

A TOPICAL APPROACH TO

# LIFE-SPAN Development

TENTH EDITION



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John W. Santrock



# A TOPICAL APPROACH TO LIFE-SPAN DEVELOPMENT

Tenth Edition

**JOHN W. SANTROCK**

University of Texas at Dallas





## A TOPICAL APPROACH TO LIFE-SPAN DEVELOPMENT, TENTH EDITION

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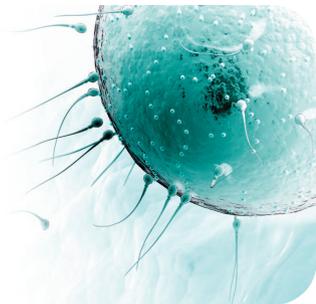
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# about the author

## 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 has received 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. He also has conducted research on children's self-control. John has authored these exceptional McGraw-Hill texts: *Psychology* (7th edition), *Children* (14th edition), *Child Development* (14th edition), *Adolescence* (17th edition), *Life-Span Development* (17th edition), and *Educational Psychology* (6th 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 created and directed the first middle school program for children with learning disabilities and behavioral disorders in the Clarke County Schools in Athens, Georgia, when she was a professor at the University of Georgia. More recently, Mary Jo has worked as a Realtor. He has two daughters—Tracy and Jennifer—both of whom are Realtors after long careers in technology marketing and medical sales, respectively. In 2016, Jennifer became only the fifth female to have been inducted into the SMU Sports Hall of Fame. He has one granddaughter, Jordan, age 25, who 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 14, and Luke, age 13. In the last decade, John also has spent time painting expressionist art.

**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 provides undergraduate students with the opportunity to attend a professional meeting. A number of the students shown here attended the 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**  
**John Bates**  
**Martha Ann Bell**  
**Jay Belsky**  
**James Birren**  
**Kirby Deater-Deckard**  
**Susanne Denham**  
**James Garbarino**  
**Linda George**  
**Gilbert Gottlieb**

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**Scott Hofer**  
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**Janet Shibley Hyde**  
**Rachel Keen**  
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**Linda Mayes**  
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**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 tenth edition, who (like those of previous editions) literally represent a *Who's Who* in the field of life-span development.



**K. Warner Schaie** K. Warner Schaie is widely recognized as one of the main pioneers who created the field of life-span development and continues to be one of its leading experts. He currently is the Evan Pugh Professor Emeritus of Human Development and Psychology at Pennsylvania State University. Dr. Schaie

also holds an appointment as an Affiliate Professor of Psychiatry and Behavioral Sciences at the University of Washington. He obtained his Ph.D. from the Friedrich-Schiller University of Jena, Germany, and an honorary ScD degree from West Virginia University. He has been given the Kleemeier Award for Distinguished Research Contributions in Gerontology from the Gerontological Society of American, the MENSA lifetime career award, and the Distinguished Scientific Contributions award from the American Psychological Association. Dr. Schaie is the author of 60 books, including the textbook *Adult Development and Aging* (5th Ed., with S.L. Willis) and the *Handbook of the Psychology of Aging* (8th Ed., with S.L. Willis). He has directed the Seattle Longitudinal Study of cognitive aging since 1956 and is the author of more than 300 journal articles and chapters on the psychology of aging.

*"This is an excellent chapter ('Intelligence') bringing up-to-date discussions of both present status and long-term changes in topics covered by experts in the field. . . . This is thorough, yet easily understood discussions of a set of very complex issues."* —**K. Warner Schaie**

Courtesy Dr. K. Warner Schaie



**Julia Mendez** Julia Mendez is an expert on ethnic minority children's development and resilience, with a focus on African American and Latino children from low-income backgrounds. She received her Ph.D. in Clinical-Community Psychology with a concentration in early childhood development from the University of Pennsylvania and is a Professor of Psychology at the University of North Carolina at Greensboro. Dr. Mendez examines how programs and policies support child development and learning

opportunities within the family, school, and community settings. She has developed and tested interventions for engaging families in Head Start programs and other community settings. Dr. Mendez has partnered with local schools to develop Parent Academy programs to provide information and resources for school-aged children and their families to facilitate academic success and social development. Currently, she is a co-investigator with the National Research Center on Hispanic Children and Families, leading the research agenda on early care and education (ECE) opportunities for Hispanic children and families in the United States. Dr. Mendez has served on the editorial boards of *Journal of Applied Developmental Psychology* and *Journal of School Psychology*. Her research has been published in *Child Development*, *Early Childhood Research Quarterly*, *Cultural Diversity and Ethnic Minority Psychology*, *Early Education and Development*, and *Journal of Community Psychology*.

*"Students who use this text will develop an appreciation for the multiple domains of development, transactions over time, and how children, youth, and adults develop across the life span within particular ecological contexts. The consideration of contextual influences including family, school, peers, and the larger multicultural society are woven into many of the chapters using contemporary and seminal research studies."* —**Julia Mendez**

Courtesy of Julia Smith



**Dante Cicchetti** Dante Cicchetti is the world's foremost expert on child maltreatment as well as a leading expert on many aspects of developmental psychopathology. He currently has a joint appointment at the University of Minnesota's Institute of Child Development and Medical School's Department of Psychiatry. He holds the McKnight Presidential Endowed Chair and the William Harris Endowed Chair, as well as the research director in the area of children's mental health at the University's Institute for Translational Research. Previously, he was the Shirley Cox Kearns Professor of Psychology, Psychiatry, and Pediatrics at the

University of Rochester. Prior to that appointment, Dr. Cicchetti was a professor at Harvard University. Dr. Cicchetti received a doctorate from the University of Minnesota's Institute of Child Development and a doctorate in clinical psychology from the University's Department of Psychology. While at the University of Rochester, he was Director of the Mt. Hope Family Center. Dr. Cicchetti has been the editor of the international journal *Development and Psychopathology* for more than 30 years and has been given numerous awards by the American Psychological Association, including the Boyd McCandless Award for early distinctions for contributions to developmental psychology and the APA Distinguished Contributions in Research in Clinical Child Psychology Award. His current major research interests focus on formulating an integrative theory than can account for both normal and abnormal aspects of an individual's developmental history. Dr. Cicchetti's research has investigated such topics as multiple levels of developmental psychopathology, developmental consequences of children's maltreatment, neural plasticity and sensitive periods, traumatic experiences and brain development, attachment, resilience, and epigenetics.

*"I think the narrative and perspective provided reflect the latest and most important research extant in the field. . . . He develops ideas clearly and in a concise and understandable fashion. I have read other works by Dr. Santrock and he has a knack for presenting complex material in ways that grab the attention of readers. This is not common in most academics. . . . The book can motivate undergraduate students to pursue further study in developmental psychology. . . . I think Professor Santrock has written an excellent text and it will be a successful one."* —Dante Cicchetti

Courtesy of Dante Cicchetti



**Darcia Narváez** Darcia Narváez is one of the world's leading experts on moral development. She received her Ph.D. from the University of Minnesota and currently is a professor of psychology at the University of Notre Dame. Her current research and theoretical interests focus on moral development and flourishing from an interdisciplinary perspective. Along these lines, she is exploring how early life experiences and culture interact to influence character development in children and adults. Dr. Narváez integrates neurobiological, developmental, clinical, and educational influences in her theoretical views and research studies. She publishes extensively on parenting and moral development. Dr. Narváez is a fellow in the American Psychological Association and the American Educational Research Association. Her publications appear in leading journals, such as *Developmental Psychology*, *Journal of Educational Psychology*, and *Early Childhood Research Quarterly*. She has written a number of books, including *Neurobiology and the Development of Morality*, which recently won the William James Book Award from the American Psychological Association.

*". . . I think Chapter 13 ('Moral Development, Values, and Religion') does a good job of reviewing important current research and theories. . . . It is written in an easy-to-read engaging manner."* —Darcia Narváez

Courtesy of Matthew Cashore



**Philip David Zelazo** Philip David Zelazo is one of the world's leading experts on brain development in children, as well as the development of executive function. He is currently the Nancy M. and John E. Lindahl Professor at the Institute of Child Development, University of Minnesota. Previously,

Dr. Zelazo taught at the University of Toronto, where he held the Canada Research Chair in Developmental Neuroscience. He obtained his Ph.D. from Yale University. Professor Zelazo's research on the development and neural bases of executive function (the control of thought, action, and emotion) has been honored by numerous awards, including a Boyd McCandless Young Scientist Award from the American Psychological Association (APA) and Canada's Top 40 Under 40 Award. Dr. Zelazo is a Fellow of the American Psychological Association, the American Psychological Society, and the Mind and Life Institute. He also is President of the Jean Piaget Society and he is a member of a number of editorial boards, including *Child Development*, *Emotion*, *Frontiers in Human Neuroscience*, *Development and Psychopathology*, *Monographs of the SRCD*, and *Developmental Cognitive Neuroscience*. In addition, Dr. Zelazo is the co-editor of *The Cambridge Handbook of Consciousness* and the editor of the two-volume *Oxford Handbook of Developmental Psychology*.

*"Overall, the narrative structure and choice of topics seem excellent. I think John Santrock does a great job of reflecting recent research."*

—Philip David Zelazo

Courtesy of Philip David Zelazo



**Pamela Cole** Pamela Cole is one of the world's leading experts in the development of emotion regulation. She obtained her Ph.D. in clinical and developmental psychology from The Pennsylvania State University and currently is Liberal Arts Professor of Psychology and Human Development and Family Studies at The Pennsylvania State University, having previously worked at the National Institute of Mental Health and at the University of Houston. Her research focuses on young children's development of emotion regulation, especially regulation of frustration and disappointment. Topics of Dr. Cole's current research projects include the role of early childhood language development in the development of emotion regulation, the development of strategy effectiveness, and innovative methods for studying emotion regulation as a dynamic process that changes with age. Dr. Cole is a Fellow in Division 7 (Developmental Psychology) of the American Psychological Association and is an Associate Editor of *Developmental Psychology*, also having served on the editorial boards of several other major developmental journals. Her book, co-edited with Tom Hollenstein, *Emotion Regulation: A Matter of Time*, was published in 2018 and presents conceptual and empirical papers on developmental aspects of emotion regulation. Dr. Cole's work has been published in leading research journals such as *Child Development*, *Developmental Psychology*, *Emotion*, and *Development and Psychopathology*.

