, like individuals, change (Clarke-Stewart & Parke, 2014). 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 type of influence can have a biological or an 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 or environmental processes such as beginning formal education (usually at about age 6 in most cultures) and retirement (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 (Karlsson & others, 2015). For example, in their youth, American baby boomers shared experiences that included 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 of the 1930s, World War II during 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, cell phones, and iPods into everyday life in recent

**life-span perspective** View of development as being lifelong, multidimensional, multidirectional, plastic, multidisciplinary, and contextual; involving growth, maintenance, and regulation of loss; and constructed through biological, sociocultural, and individual factors working together.

**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, such as Hurricane Sandy in October 2012, are unusual circumstances that have a major impact on a person's life.

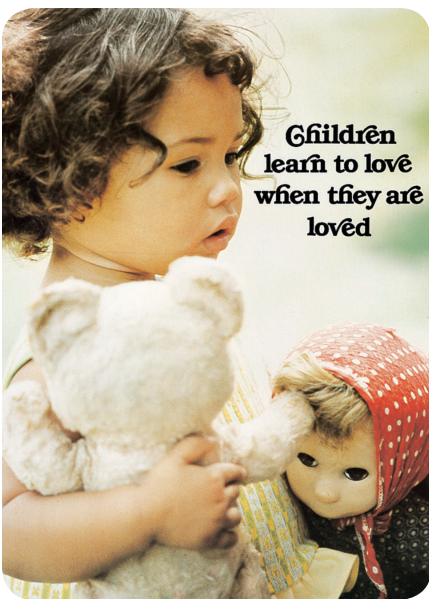
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**nonnormative life events** Unusual occurrences that have a major impact on an individual's life.

### developmental connection

#### Parenting

Which parenting style is most often linked with positive child outcomes? Connect to "Families, Lifestyles, and Parenting."



© Robert Maust/Photo Agora

decades (Schaie & Zanjani, 2014). 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 an individual's life. These events do not happen to all people, and when they do occur they can influence people in different ways. Examples include experiencing the death of a parent when one is still a child, becoming pregnant in early adolescence, surviving a fire that destroys one's 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 achieving 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 shift their attention away from growth. Thus, a 75-year-old man might aim not to improve his memory or his golf swing but to maintain his independence and merely to continue playing golf.

### 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, 2012). 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 have given 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 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 *A Topical Approach to Life-Span Development*.

**Health and Well-Being** Health professionals today recognize the power of lifestyles and psychological states in health and well-being (Donatelle, 2015; Schiff, 2015). Does a pregnant woman endanger her fetus if she drinks a few beers per week? How does a poor diet affect a child's ability to learn? Are children getting less exercise today than in the past? What roles do parents and peers play in whether adolescents abuse drugs? What health-enhancing and health-compromising behaviors do college students engage in? What factors are causing the obesity epidemic in the United States and around the world? How can older adults cope with declining health? We will discuss many questions like these regarding health and well-being. In every chapter, issues of health and well-being are integrated into our discussion.

**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 related to pressures on the contemporary family and the problems of U.S. schools (Cicchetti & Toth, 2015; Powell, 2015). In other chapters, we analyze child care, the effects of divorce, parenting styles, intergenerational relationships, early childhood education, relationships between childhood poverty and education, dual-language learning, new educational efforts to improve lifelong learning, and many other issues related to parenting and education (Fergusson, McLeod, & Horwood, 2014; Morrison, 2015).



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 be similar to or different from yours?*  
© Nancy Agostini



Around the world women too often are treated as burdens rather than assets in the political process. *What can be done to strengthen women's roles in the political process?*  
© Andy Nelson/The Christian Science Monitor/Getty Images



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 marry before they are 18. Doly organized a club supported by UNICEF in which girls go door-to-door monitoring the hygiene habits of households in their neighborhood, leading to improved hygiene and health in the families. Also, her group has stopped several child marriages by meeting with parents and convincing them that it is not in their daughter's best interests. When talking with parents, 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).  
Naser Siddique/UNICEF Bangladesh

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

**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. 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 (Berry, 2015; Cole & Tan, 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 instead is culture-specific (Polanczyk & others, 2015; Putnick & others, 2015; Sonuga-Barke, 2014).

**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 examples of broad ethnic groups in the United States. Diversity exists within each ethnic group (Banks, 2014). A special concern is the discrimination and prejudice experienced by ethnic minority children (Cheng, Cohen, & Goodman, 2015; Koppelman, 2014; Renzetti & Kennedy-Bergen, 2015).

The sociocultural context of the United States has become increasingly diverse in recent years. Its 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 (Marks & others, 2015; Murry & others, 2015).

**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 (Parillo, 2014).

**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 (Bigler, 2015; Hyde, 2014; Leaper, 2015; Liben, Bigler, & Hilliard, 2014).

**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. Out of

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

**cross-cultural studies** Comparisons 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)** Classification of a person's position in society based on occupational, educational, and economic characteristics.