*"The coverage of John Santrock's chapter, 'Emotional Development and Attachment,' is impressive. It provides a great deal of information about emotion and emotion-related phenomena. . . . There is a strong framework for the chapter, ideas are fully developed, and students will come away from the chapter with a clear understanding of the chapter."*

—Pamela Cole

Courtesy of Pamela Cole



**Priscilla Lui** Priscilla Lui is a leading expert on multicultural research, including research on ethnicity. She received her Ph.D. in clinical psychology from Purdue University and completed a clinical psychology internship at the Northwestern University Feinberg School of Medicine. Dr. Lui currently is a professor of

psychology at Southern Methodist University. Her research program has focused on parenting and intergenerational conflict in Asian and Latinx American immigrant families and the impact of sociocultural factors, including acculturation and racial discrimination, on individuals' psychological adjustment and alcohol use. She also has designed and evaluated self-report survey measures that are culturally appropriate and responsive to diverse ethnic groups. Dr. Lui has authored numerous research articles in leading journals, including *Psychological Bulletin*, *Assessment*, *Psychology of Addictive Behaviors*, *Cultural Diversity and Ethnic Minority Psychology*, *Alcoholism: Clinical and Experimental*

*Research*, and *American Journal of Orthopsychiatry*. As an early career psychologist, she has received awards and recognitions from national professional organizations, including being named a Rising Star by the Association for Psychological Science.

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*"The chapters I reviewed reflect some of the latest and most pertinent information concerning life-span development. . . . I really appreciate the consideration of life-span development and the use of a continuity perspective to frame various developmental tasks and content areas."*

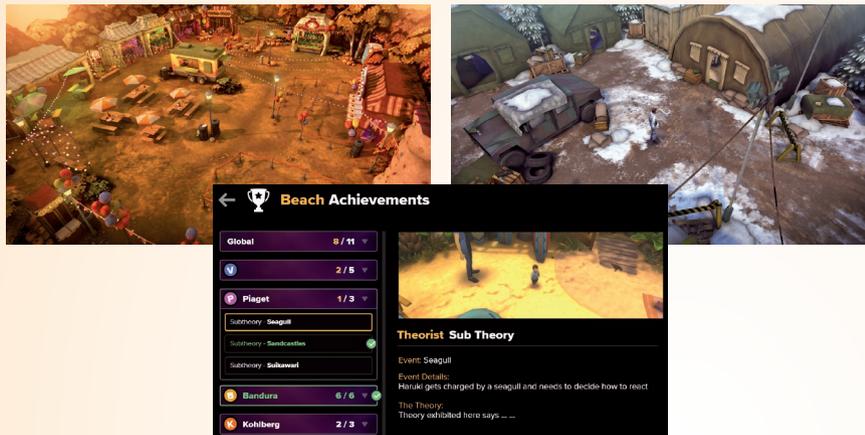
**—Priscilla Lui**

Courtesy of Priscilla Lui

# Connecting *Research and Results*

As a master teacher, John Santrock 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.

McGraw-Hill Education's **Connect** is a digital assignment and assessment platform that strengthens the link between faculty, students, and course work, helping everyone accomplish more in less time. *Connect for Life-Span Development* includes assignable and assessable videos, quizzes, exercises, and interactivities, all associated with learning objectives. Interactive assignments and videos allow students to experience and apply their understanding of psychology to the world with fun and stimulating activities.



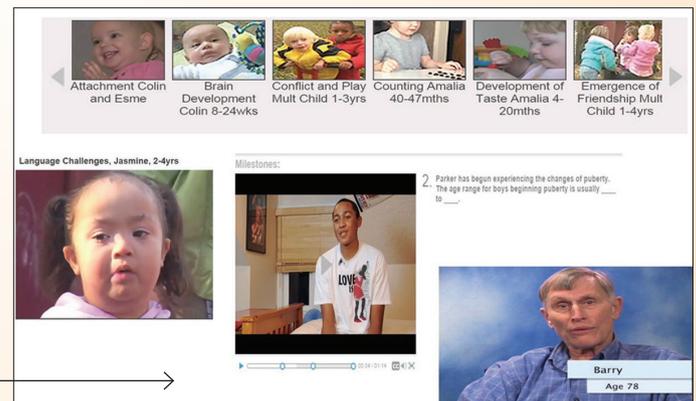
## Apply Concepts and Theory in an Experiential Learning Environment

An engaging and innovative learning game, **Quest: Journey through the Lifespan** provides students with opportunities to apply content from their human development curriculum to real-life scenarios. Students play unique characters who range in age and make decisions that apply key concepts and theories for each age as they negotiate events in an array of authentic environments. Additionally, as students analyze real-world behaviors and contexts, they are

exposed to different cultures and intersecting biological, cognitive, and socioemotional processes. Each quest has layered replayability, allowing students to make new choices each time they play—or offering different students in the same class different experiences. Fresh possibilities and outcomes shine light on the complexity of and variations in real human development. This new experiential learning game includes follow-up questions, assignable in Connect and auto-graded, to reach a higher level of critical thinking.

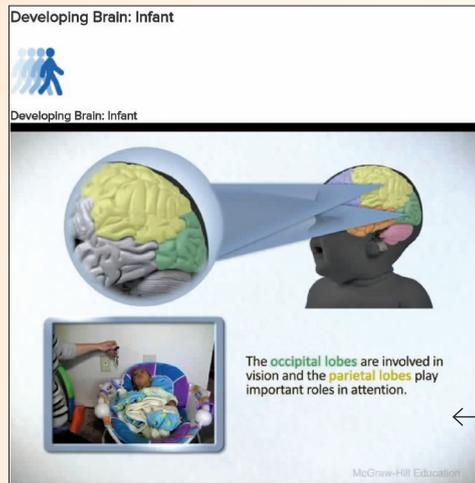
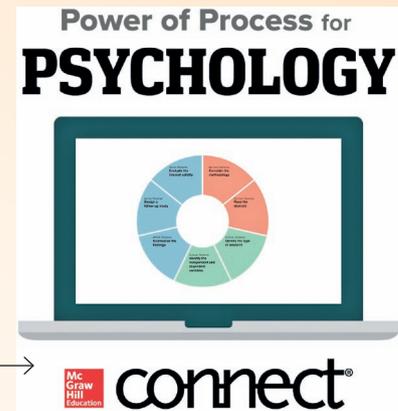
## Real People, Real World, Real Life

At the higher end of Bloom's taxonomy (analyze, evaluate, create), the McGraw-Hill Education **Milestones** video series is an observational 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 for Life-Span Development, Milestones also includes interviews with adolescents and adults to reflect development throughout the entire life span.



## Prepare **Students for Higher-Level Thinking**

Also at the higher end of Bloom's taxonomy, **Power of Process** for Psychology helps students improve critical thinking skills and allows instructors to assess these skills efficiently and effectively in an online environment. Available through Connect, pre-loaded journal articles are available for instructors to assign. Using a scaffolded framework such as understanding, synthesizing, and analyzing, Power of Process moves students toward higher-level thinking and analysis.



## Inform **and Engage on Psychological Concepts**

At the lower end of Bloom's taxonomy, students are introduced to **Concept Clips**—the dynamic, colorful graphics and stimulating animations that break down some of psychology's most difficult concepts in a step-by-step manner, engaging students and aiding in retention. They are assignable and assessable in Connect or can be used as a jumping-off point in class. Accompanied by audio narration, Concept Clips cover topics such as object permanence and conservation, as well as theories and theorists like Bandura's social cognitive theory, Vygotsky's sociocultural theory, Buss's evolutionary theory, and Kuhl's language development theory.

## Powerful **Reporting**

Whether a class is face-to-face, hybrid, or entirely online, Connect for Life-Span Development provides tools and analytics to reduce the amount of time instructors need to administer their courses. Easy-to-use course management tools allow instructors to spend less time administering and more time teaching, while easy-to-use reporting features allow students to monitor their progress and optimize their study time.

- **Connect Insight** is a one-of-a-kind visual analytics dashboard—available for both instructors and students—that provides at-a-glance information regarding student performance.
- The **At-Risk Student Report** provides instructors with one-click access to a dashboard that identifies students who are at risk of dropping out of the course due to low engagement levels.
- The **Category Analysis Report** details student performance relative to specific learning objectives and goals, including APA outcomes and levels of Bloom's taxonomy.



Content revisions for *A Topical Approach to Life-Span Development* were informed by data collected anonymously through McGraw-Hill’s SmartBook.

McGraw-Hill Education’s **SmartBook** helps students distinguish the concepts they know from the concepts they don’t, while pinpointing the concepts they are about to forget. SmartBook’s real-time reports help both students and instructors identify the concepts that require more attention, making study sessions and class time more efficient.

Here’s how the SmartBook student data was used:

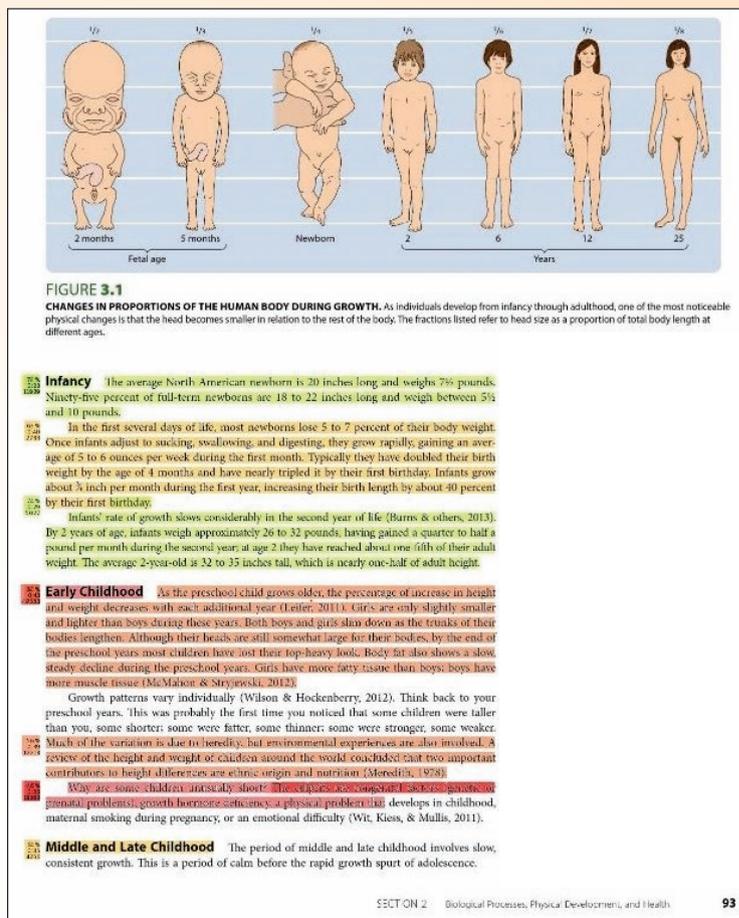
**STEP 1.** Over the course of three years, data points showing concepts that caused students the most difficulty were anonymously collected from Connect for Life-Span Development’s SmartBook®.

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

**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 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.

New to this edition, SmartBook is now optimized for mobile and tablet use and is accessible for students with disabilities. Content-wise, it has been enhanced with improved learning objectives that are measurable and observable to improve student outcomes. SmartBook personalizes learning to individual student needs, continually adapting to pinpoint knowledge gaps and focus learning on topics that need the most attention. Study time is more productive and, as a result, students are better prepared for class and coursework. For instructors, SmartBook tracks student progress and provides insights that can help guide teaching strategies.



## Online Instructor Resources

The resources listed here accompany *A Topical Approach to Life-Span Development*, Tenth 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, this resource provides 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.

**PowerPoint Slides** The PowerPoint presentations, now WCAG compliant, highlight the key points of the chapter and include supporting visuals. All of the slides can be modified to meet individual needs.

# 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 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 goals for my life-span development course, which, in turn, I incorporated into *A Topical Approach to Life-Span Development*:

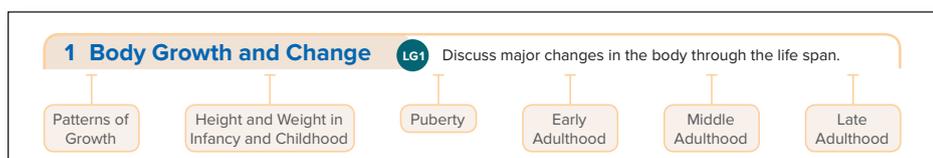
1. **Connecting with today's students** To help students learn about life-span development more effectively.
2. **Connecting research to what we know about development** To provide students with the best and most recent theory and research in the world today about each of the periods of the human life 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 page xvi), 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

Patterns of Growth

Height and Weight in Infancy and Childhood

Puberty

**LG1** Discuss major changes in the body through the life span.

- 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 increase rapidly in infancy and then take a slower course during childhood.
- 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. Adolescent girls often have a more negative body image than do adolescent boys.

## 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?* to *Does Intervention Reduce Juvenile Delinquency?* to *Parenting and Children's Achievement: My Child Is My Report Card, Tiger Moms, and Tiger Babies Strike Back*.

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 xli. 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 2017, 2018, and 2019.

connecting with research

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

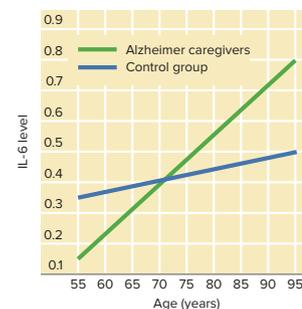
Researchers have found that the stress of caring for an Alzheimer patient at home can prematurely age the immune system, putting caregivers at risk for developing age-related diseases (Chiu, Wesson, & Sadavoy, 2014; Glaser & Kiecolt-Glaser, 2005; Kiecolt-Glaser & Wilson, 2017; Wilson & others, 2019). 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) 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 5).

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.

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 additional 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?



**FIGURE 5**  
**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.

## developmental connection

### Peers

How does adult friendship differ 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, students are asked to connect a 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*, *Working During College*, and *Communicating with a Dying Person*.

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 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 to a toy designer to a marriage and family therapist to a teacher of English language learners to a home

### 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 research 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 (Psychster Inc, 2010).

One 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). A recent meta-analysis concluded that a greater use of social networking sites was linked to a higher level of narcissism (Gnams & Appel, 2018).



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

*In what ways might frequent use of social media, such as Facebook®, influence adolescents’ cognitive development?*  
Andrey\_Popov/Shutterstock

hospice nurse, each of which requires knowledge about human development.

A number of new profiles appear in this edition. These include Gustavo Medrano, a clinical psychologist who works at the Family Institute at Northwestern University, especially providing therapy for Latino children; Dr. Faize Mustaf-Infante, a pediatrician who is passionate about preventing obesity in children; Dr. Melissa Jackson, a child and adolescent psychiatrist who provides therapy for children with a number of psychological disorders, including ADHD, anxiety, depression, and post-traumatic stress disorder; Carissa Barnes, a special education teacher; and Ahou Vaziri, a Teach for America instructor and curriculum designer.

The careers highlighted extend from the Careers Appendix 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, 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

### Ahou Vaziri, Teach for America Instructor

Ahou Vaziri was a top student in author John Santrock's educational psychology course at the University of Texas at Dallas where she majored in Psychology and Child Development. The following year she served as a teaching intern for the educational psychology course, then submitted an application to join Teach for America and was accepted. Ahou was assigned to work in a low-income area of Tulsa, Oklahoma, where she taught English to seventh- and eighth-graders. In her words, "The years I spent in the classroom for Teach for America were among the most rewarding experiences I have had thus far in my career. I was able to go home every night after work knowing that I truly made a difference in the lives of my students."

After her two-year teaching experience with Teach for America, Ahou continued to work for the organization in their recruitment of college students to become Teach for America instructors. Subsequently, she moved into a role that involved developing curricula for Teach for America. Recently she earned a graduate degree



Ahou Vaziri with her students in the Teach for America program. *What is Teach for America?*  
Courtesy of Ahou Vaziri

in counseling from Southern Methodist University, and she is continuing her work in improving children's lives.

## Content Revisions

A significant reason why *A Topical Approach to Life-Span Development* has been successfully used by instructors for edition after edition 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 2017, 2018, and 2019.

New research and content that has especially been updated and expanded in this new edition focuses on the following topics: diversity and culture; genetics and epigenetics; neuroscience and the brain; identity issues, especially gender and transgender; health; technology; and successful aging. Following 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*. Although every chapter has been extensively updated, two chapters (“Cognitive Developmental Approaches” and “The Self, Identity, and Personality”) were especially targeted for revisions based on the results of the Heat Map data discussed on page xvii.

### Chapter 1: Introduction

- Update on life expectancy in the United States (U.S. Census Bureau, 2018)
- New commentary indicating that for the first time in U.S. history, in 2019 there were more individuals over the age of 60 than under the age of 18
- New *Connecting with Careers* on Gustavo Medrano, a clinical psychologist who works at the Family Institute at Northwestern University and specializes in working with Latina(o) clients
- Updated data on the percentage of U.S. children and adolescents 17 years and younger from different ethnic groups in 2017 and projected to 2050, with dramatic increases in Latino and Asian American children (ChildStats.gov, 2018)
- Updated data on the percentage of U.S. children and adolescents under 18 years of age living in poverty, including data reported separately for African American and Latino families, which has declined since 2015 (Fontenot, Semega, & Kollar, 2018)
- In the coverage of cross-cultural studies, coverage of a recent study in 26 countries indicating that individuals in Chile had the highest life satisfaction; those in Bulgaria and Spain had the lowest (Jang & others, 2017)
- New description of the positive outcomes when individuals have pride in their ethnic group, including recent research (Umana-Taylor, 2019; Umana-Taylor & others, 2018)
- In the discussion of gender, new content on the gender category of transgender (Bradford & Syed, 2019; Budge & Orovecz, 2018)
- New projections on the significant increase in older adults in the world with estimates of a doubling of the population of individuals 60 and over and a tripling or quadrupling of those 80 and over by 2050 (United Nations, 2017)
- New commentary about how significant projected increases in the older population in countries around the world make it necessary for countries to develop innovative policies and expanded services that include housing, employment, health care, and transportation.
- In the section on contemporary topics, a new topic—technology—was added and discussed, including an emphasis on how pervasive it has become in people’s lives and how it might influence their development
- Coverage of a recent study of cohort effects in which older adults report fewer constraints nowadays than their counterparts 18 years ago while younger adults report more constraints now than those 18 years ago (Drewelies & others, 2018)

- Inclusion of recent research across 150 countries that found that health was a better predictor of life satisfaction in individuals 58 years and older than in younger age groups (Joshi & Jovanovic, 2019)
- Updated content on Bandura’s (2018) social cognitive theory, in which he now emphasizes *forethought* as a key cognitive factor in the theory
- Updated content on cohort effects involving increased interest in a new generation that is labeled generation Z and/or post-millennial, characterized by even greater technological immersion and sophistication, greater ethnic diversity, and being better educated than the millennial generation (Dimock, 2019; Fry & Parker, 2018)

### Chapter 2: Biological Beginnings

- Editing and updating of chapter based on comments by Janet DiPietro, a leading expert on prenatal development and birth
- Updated and expanded discussion of genome-wide association studies, including research on autism (Ramswami & Geschwind, 2018), attention deficit hyperactivity disorder (Verhoef & others, 2019), cancer (Chen & others, 2019), obesity (Riveros-McKay & others, 2019), and Alzheimer disease (Hao & others, 2019)
- Updated and expanded coverage of linkage analysis studies, including those focused on cardiovascular disease (Hedberg-Oldfors & others, 2019) and posttraumatic stress disorder (van der Merwe & others, 2019)
- Updated data on the number of genes that humans have, now raised to 21,306 (Salzberg & others, 2018)
- Updated and expanded research on how diet, tobacco use, and sleep can modify the expression of genes through the process of methylation (Lahtinen & others, 2019)
- Inclusion of recent research indicating that methylation may be involved in depression (Li & others, 2019), breast cancer (Parashar & others, 2018), leukemia (Bewersdorf & others, 2019), obesity (Caballero, 2019), and attention deficit hyperactivity disorder (Kim & others, 2018)
- Updated and expanded coverage of susceptibility genes, including those involved in cancer (Liu & Tan, 2019) and cardiovascular disease (Taylor & others, 2019)
- Updated and expanded research on gene-gene interaction to include immune system functioning (Pazmondi & others, 2019), alcoholism (Chen & others, 2017), cancer (Lee & others, 2019),