**gender** The characteristics of people as females or males.

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



Marian Wright Edelman, president of the Children’s Defense Fund, has been a tireless advocate of children’s rights and instrumental in calling attention to the needs of children. *What are some of these needs?*  
 Courtesy of the Children’s Defense Fund and Marian Wright Edelman

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 the enactment of effective social policy (Duncan, Magnuson & Votruba-Drzal, 2015; Lerner & others, 2015; McLoyd, Mistry, & Hardaway, 2014).

Statistics such as infant mortality rates, mortality among children under age 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. For many years, Marian Wright Edelman, a tireless advocate of children’s rights, has pointed out that indicators like these place the United States at or near the low-end rank among industrialized nations in the treatment of children.

Children who grow up in poverty represent a special concern (Duncan & Magnuson, 2015; McCartney & Yoshikawa, 2015). In 2012, 21.8 percent of U.S. children were living in families with incomes below the poverty line, with African American and Latino families with children having especially high rates of poverty (more than 30 percent) (U.S. Census Bureau, 2014). The overall rate is an increase from 2001 (16.2 percent) but a slight decrease from a peak of 22.7 percent in 1993. As indicated in Figure 3, one study found that a higher percentage of U.S. children in poor families than in middle-income families were exposed to family turmoil, separation from a parent, violence, crowding, excessive noise, and poor housing (Evans & English, 2002). Another study revealed that the more years children spent living in poverty, the higher were their physiological indices of stress (Evans & Kim, 2007).

The U.S. figure of 21.8 percent of children living in poverty is much higher than child poverty rates in other industrialized nations. For example, Canada has a child poverty rate of 9 percent and Sweden has a rate of 2 percent.

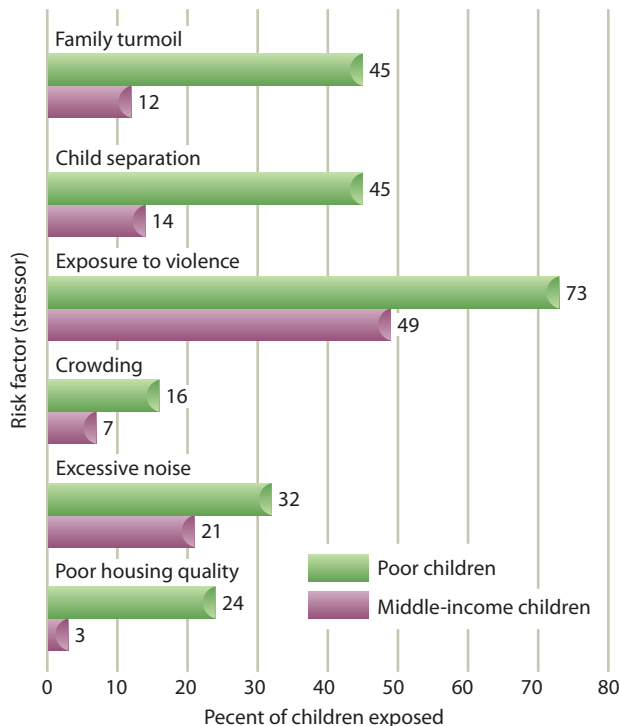
Edelman says that parenting and nurturing the next generation of children are our society’s most important functions and that we need to take them more seriously than we have in the past. To read about efforts to improve the lives of children through social policies, see *Connecting Development to Life*.

Some children triumph over poverty or other adversities. They show resilience. Are there certain characteristics that make children resilient? Ann Masten (2001, 2006, 2009, 2011, 2013, 2014a, b, c, d; Masten & others, 2015) concludes that individual factors, especially good intellectual functioning, and social contexts, especially positive parenting, are key aspects of children showing resilience in the face of adversity. Figure 4 shows the individual factors and social contexts that tend to characterize resilient children.

### developmental connection

#### Environment

An increasing number of studies are showing that positive outcomes can be achieved through intervention in the lives of children living in poverty. Connect to “Peers and the Sociocultural World.”



**FIGURE 3**  
**EXPOSURE TO SIX STRESSORS AMONG POOR AND MIDDLE-INCOME CHILDREN.** One study analyzed the exposure to six stressors among poor children and middle-income children (Evans & English, 2002). Poor children were much more likely to face each of these stressors.