- obesity (Wang & others, 2019), type 2 diabetes (Saxena, Srivastaya, & Banergee, 2018), arthritis (Fathollahi & others, 2019), cardiovascular disease (Drone & Hegele, 2019), and Alzheimer disease (Nazarian, Yashin, & Kulminski, 2019)
- New content on the number of children born worldwide with sickle-cell anemia and how stem cell transplantation is being explored in the treatment of infants with sickle-cell anemia (Azar & Wong, 2017)
  - New *Connecting with Careers* on Jennifer Leonhard, genetic counselor
  - New commentary about neurogenesis being largely complete by about the end of the fifth month of prenatal development (Borsani & others, 2019)
  - New coverage of cell-free fetal DNA in maternal blood and its testing as early as 10 weeks into the first trimester of pregnancy to test for such disorders as Down syndrome (Hui, 2019)
  - Coverage of a recent study using non-invasive fetal diagnosis that determined fetal sex at 4.5 weeks (D'Aversa & others, 2018)
  - Coverage of a recent study that confirmed a significant risk for suicidal behavior in adolescents with FASD (O'Connor & others, 2019)
  - New content about a recent large scale U.S. study in which 11.5 percent of adolescent and 8.7 percent of adult pregnant women reported using alcohol in the previous month (Oh & others, 2017)
  - Discussion of a recent meta-analysis of 15 studies that concluded smoking during pregnancy increases the risk of children having ADHD and that the risk is greater if their mother is a heavy smoker (Huang & others, 2019)
  - New commentary that cessation of smoking by pregnant women by the third trimester is linked to improved birth outcomes (Crume, 2019)
  - Coverage of a recent study in which chronic exposure to e-cigarette aerosols was linked to low birth weight in offspring (Orzabal & others, 2019)
  - Inclusion of a longitudinal study in which prenatal cocaine exposure was linked to early use of marijuana, arrest history, conduct disorder, and emotion regulation problems at 21 years of age (Richardson & others, 2019)
  - Discussion of a recent study that found newborns born to mothers who used marijuana during pregnancy were more likely to be born preterm or low birth weight (Petrangelo & others, 2019)
  - New section, Synthetic Opioids and Opiate-Related Pain Killers, that discusses the increasing use of these substances by pregnant women and their possible harmful outcomes for pregnant women and their offspring (Brimdyr & Cadwell, 2019; Clemens-Cope & others, 2019)
  - Description of a recent research review that concluded tobacco smoking is linked to impaired male fertility and increases in DNA damage, aneuploidy (abnormal number of chromosomes in a cell), and mutations in sperm (Beal, Yauk, & Marchetti, 2017)
  - Coverage of a recent study in which yoga was effective in reducing depressive symptoms in pregnant women (Ng & others, 2019)
  - Description of a recent study that found pregnant women 43 years and older were more likely to have infants who were stillborn (Wu & others, 2019)
  - Inclusion of recent research indicating that pregnant women who exercised regularly in the second and third trimesters rated their quality of life higher (Krzepota, Sadowska, & Biernat, 2019)
  - Discussion of a recent large-scale study that found women who participated in CenteringPregnancy had offspring that were less likely to be born preterm or low birth weight (Cunningham & others, 2019)
  - Inclusion of recent research that indicated women who participated in CenteringPregnancy used pain relief less during labor and were more likely to breast feed their infants (Rijnders & others, 2019)
  - New coverage of the positive influence of exercise on pregnancy and offspring (Newton & May, 2019), including a recent study that revealed regular exercise by pregnant women was linked to more advanced development in the neonatal brain (Laborte-Lemoyne, Currier, & Ellenberg, 2017)
  - Inclusion of recent research in which two weekly 70-minute yoga sessions reduced pregnant women's stress and enhanced their immune system functioning (Chen & others, 2017)
  - Coverage of a recent Swedish study that found women who gave birth in water had fewer vaginal tears, shorter labor, needed fewer drugs for pain relief and interventions by medical personnel, and rated their birth experience more positive than women who had conventional spontaneous vaginal births (Ulfsdottir, Saltvedt, & Gerogesson, 2018)
  - Inclusion of recent studies in which massage reduced women's pain during labor (Gallo & others, 2018; Unalmis Erdogan, Yanikkerem, & Goker, 2017)
  - New description of global cesarean delivery rates with the Dominican Republic and Brazil having the highest rates (56 percent) and New Zealand and the Czech Republic the lowest (26 percent) (McCullough, 2016). The World Health Organization recommends a cesarean rate of 10 percent or less.
  - Revised and updated content on cesarean delivery to include the two most common reasons why it is carried out: failure to progress through labor and fetal distress
  - Updated data on the percentage of U.S. infants who are born preterm, including ethnic variations (March of Dimes, 2018)
  - Updated weights for classification as a low birth weight baby, a very low birth weight baby, and an extremely low birth weight baby
  - Updated data on the percentage of U.S. babies born with low birth weight, including ethnic variations (United Health Foundation, 2018)
  - Description of recent research indicating that extremely preterm and low birth weight infants have lower executive function, especially in working memory and planning (Burnett & others, 2019)
  - Discussion of a longitudinal study in which the nurturing positive effects of kangaroo care with preterm and low birth weight infants at one year of age were still present 20 years later in a number of positive developmental outcomes (Charpak & others, 2019)
  - Coverage of a recent study that revealed worsening or minimal improvement in sleep problems from 6 weeks to 7 months postpartum were associated with increased depressive symptoms (Lewis & others, 2018)

- Inclusion of recent research in Japan indicating that 11.2 percent of fathers had postpartum depression one month following delivery (Nishigori & others, 2019)
- Description of a recent study that found fathers with postpartum depression had lower levels of responsiveness, mood, and sensitivity when interacting with their infants (Koch & others, 2019)

### Chapter 3: Physical Development and Biological Aging

- New discussion of how infant growth is often not smooth and continuous but rather is episodic, occurring in spurts (Adolph, 2018; Lampl, 2018)
- Coverage of a recent Chinese study that found a higher body mass index (BMI) was associated with earlier pubertal onset (Deng & others, 2018)
- New research that revealed young adolescent boys had a more positive body image than their female counterparts (Morin & others, 2017)
- New study of 12- to 14-year-olds indicating that heavier social media use was associated with body dissatisfaction (Burnette, Kwitowski, & Mazzeo, 2017)
- New discussion of research with seventh to twelfth graders in Thailand that revealed increasing time spent on the Internet, especially when engaging in activities related to self-image and eating attitudes/behavior, was linked to increasing body dissatisfaction (Kaewpradub & others, 2017)
- Inclusion of a recent study of U.S. college women that found more time on Facebook was related to more frequent body and weight concern comparison with other women, more attention to the physical appearance of others, and more negative feelings about their own bodies (Eckler, Kalyango, Paasch, 2017)
- Coverage of a recent study that found early-maturing girls had higher rates of depression and antisocial behavior as middle-aged adults mainly because their difficulties began in adolescence and did not lessen over time (Mendle, Ryan, & McKone, 2019)
- New research indicating that early-maturing girls are at risk for physical and verbal abuse in dating (Chen, Rothman, & Jaffee, 2019)
- Expanded and updated content on weight gain and obesity in middle age (Jia, Hill, & Sowers, 2018; Petrie & others, 2018)
- Updated data on the percentage of middle-aged adults who are obese compared to their younger adult counterparts (National Center for Health Statistics, 2018)
- Description of a recent study that revealed a healthy diet in adolescence was linked to a lower risk of cardiovascular disease in middle-aged women (Dahm & others, 2019)
- Coverage of the American Heart Association's seven simple factors that best help individuals improve their cardiovascular health (Mok & others, 2019)
- Recent data on the percentage of women and men 65 to 74 years of age who have hypertension (Centers for Disease Control and Prevention, 2018)
- Inclusion of recent research on 65+-year-olds indicating that a Mediterranean diet lowered their risk of cardiovascular problems (Nowson & others, 2018)
- Coverage of recent research documenting that attention (Barolomeo & Seidel Malkinson, 2019) and emotion (Gainotti, 2019) are predominantly right hemisphere activities
- New description of some of the aspects of brain activity that the brain imaging technique fNIRS can assess in infancy, including face processing, perception, attention, and memory (Emberson & others, 2019; Zhang & Roeyers, 2019)
- Inclusion of a longitudinal study in which maltreatment risk and home adversity in infancy were linked to cortical delays and brain immaturity at 8 years of age (Bick & others, 2019). However, children in the study who were assigned to an attachment and biobehavioral catch-up intervention showed better brain functioning.
- Inclusion of a recent study documenting that the density of fibers increases in the corpus callosum during adolescence (Genc & others, 2018)
- Coverage of a recent study of older adults in which declines in memory functioning were linked to lower gray matter volume (which contains most of the brain's neuronal cell bodies) in the temporal lobe and hippocampus (Schneider & others, 2019)
- Description of research in which analysis of essays written when nuns were 18 to 32 years of age found that those whose essays were more self-reflective and indicated a higher level of parental autonomy support lived longer (Weinstein & others, 2019)
- Discussion of a study of 732 cases of SIDS that found bed-sharing occurred in 53 percent of the deaths (Drake & others, 2019)
- Coverage of a recent study in which shorter sleep duration in infancy was linked to lower cognitive and language development at two years of age (Smithson & others, 2018)
- Description of a recent Chinese study that revealed sleep deprivation in early childhood was associated with ADHD in middle and late childhood (Tso & others, 2019)
- Discussion of a recent study of 13- to 19-year-olds in Singapore indicating that short sleep duration of less than seven hours on school nights was associated with being overweight, having depression symptoms, being less motivated, not being able to concentrate adequately, having a higher level of anxiety, and engaging in self-harm/suicidal thoughts (Yeo & others, 2019)
- Coverage of a recent study in which spending multiple hours with portable electronic devices was linked to shorter sleep duration in adolescence while time spent with non-portable electronic devices was not related to shorter sleep duration (Twenge, Hisler, & Rizan, 2019)
- Inclusion of a recent national study of high schools that found using electronic devices 5 hours a day or more was linked to getting inadequate sleep (Kenney & Gortmaker, 2017)
- Description of recent research in which the Seattle School District delayed the school start time for secondary school students by nearly one hour and it improved student sleep duration by an average of 34 minutes, resulted in a 4.5 percent increase in grade point average, and improved school attendance (Dunster & others, 2018)
- Coverage of a recent study of college students in which shorter sleep duration was associated with increased suicide risk (Becker & others, 2018a)
- Inclusion of a recent study of college students that found 27 percent described their sleep as poor and 36 percent

reported getting 7 hours or less of sleep on weeknights (Becker & others, 2018b)

- Description of a recent experimental study in which emerging adults who were given a brief sleep quality intervention reported improved sleep, stopped using electronic devices earlier, kept a more regular sleep schedule, and had earlier weekday rise times than a control group who did not get the intervention (Hershner & O'Brien, 2018)
- Discussion of a recent study of college students indicating that a higher level of text messaging activity during the day and at night was related to a lower level of sleep quality (Murdock, Horissian, & Crichlow-Ball, 2017)
- In recent experimental study, emerging adults (mean age = 21.9 years), who were given a brief sleep quality intervention reported improved sleep, stopped using electronic devices earlier, kept a more regular sleep schedule, and had an earlier weekday rise time than a control group who did not get the intervention (Hershner & O'Brien, 2018)
- Coverage of a recent Chinese study in which older adults who engaged in a higher overall level of physical activity, leisure-time exercise, and household activity were less likely to have sleep problems (Li & others, 2018)
- Updated data on U.S. life expectancy for 65-year-olds, including gender differences (U.S. Census Bureau, 2018)
- Updated data on life expectancy in different countries in 2018 with Monaco having the highest (89.6 years), the United States in fifty-third place (79.2 years), and South Africa the lowest (50.6 years) (Geoba.se, 2019)
- Discussion of recent projections for life expectancy in 2030 in 35 developed countries with the United States increasing in life expectancy but having one of the lowest projected increases of all countries in the study (Kontis & others, 2017). In this study, South Korea is expected to have the highest life expectancy of the 35 countries in 2030 with South Korean women the first group to break the 90-year barrier with a projected life expectancy of 90.8 in 2030.
- New description of a study using the Chinese Longitudinal Healthy Longevity study indicating that severe loneliness at prior assessment points predicted poorer cognitive function at subsequent assessment points (Zhong & others, 2017)
- Update on the oldest living person in the world and in the United States in 2019, Maggie Kidd, age 114, who lives in Georgia
- New content indicating that of the 36 oldest centenarians in the world in 2018, 34 of them were women
- Inclusion of a recent study that revealed shorter telomere length was linked to a greater risk of Alzheimer disease (Scarabino & others, 2017)
- Updated and expanded coverage of the diseases that are linked to mitochondrial dysfunction to include cardiovascular disease (Roushandeh, Kuwahara, & Roudkenar, 2019), Parkinson disease (Zhi & others, 2019), diabetic kidney disease (Forbes & Thorburn, 2018), and impaired liver functioning (Borrelli, 2018)

## Chapter 4: Health

- New discussion of a longitudinal study that revealed when young children were exposed to environmental tobacco smoke,

they were more likely to engage in antisocial behavior at 12 years of age (Pagani & others, 2017)

- Description of recent data from the Youth Risk Behavior System documenting a continued linear decline through 2017, indicating that 59.2 percent of U.S. high school students did not eat one or more vegetables in the last 7 days (Kann & others, 2018)
- Inclusion of recent research indicating that a higher level of parental monitoring was linked to adolescents' healthier diet intake and lower weight status (Kim & others, 2019)
- Expanded discussion of the factors likely involved in the greater incidence of health problems in emerging adulthood than in adolescence (Hill, 2019)
- Coverage of a recent study of 65+-year-olds that found a Mediterranean diet lowered their risk of cardiovascular problems (Nowson & others, 2018)
- Update on the leading causes of death in older adults with recent data indicating that beginning in the 65-74 year age range, cancer has replaced cardiovascular disease as the leading cause of death in the U.S. (Centers for Disease Control and Prevention, 2018)
- Updated data on the percentage of older adults with Alzheimer disease and updates on the significant increase in Alzheimer's disease in individuals 85 and older (Alzheimer's Association, 2018)
- New content on women being more likely to have the ApoE4 gene than men (Dubol & others, 2017)
- New content on APP, PSEN1, and PSEN2 gene mutations being linked to the early onset of Alzheimer disease (Carmona, Hardy, & Guerreiro, 2018)
- New discussion of the epigenetics of Alzheimer disease, including the role of DNA methylation (Lindahl-Jacobsen & Christensen, 2019; Smith & others, 2019)
- Update on drugs that have been approved by the U.S. Food and Drug Administration to treat Alzheimer disease that now totals five drugs (Almeida, 2018)
- Inclusion of a recent research review that concluded deep brain stimulation (DBS) improves motor function in Parkinson patients for up to 10 years, but improvement tends to decline over time (Limousin & Foltynie, 2019)
- Changes based on feedback from leading children's nutrition expert, Maureen Black
- Updated support for the role of breastfeeding in reducing a number of disease risks for children and their mothers (Bartick & others, 2019)
- Inclusion of a recent research review indicating that breastfeeding is not associated with a reduced risk of allergies in young children (Heinrich, 2017)
- Description of recent research indicating a reduction in hospitalization for breastfed infants and breastfeeding mothers for a number of conditions (Bartick & others, 2018)
- New *Connecting with Careers* on Dr. Faize Mustafa-Infante, a pediatrician who is especially passionate about preventing obesity in infants and children
- Updated data on the percentage of children who are obese with continuing increases through 2015-2016 (Hales & others, 2017)
- New description of the recently devised 5-2-1-0 obesity prevention guidelines for young children: 5 or more servings of fruits and vegetables, no more than 2 hours of screen time,

minimum of 1 hour of physical activity, and 0 sugar-sweetened beverages daily (Khalsa & others, 2017)

- Coverage of a recent research review that concluded obesity is linked with low self-esteem in children (Moharei & others, 2018)
- Discussion of a recent study of Latino families in which parents who had a healthy weight were 3.7 times more likely to have a child who had a healthy weight (Coto & others, 2019)
- Inclusion of a recent cross-cultural study of adolescent 15-year-olds in 35 countries that found U.S. adolescents had the highest rate of obesity (31 percent) and Danish adolescents the lowest (10 percent) (OECD, 2017)
- Discussion of a recent Chinese study in which children and adolescents who were obese were more likely to have depression and anxiety symptoms than their non-obese counterparts (Wang & others, 2019)
- New content indicating that adolescents who engage in higher levels of screen time are more likely to be overweight or obese (Furthner & others, 2018)
- Coverage of a recent meta-analysis that concluded supervised exercise, especially aerobic exercise, was linked to a reduction of abdominal fat in adolescents (Gonzalez-Ruis & others, 2017)
- Inclusion of research in which an after-school athletics program reduced the obesity risk of adolescents after one year of intervention (Glabaska & others, 2019)
- Description of a recent study that indicated a combination of regular exercise and a diet plan resulted in weight loss and enhanced executive function (Xie & others, 2017)
- Update and revised definitions of anorexia nervosa and bulimia nervosa based on the DSM-V classification system
- New research indicating that having an increase in Facebook friends across two years in adolescence was linked to an enhanced motivation to be thin (Tiggemann & Slater, 2017)
- Coverage of a recent meta-analysis that concluded both anorexics and bulimics engage in maladaptive perfectionism (Norris, Gleaves, & Hutchinson, 2019)
- Description of a recent national study of three disorders—anoxia, bulimia, and binge eating disorder—that found all three disorders were associated with a higher incidence of major depressive disorder than any other disorder, followed by alcohol use disorder (Udo & Grilo, 2019)
- Inclusion of recent national U.S. data on the prevalence of obesity in adults overall and in early, middle, and late adulthood age groups, as well as gender and ethnic differences (Haynes & others, 2017)
- New data indicating that the adult obesity rate in 2016 in the U.S. went up 9.1 percent since 2000 and 4.7 percent since 2012 (Haynes & others, 2017)
- Discussion of a Chinese study that found men and women who gained an average of 22 pounds or more from 20 to 45-60 years of age had an increased risk of hypertension and cholesterol, as well as elevated triglyceride levels in middle age (Zhou & others, 2018)
- Description of a recent large-scale study in which obesity was associated with shorter longevity and increased risk of death due to cardiovascular disease compared with normal weight individuals (Khan & others, 2018)
- New research that indicated obese middle-aged and older adults were more likely to have chronic diseases and earlier death than their normal weight counterparts (Stenholm & others, 2017)
- Coverage of a recent research review that revealed depression was linked to abdominal obesity in older adults (Repousi & others, 2018)
- Discussion of recent international comparisons of 33 countries in which the United States had the highest percentage of obese adults (38.2 percent) and Japan the lowest percentage (3.7); the average of the countries was 23.2 percent of the population being obese (OECD, 2017)
- New commentary that researchers have found higher levels of physical activity, especially endurance training, are linked to weight loss maintenance (Petridou, Sippi, & Mouglos, 2019)
- Description of a recent analysis in which it was concluded that antioxidant vitamins do not increase the life span and can even increase the incidence of diseases (Millsav, Ribaric, & Poljsak, 2019)
- Discussion of a recent study that examined children's physical activity in the transition from elementary to middle school (Pate & others, 2019). In this study, the following activities were associated with children's greater physical activity: Parents' encouragement of physical activity, parents' support of physical activity, time children spent outdoors, children's sports participation, and number of activity facilities near their home.
- Description of a meta-analysis that concluded prolonged exercise interventions with 6- to 12-year-olds were effective in improving the children's executive function in general and inhibitory control in particular (Xue, Yang, & Huang, 2019)
- Updated data on adolescent exercise rates by gender and ethnicity (Kann & others, 2018)
- Inclusion of a recent large-scale study of Dutch adolescents that revealed physically active adolescents had fewer emotional and peer problems (Kuiper & others, 2018)
- Coverage of a recent research review that concluded school and community-based physical activity interventions improve overweight and obese adolescents' executive function (Martin & others, 2018)
- Inclusion of recent research indicating that a school-based exercise program of 20 minutes each day over the course of 8 weeks improved students' working memory (Ludyga & others, 2018)
- New content on research with ADHD adolescents that revealed regular exercise was linked with lower ADHD symptoms (Jeyanthi, Arumugam, & Parasher, 2019; Rassovsky & Alfassi, 2019)
- Coverage of a recent national U.S. study that found only 22.9 percent of adults 18 to 64 years of age met government guidelines for aerobic and muscle-strengthening exercise (Blackwell & Clarke, 2018). In this poll, 27.2 percent of men and 18.7 percent of women met these guidelines.
- Inclusion of a study of middle-aged adults indicating that their estimated age based on exercise stress testing was a better predictor of how long they would live than their chronological age (Herb & others, 2019)
- Description of a recent research review that concluded regular exercise reduces depression in older adults (Seo & Caho, 2018)