Source	Characteristic
<b>Individual</b>	<ul style="list-style-type: none"> <li>Good intellectual functioning</li> <li>Appealing, sociable, easygoing disposition</li> <li>Self-confidence, high self-esteem</li> <li>Talents</li> <li>Faith</li> </ul>
<b>Family</b>	<ul style="list-style-type: none"> <li>Close relationship to caring parent figure</li> <li>Authoritative parenting: warmth, structure, high expectations</li> <li>Socioeconomic advantages</li> <li>Connections to extended supportive family networks</li> </ul>
<b>Extrafamilial Context</b>	<ul style="list-style-type: none"> <li>Bonds to caring adults outside the family</li> <li>Connections to positive organizations</li> <li>Attending effective schools</li> </ul>

**FIGURE 4**  
**CHARACTERISTICS OF RESILIENT CHILDREN: INDIVIDUAL FACTORS AND SOCIAL CONTEXTS**

## Improving Family Policy

In the United States, the national government, state governments, and city governments all play a role in influencing the well-being of children. When families neglect or seriously endanger a child's well-being, governments often step in to help. At the national and state levels, policy makers have debated for decades whether helping poor parents will benefit their children. Researchers are providing some answers by examining the effects of specific policies (Duncan, Magnuson, & Votruba-Drzal, 2015; McLoyd, Purtell, & Hardaway, 2015; Murry & others, 2015; White & others, 2014).

For example, the Minnesota Family Investment Program (MFIP) was designed in the 1990s primarily to influence the behavior of adults—specifically, to move adults off the welfare rolls and into paid employment. A key element of the program was its guarantee that adults participating in the program would receive more income if they worked than if they did not. When the adults' income rose, how did that affect their children? A study of the effects of MFIP found that increases in the incomes of working poor parents were linked with benefits for their children (Gennetian & Miller, 2002). The children's achievement in school improved, and their behavior problems decreased. A current MFIP study is examining the influence of specific services on low-income families at

risk for child maltreatment and other negative outcomes for children (Minnesota Family Investment Program, 2009).

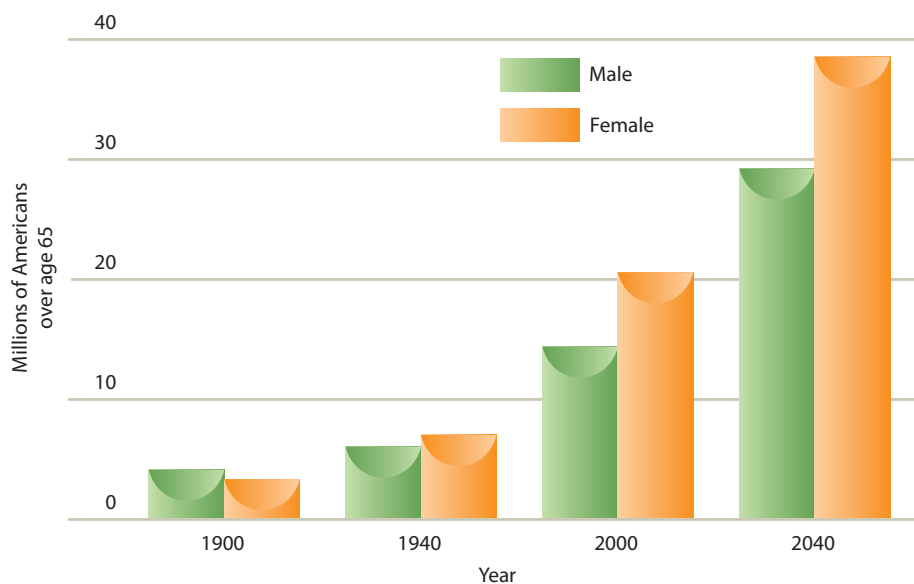
A recent large-scale effort to help children escape from poverty is the *Ascend* two-generation educational intervention being conducted by the Aspen Institute (2013). The intervention emphasizes education (increasing postsecondary education for mothers and improving the quality of their children's early childhood education), economic support (housing, transportation, financial education, health insurance, and food assistance), and social capital (peer support including friends and neighbors; participation in community and faith-based organizations; school and work contacts).

Developmental psychologists and other researchers have examined the effects of many other government policies. They are seeking ways to help families living in poverty improve their well-being, and they have offered many suggestions for improving government policies (Duncan & Magnuson, 2015; Leventhal, Dupere, & Shuey, 2015; McCartney & Yoshikawa, 2015).

*How does the life-span perspective support this and other research on the role government should play in improving the well-being of children?*

At the other end of the life span, efforts to promote the well-being of older adults also create policy issues (Hooyman, Kiyak, & Kawamoto, 2015; Pillas & others, 2014). Key concerns are controlling health-care costs and ensuring that older adults have access to adequate health care (Lynch, Elmore, & Kotecki, 2015; Milte & others, 2014). One study found that the health-care system fails older adults in many ways (Wenger & others, 2003). For example, older adults received the recommended care for general medical conditions such as heart disease only 52 percent of the time; they received appropriate care for undernourishment and Alzheimer disease only 31 percent of the time.

These concerns about the well-being of older adults are heightened by two facts. First, the number of older adults in the United States is growing dramatically, as Figure 5 shows.



**FIGURE 5**

**THE AGING OF AMERICA.** The number of Americans over 65 has grown dramatically since 1900 and is projected to continue increasing until 2040. A significant increase will also occur in the number of individuals in the 85-and-over age group.