- Updated national data on the extent of illicit drug use by U.S. eighth, tenth, and twelfth graders (Johnston & others, 2019)
- Inclusion of new content indicating increasing concern about the increase in adolescents who mix alcohol and energy drinks, which is linked to a higher rate of risky driving (Wilson & others, 2018)
- Updated national data on the dramatic increase in U.S. adolescents who are vaping nicotine, which now far surpasses their cigarette smoking, which continues to decline (Johnston & others, 2019)
- Coverage of a recent meta-analysis of longitudinal studies that found when adolescents use e-cigarettes they are at risk for subsequent cigarette smoking (Soneji & others, 2018)
- Description of a recent intervention study that revealed Latino parents who had participated in a program that emphasized the importance of parental monitoring had adolescents who had a lower level of drug use than a control group of adolescents who did not receive the program (Estrada & others, 2017)
- Coverage of a recent meta-analysis of parenting factors involved in adolescents' alcohol use that indicated higher levels of parental monitoring, support, and involvement were associated with a lower risk of adolescent alcohol misuse (Yap & others, 2017)
- Inclusion of a recent study that revealed adolescent dishonesty increased future alcohol use by reducing parental monitoring knowledge (Lushin, Jaccard, & Kaploun, 2017)
- Description of a recent study of 14- and 15-year-olds that found heavy episodic drinking by parents was a risk factor for adolescent drinking, with girls being especially vulnerable to their parents' episodic drinking (Homel & Warren, 2019)
- Discussion of a recent large scale national study in which friends' use was a stronger influence on adolescents' alcohol use than parental use (Deutsch, Wood, & Shutske, 2018)
- Updated data on binge drinking in college and through early adulthood (Schulenberg & others, 2017)
- Inclusion of a longitudinal study that revealed frequent binge drinking and marijuana use in the freshman year of college predicted delayed college graduation (White & others, 2018)
- Updated data on the percentage of individuals in emerging adulthood and early adulthood who are using electronic vaporizers (which include e-cigarettes) (Schulenberg & others, 2017)
- New content on the importance of optimizing drug use in late adulthood to improve successful aging (Petrovic & others, 2019)
- Inclusion of a recent study that revealed moderate drinkers were more likely to be alive and not have a cognitive impairment at 85 years of age (Richard & others, 2018)

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

- Revisions based on feedback from leading children's motor development expert, Karen Adolph
- Much expanded content on the latest dynamic systems theory's model of motor development that emphasizes how motor development has four key characteristics: 1) embodied, 2) embedded, 3) enculturated, and 4) enabling (Adolph & Hoch, 2019)
- New summary content on a key aspect of motor development that involves behavioral flexibility to do what is necessary to accomplish

life's everyday goals (Adolph & Hoch, 2019). For example, an infant's movements cannot be repeated in the same way across time and situations because bodies, environments, and tasks are changing and require infants to engage in adaptive behavior.

- Description of recent research indicating that higher motor skill proficiency in preschool was linked to engaging in a higher level of physical activity in adolescence (Venetsanou & Kambas, 2017)
- Inclusion of recent research that found children with a low level of motor competence had a lower motivation for sports participation and lower global self-worth than their counterparts who had a high level of motor competence (Bardid & others, 2019)
- Coverage of recent research indicating that adolescents who participate in sports have a lower risk profile for cardiovascular disease (Herbert & others, 2017)
- Inclusion of a recent study of out-of-school time that revealed time spent in organized sports was associated with increased positive self-identity (Lee & others, 2018)
- New research content on middle-aged and older adults in which those who had limited mobility had lower cognitive functioning (Demnitz & others, 2018)
- Discussion of a recent large-scale study that indicated a 554-step-per-day increase in mobility would reduce physical function limitations by 3.9 percent and improve quality of life by 3.2 percent (Kahiri & others, 2018)
- New coverage of links between a slowing of walking speed in older adults is associated with limited mobility, less community participation, greater cognitive decline, and increased risk of falls
- Inclusion of a recent study of older adult women that revealed a slowing of walking speed occurred on average at about 71 years of age (Noce Kirkwood & others, 2018)
- Inclusion of a recent study that found older adults who walk slowly are at risk for developing mild cognitive impairment (Rajtar-Zembaty & others, 2019)
- Updated and expanded content on eye-tracking to include research on intermodal perception (Gergely & others, 2019), language (Comishen, Bialystok, & Adler, 2019), object categorization (LaTourrette & Waxman, 2019), and understanding of others' needs (Koster & others, 2019)
- New description of the concept of *perceptual narrowing*, in which infants are more likely to distinguish between faces in which they have been exposed to than faces they have never seen before (Kobayashi & others, 2018; Minor & Lewkowicz, 2018)
- Revision of the nature/nurture section in the content on perceptual development to better reflect the Gibsons' view
- Coverage of a longitudinal study of individuals 60 years and older in which visual and hearing difficulties predicted cognitive difficulties 8 years later, with the greatest cognitive decline occurring in individuals who had both a visual and a hearing problem (de la Fuente & others, 2019)
- New discussion of a recent Japanese study of older adults (mean age: 76 years) in which having had cataract surgery reduced their risk of developing mild cognitive impairment (Miyata & others, 2018)
- New description of a large-scale study of Korean adolescents that revealed 17 percent had at least a slight hearing loss and

this loss was associated with cumulative hours spent in gaming centers (Rhee & others, 2019). The adolescents' hearing loss also was related to lower academic performance.

- Inclusion of a recent study in which hearing impairment was associated with accelerated cognitive decline in older adults (Alattar & others, 2019)
- New discussion of a recent study of 65- to 85-year-olds that dual sensory loss in vision and hearing was linked to reduced social participation and less social support, as well as increased loneliness (Mick & others, 2018)
- Coverage of a recent study of elderly adults that found those who had a dual sensory impairment involving vision and hearing had functional limitations, experienced cognitive decline, were lonely, and had communication problems (Davidson & Guthrie, 2018)
- In another recent study, older adults with a dual sensory impairment involving vision and hearing had more depressive symptoms (Han & others, 2019)
- Inclusion of a recent study of older adults in which high levels of pain were associated with memory impairment (van der Leeuw & others, 2018)

## Chapter 6: Cognitive Developmental Approaches

- Improved clarity in the section “Evaluation of the Sensorimotor Stage”
- Inclusion of recent research showing the effectiveness of the Tools of the Mind approach in improving a number of cognitive processes and academic skills in young children (Blair & Raver, 2014)
- Coverage of a recent study in which greater use of social networking sites was linked to being more narcissistic (Grambs & Appel, 2018)

## Chapter 7: Information Processing

- Coverage of a recent study of older adults with a cognitive impairment that found slower processing speed was associated with an increase in unsafe driving acts that became worse with advancing age (Hotta & others, 2018)
- Expanded content on why habituation is an important aspect of infant cognitive and perceptual development
- New and updated research on the expansiveness of joint attention's influence that includes sustained attention, self-regulation, and executive function (Gueron-Sela & others, 2018)
- Coverage of a recent study in which both joint attention and sustained attention at 9 months of age predicted vocabulary size at 12 and 15 months, but sustained attention was a better predictor of vocabulary size (Yu, Suanda, & Smith, 2019)
- Description of a recent research view that concluded media multitasking is associated with poorer memory, increased impulsivity, and less effective functioning in the brain's cerebral cortex (Uncapher & others, 2017)
- Discussion of a recent study in which heavy media multitaskers were less likely to delay gratification and more likely to endorse intuitive, but wrong, answers on a cognitive reflection task (Schutten, Stokes, & Arnell, 2017)

- Inclusion of recent research on 3- to 6-year-olds that found the volume of their autobiographical memories was linked to the volume of their self-knowledge (Ross, Hutchison, & Cunningham, 2019)
- Description of a recent research review that concluded interviewer support is linked to children's memory accuracy (Saywitz & others, 2019)
- New content indicating that attention and processing speed likely play a role in declining working memory in older adults (Jariat, Portrat, & Hot, 2018)
- Inclusion of recent research in which aerobic endurance was linked to better working memory in older adults (Zettel-Watson & others, 2017)
- Coverage of a recent study revealed that imagery strategy training improved the working memory of older adults (Borella & others, 2017)
- Description of a recent study that found a mindfulness training program improved older adults' explicit memory (Banducci & others, 2017)
- Inclusion of a recent study that found support for the reminiscence bump in public events, but only for the most frequently mentioned and highly impactful ones (Tekcan & others, 2018)
- Coverage of a recent study in which a cognitive training program that increased frontal and parietal lobe brain activity improved older adults' working memory (Gajewski & Falkenstein, 2018)
- Description of a recent study that found longer encoding time improved older adults' working memory (Bartsch, Loaiza, & Oberauer, 2019)
- Discussion of a recent study of older adults' source memory that found older adults with better source memory were characterized by healthy cardiovascular markers and psychological traits (higher achievement, less depression, for example) while lower source memory was predicted by relevant life experiences such as being retired and heavy drinking (Cansino & others, 2019)
- Inclusion of recent research indicating that prospective memory is impaired in individuals with mild Alzheimer disease (Lecouvey & others, 2019)
- New section, Conclusions about Memory and Aging, to improve student learning due to the many different types of memory and their developmental trajectories
- Discussion of a recent study that found strategies involving elaboration and self-referential processing were effective in older adults' memory, actually helping older adults' memory more than younger adults' memory (Trelle, Henson, & Simons, 2015)
- Inclusion of a recent study of older adults in which using compensation strategies was associated with higher levels of independence in everyday living in both cognitively normal and mild cognitively impaired older adults (Tomaszewski & others, 2018)
- Description of a recent study that found when older adults engaged in higher physical activity levels their memory improved (de Lima & others, 2019)
- Coverage of a recent cohort study that revealed young children in the 2000s are delaying gratification longer than their counterparts in the 1960s and 1980s, including content about why this might be happening (Carlson & others, 2018)
- Inclusion of a recent study of children in low-income families in the African country of Ghana that indicated executive

function assessed at five years of age predicted higher subsequent literacy and math skills across the next two years (Wolf & McCoy, 2019)

- Coverage of a recent study in which higher parent education predicted children's superior executive function whereas harsh parenting forecasted children's lower executive function (Halse & others, 2019)
- Coverage of a recent study in which a lower level of executive function in preschool children was linked to the new onset and worsening of attention deficit hyperactivity disorder and depression at 6 to 12 years of age (Hawkey & others, 2019)
- Description of a recent study that found fathers' autonomy support improved young children's executive function (Meuwissen & Carlson, 2018)
- Discussion of a recent study that indicated teachers who conducted a 6-week small group training program that focused on mindfulness and reflective thinking improved young children's executive function better than a business as usual condition, but a literacy training program was as effective in improving their executive function as the mindfulness and reflective thinking condition (Zelazo & others, 2018)
- Inclusion of recent research that found mindfulness-based intervention improved attention self-regulation (Felver & others, 2017)
- New section, "Executive Function," in the adolescence section of higher level thinking
- New coverage of the distinction between "hot" executive function and "cool" executive function (Koukari, Tsermentseli, & Monks, 2018; Semenov & Zelazo, 2018)
- Description of a recent study of 12- to 17-year-olds in which cool executive function increased with age while hot executive function peaked at 14 to 15 years of age and then declined (Poon, 2018)
- Description of a recent study in which young adolescents showed a better understanding of metaphors than children and this increased understanding was linked to increased cognitive flexibility (Willinger & others, 2019)
- Description of a recent study that revealed across a 10-year period, physically active women experienced less decline in executive function (Hamer, Munoz Terrera, & Demakokos, 2018)
- New section, "Executive Function in Adolescents and Emerging Adults," that especially highlights improving in these time frames in cognitive control (Chevalier, Dauvier, & Blaye, 2018)
- New section, "Executive Function and Aging," that describes the decline in executive function in late adulthood, which is especially influenced by a decline in prefrontal cortex functioning
- New content on the decline in older adults' cognitive flexibility (Chiu & others, 2018)
- Inclusion of a recent study in which aerobic exercise improved older adults' executive function (McSween & others, 2019)
- New section, "Mindfulness," reflecting the increased interest in mindfulness training in improving older adults' cognitive functioning (Kovach & others, 2018; Oken & others, 2018)
- Discussion of a recent study of older adults in 10 European countries that revealed improved memory between 2004 and 2013 with the changes more positive for those who had decreases in cardiovascular diseases and increases in exercise and educational achievement (Hessel & others, 2018)
- New coverage of a recent Australian study that found older adults retired from occupations that involved higher complexity maintained their cognitive advantage over their counterparts who worked in less complex occupations (Lane & others, 2017)
- Inclusion of recent research revealed that older adults with type 2 diabetes had greater cognitive impairment than their counterparts who did not have the disease (Riederer & others, 2017)
- Coverage of a recent study of the oldest-old Chinese that revealed early-stage kidney disease was associated with cognitive decline (Bai & others, 2017)
- Description of a recent study of older adults in which moderate to intense physical activity modified the depression-cognition connection and preserved cognitive function (Hu & others, 2019)
- New content on links between nutrition and cognitive aging, including a recent research review that concluded multinutrient approaches using the Mediterranean diet are linked to a lower risk of cognitive impairment (Abbatecola, Ruso, & Barbieri, 2018)
- New content on the concept of terminal decline and cognition, including recent research (Wilson & others, 2018)
- Discussion of a recent study that revealed time to death in terms of terminal decline was a good predictor of cognitive decline over time (Bendayan & others, 2017)
- Updated story of Helen Small's remarkable life and longevity
- Coverage of a recent meta-analysis that concluded meditation, tai chi, and yoga interventions are effective in improving older adults' cognitive functioning (Chan & others, 2019)
- Description of a recent meta-analysis that indicated video games can have a small positive effect on older adults' memory but have no effect on other cognitive functions (Mansor, Chow, & Halaki, 2019)
- Inclusion of a recent study of 3- to 5-year-old children that revealed earlier development of executive function predicted theory of mind performance, especially for false-belief tasks (Doenayas, Yavuz, & Selcuk, 2018)
- New section, "Developmental Changes in Theory of Mind in Adolescence and Adulthood"

## Chapter 8: Intelligence

- Description of the most recent revision of the Wechsler Intelligence Scale for Children–V, and its increase in the number of subtests and composite scores (Canivez, Watkins, & Domrowski, 2017)
- Discussion of a recent study of older adults in which emotional intelligence was positively linked to their cognitive functioning (Saad & others, 2019)
- Inclusion of a recent study that revealed higher-IQ adolescents engaged in a range of healthier behaviors, such as exercise, better diet, and not smoking in middle adulthood (Wraw & others, 2018)
- Coverage of a recent study in which higher IQ in adolescence was associated with having a younger subjective age 50 years later in late adulthood (Stephan & others, 2018)
- Discussion of a recent study in which longitudinal changes in general intelligence were linked to developmental changes that

occurred in the increasing thickness and surface area of the frontal and parietal lobes of the brain (Roman & others, 2018)

- Description of a recent study that found genes were much more strongly linked to a person's scientific achievement than to his/or artistic achievement (de Manzano & Ullen, 2018)
- Inclusion of a recent study of 22 countries in which intelligence varied across the countries with the variation linked to income, educational attainment, health, and socioeconomic status (Lynn, Fuerst, & Kirkegaard, 2018)
- New content indicating that intelligence has decreased in several Scandinavian countries and the possible reasons for this (Dutton & Lynn, 2013; Ronnlund & others, 2013)
- New coverage of content on how IQ gains continue to occur in the United States and developing countries (Flynn & Shaver, 2018), including a study that found IQ increased by 10 points from 2004 to 2016 in Khartoum, the capital of the African country of Sudan
- Inclusion of a recent study that indicated intelligence showed considerable stability across four developmental periods—in-fancy, early childhood, middle and late childhood, and adolescence (Yu & others, 2018)
- Coverage of a recent study in which fluid intelligence decreased in individuals 65 years and older but not in individuals 45 to 60 years of age (Cornelis & others, 2019)
- New discussion of the role of personality traits in creativity (Feist, 2019)
- Inclusion of a recent study in which the personality trait of openness to experience was linked to a higher level of creativity in the arts while intellect was associated with creativity in the sciences (Kaufman & others, 2016)
- Coverage of recent research on 24- to 93-year-olds that found everyday problem solving performance increased from early to middle adulthood but began to show a decline at about 50 years of age (Chen, Hertzog, & Park, 2017). In this study, fluid intelligence predicted everyday problem solving performance in young adults but with increasing age, crystallized intelligence became a better predictor.
- Coverage of a number of recent studies focused on the developmental aspects of wisdom at different points in life (Ardelt & Jeste, 2018; Igareshi, Levenson, & Aldwin, 2018)
- New discussion of a study that found the search for and presence of meaning was linked to wisdom in emerging adults (Webster & others, 2018)
- Description of a recent study in which self-reflective exploratory processing of difficult life circumstances was linked to a higher level of wisdom (Westrate & Gluck, 2017)
- Inclusion of a recent study that found the personality trait of openness to experience in early adulthood predicted wisdom 60 years later (Ardelt, Gerlach, & Vaillant, 2018). Also in this study, wisdom in later adulthood could be traced back to experiences and characteristics at different points in development: A supportive childhood, adolescent competence, emotional stability in young adults, and generativity in middle adulthood.
- Coverage of a recent study that indicated wisdom peaked in midlife with education especially linked to a higher level of wisdom (Ardelt, Pridgen, & Nutter-Pridgen, 2018)

## Chapter 9: Language Development

- Inclusion of revisions and updates based on feedback from leading experts Roberta Golinkoff and Virginia Marchman
- Coverage of a recent study in which a lack of babbling in infants was linked to having future speech and language problems (Lohmander & others, 2017)
- New commentary on how infants' babbling influences the behavior of their caregivers, creating social interaction that facilitates their own communicative development (Albert, Schwade, & Goldstein, 2019)
- New research on babbling onset predicting when infants would say their first words (McGillion & others, 2017a)
- New commentary on why gestures such as pointing promote further advances in language development
- Coverage of a recent study in which infants at high risk for autism spectrum disorder used fewer gestures than their low risk autism counterparts (Choi & others, 2019)
- Expanded discussion of statistical learning, including how infants soak up statistical regularities around them merely through exposure to them (Aslin, 2017)
- New discussion of English-speaking preschool children that revealed those from lower income families had less advanced language-processing skills, as well as a smaller vocabulary and syntax deficiencies (Levine & others, 2019b)
- Description of recent research that indicated 3-year-old bilingual children adapted to the needs of their communication partners better than their monolingual counterparts (Gampe, Wermelinger, & Daum, 2019)
- Inclusion of a recent study that found parent coaching of 6- and 10-month-old infants that involved the amount of child-directed speech, back and forth interactions, and parentese speech style improved the infants' language outcomes (more advanced babbling and greater word production) at 14 months of age (Ferjan Ramirez & others, 2019)
- New discussion of how adolescents are better than children at persuasive writing
- Coverage of recent research in which child-directed speech in a one-to-one social context for 11- to 14-month-olds was related to productive vocabulary at 2 years of age for Spanish-English bilingual infants for both languages and each language independently (Ramirez-Esparza, Garcia-Sierra, & Kuhl, 2017)
- Inclusion of a recent meta-analysis that concluded shared picture book reading was linked to children having better expressive and receptive language (Dowdall & others, 2019)
- New discussion of recent research in several North American urban areas and the small island of Tanna in the South Pacific Ocean that found that fathers in both types of contexts engaged in child-directed speech with their infants (Broesch & Bryant, 2018)
- Expanded emphasis on the importance of social cues in infant language learning (Akun & others, 2018; McGillion & others, 2017b)
- Coverage of a recent study in which both full term and pre-term infants who heard more caregiver talk based on all day recordings at 16 months of age had better language skills at 18 months of age (Adams & others, 2018)

- New content on the American Association of Pediatrics (2016) recent position statement on co-viewing of videos indicating that infants can benefit when parents watch videos with them and communicate with them about the videos
- Expanded coverage of how parents can facilitate infants' and toddlers' language development

## Chapter 10: Emotional Development and Attachment

- Edits based on feedback from leading experts Pamela Cole and Joan Grusec
- New transition paragraph from the description of emotion in general to content on emotion regulation that emphasizes the positive, adaptive nature of emotion, which is reflected in our ability to regulate our emotions
- Coverage of a recent study that found emotion-dismissing mothers' parenting was linked to toddlers' lower emotional competence while mothers' emotion-coaching parenting was associated with their toddlers' higher emotional competence (Ornaghi & others, 2019)
- Discussion of a recent study in which maternal sensitivity was linked to lower levels of infant fear (Gartstein, Hancock, & Iverson, 2018)
- Description of a recent study that revealed excessive crying in 3-month-olds doubled the risk of behavioral, hyperactive, and mood problems at 5 to 6 years of age (Smarius & others, 2017)
- New discussion of a study in which young children with a negative temperament used fewer attention regulation strategies while maternal sensitivity to infants was linked to more adaptive emotion regulation (Thomas & others, 2017)
- Inclusion of a recent study in which maternal sensitivity was linked to better emotional self-regulation in 10-month-old infants (Frick & others, 2018)
- Coverage of a recent intervention study that involved training mothers to effectively use soothing techniques in the fourth week after birth, which resulted in infants waking up less each night and crying less when assessed at 7, 11, and 23 weeks after birth (Ozturk Donmez & Temel, 2019)
- Description of a recent study in which young children with higher emotion regulation were more popular with their peers (Nakamichi, 2019)
- New discussion of a longitudinal study in which a higher level of emotion regulation in early childhood was linked to a higher level of externalizing problems in adolescence (Perry & others, 2017)
- New *Connecting with Careers* insert on Dr. Melissa Jackson, child and adolescent psychiatrist
- New discussion of emotion regulation in adolescence and how lower levels of emotion regulation are linked to a number of problems in adolescence (Hollenstein & Lanteigne, 2018)
- Discussion of a recent study in which older men showed greater engagement with highly positive contexts than younger men did (Martins & others, 2018)
- Inclusion of a recent meta-analysis that concluded emotional experiences in older adults are more positive than for younger adults (Laureiro-Martinez, Trujillo, & Unda, 2017). Also, in this review, it was concluded that older adults focus less on negative events in the past than younger adults.
- New commentary about the fact that since older adults have a decreasing number of years to live, this influences them to place more emphasis on prioritizing meaningful relationships (Moss & Wilson, 2019)
- New research that found positive affectivity, surgency, and self-regulation capacity assessed at 4 months of age was linked to school readiness at 4 years of age (Gartstein, Putnam, & Kliewer, 2016)
- Inclusion of two new research studies that linked a lower level of effortful control at 3 years of age with ADHD symptoms in the first grade (Willoughby, Gottfredson, & Stifter, 2017) and at 13 years of age (Einziger & others, 2018)
- Description of a recent study that revealed if parents had a childhood history of behavioral inhibition, their children who also had a high level of behavioral inhibition were at risk for developing anxiety disorders (Stumper & others, 2017)
- New coverage of recent research in which having a difficult temperament at 5 years of age was linked to delinquency at 15 years of age (DiLalla & DiLalla, 2018)
- Inclusion of a recent meta-analysis that concluded secure attachment is linked to being more resilient (Darling Rasmussen & others, 2018)
- Discussion of a recent study that found an infant's secure attachment to its father was not enough to reduce the infant's stress reactivity when the mother-infant attachment was insecure (Kuo & others, 2019)
- Description of recent research that revealed providing parents who engage in inadequate or problematic caregiving with practice and feedback focused on interacting sensitively enhances parent-infant attachment security (Dozier, Bernard, & Roben, 2019; Woodhouse, 2018 & others, 2019)
- New content about mothers playing 3 times more often with children than fathers do (Cabrera & Rossman, 2017)
- Inclusion of recent research with low-income families indicating that fathers' playfulness at 2 years of age was associated with more advanced vocabulary skills at 4 years of age while mothers' playfulness at 2 years of age was linked to a higher level of emotion regulation at 4 years of age (Cabrera & others, 2017)
- Discussion of a recent study that found negative outcomes on cognitive development in infancy when fathers were more withdrawn and depressed and positive outcomes on cognitive development when they were more engaged and sensitive, as well as less controlling (Sethna & others, 2018)
- Description of recent research on 5- to 18-year-olds involving a series of meta-analyses revealed distinctive patterns between secure attachment and parenting behaviors as well as between avoidant attachment and parenting behaviors, but not between ambivalent attachment and parenting behaviors (Koehn & Kerns, 2018)
- Coverage of recent research indicating that most adolescents have a fairly stable attachment style but that attachment stability increased in adulthood (Jones & others, 2018). Also in this study, family conflict and parental separation/divorce were likely candidates for undermining attachment stability.

- New research of a longitudinal study that found a secure base of attachment knowledge in adolescence and emerging adulthood was predicted by observations of maternal sensitivity across childhood and adolescence (Waters, Ruiz, & Roisman, 2017)
- Coverage of a recent study that revealed when they had grown up in poverty, adolescents engaged in less risk-taking if they had a history of secure attachments to caregivers (Delker, Bernstein, & Laurent, 2018)
- Inclusion of a recent analysis that found secure attachment to the mother and to the father was associated with fewer depressive symptoms in adolescents (Kerstis, Aslund, & Sonnby, 2018)
- Coverage of a recent research review that concluded insecure attachment was linked to a higher level of social anxiety in adults (Manning & others, 2017)
- Description of recent research indicating that insecure anxious and insecure avoidant individuals were more likely than securely attached individuals to engage in risky health behaviors, be more susceptible to physical illness, and have poorer disease outcomes (Pietromonaco & Beck, 2018)
- Inclusion of a longitudinal study from 13 to 72 years of age in which avoidant attachment declined across the life span and being in a relationship predicted lower levels of anxious and avoidant attachment across adulthood (Chopik, Edelstein, & Grimm, 2019)
- Coverage of a recent study of older adult women that found avoidant attachment was linked to higher levels of social isolation (Spence, Jacobs, & Bifulco, 2019)
- Updated data on the number of Americans who have tried Internet matchmaking and gender differences in the categories males and females lie about in Internet matchmaking (statisticbrain.com, 2017)
- Description of recent research on how romantic relationships change in emerging adulthood, including different characteristics of adolescent and emerging adult romantic relationships (Lantagne & Furman, 2017)
- New section on cross-cultural variations in romantic relationships
- New coverage of recent comparisons of romantic relationships in Japan, France, Argentina, and Qatar (Ansari, 2015)
- Inclusion of recent research that revealed overcontrolling parenting at age 2 was related to lower emotion regulation at age 5, which in turn were associated with more emotional and school problems at age 10 (Perry & others, 2018b)
- Expanded and updated coverage of the importance of self-regulation in adolescence (Casey & others, 2019; Van Maderen & others, 2019)
- New discussion of recent research on more than 5,000 individuals from 10 to 30 years of age from around the world that revealed sensation seeking steadily increased from 11 years of age through late adolescence, peaking at 19 years of age and declining through the 20s (Steinberg & others, 2019)
- New description of a recent study in which a reciprocal relation between school engagement and self-regulation in adolescence was found (Stefansson & others, 2018)
- Coverage of a recent study of middle school students that revealed self-control was a key factor in developing good health habits (Kang & You, 2018)
- Inclusion of a recent study of Mexican American adolescents that indicated effortful control was linked to coping with stress more effectively (Taylor, Widman, & Robins, 2017)
- Discussion of a recent study of fifth to eleventh graders that found a bidirectional pattern between effortful control and school behavior problems (Atherton & others, 2019)
- New description of a recent meta-analysis of children up to 18 years of age that indicated those who were securely attached engaged in better effortful control (Pallini & others, 2018)
- Inclusion of a recent study in which older adults who had a higher daily level of self-control perceived themselves to be younger (Bellingtier & Neupert, 2019)
- New commentary that too little research attention has been given to the domains of identity (Galliher, McLean, & Syed, 2017)
- New inclusion of Luc Goosen's and Koen Luyckx's criticisms of Marcia's identity statuses report (Luyckx & others, 2017, 2018)
- New content on the newer *dual cycle identity model* that separates out identity development into two processes: 1) A formation cycle, and 2) a maintenance cycle (Luyckx & others, 2014, 2017, 2018)
- New section, "Identity Development and the Digital Environment," that explores the widening audience adolescents and emerging adults have to express their identity and get feedback about it in their daily connections on social media such as Instagram, Snapchat, and Facebook (Davis & Weinstein, 2017)
- Coverage of a recent study of Mexican-origin adolescents in the United States in which a positive ethnic identity, social support, and anger suppression helped them with racial discrimination whereas anger expression reduced their ability to cope with the discrimination (Park & others, 2018)
- Coverage of a recent study in which openness to experience declined in advance of death in older adults (Sharp & others, 2019)
- Discussion of a recent study that revealed older adults characterized by high conscientiousness were experiencing optimal aging (Melendez & others, 2019) and less likely to develop dementia (Kaup, Hammell, & Yaffe, 2019)
- Inclusion of recent research that found conscientiousness was linked to being more academically successful in medical

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

- Coverage of a recent study that found an instrumental reminiscence intervention improved the coping skills of older adults (Satorres & others, 2017)
- New discussion of a recent book—*Challenging the Cult of Self-Esteem in Education* (Bergeron, 2018)—that criticizes education for promising high self-esteem for students, especially those who are impoverished or marginalized
- Coverage of a longitudinal study that found a higher level of self-control in childhood was linked to a slower pace of aging at 26, 32, and 38 years of age (Belsky & others, 2017)
- New discussion of a longitudinal study in which a lower level of emotion regulation in early childhood was linked to a higher level of externalizing problems in adolescence (Perry & others, 2018a)

school (Sobowale & others, 2018) and not being as addicted to Instagram (Kircaburun & Griffiths, 2018)

- Description of recent research indicating that obese adults were characterized by low conscientiousness (Cheng & others, 2019)
- Discussion of research in which nursing professionals who were high in conscientiousness and low in neuroticism were characterized by lower work burnout rates (Perez-Fuentes & others, 2019)
- Inclusion of recent research in which more pessimistic college students had more anxious mood and stress symptoms (Lau & others, 2017)
- Discussion of a recent study of married couples that revealed the worst health outcomes occurred when both spouses decreased their optimism across a four-year period (Chopik, Kim, & Smith, 2018)
- Description of a recent study in which lonely individuals who were optimistic had a lower suicide risk (Chang & others, 2018)
- Coverage of a recent study that found older adults engaged in more proactive coping when experiencing minor daily hassles in their lives than younger adults did (Neubauer, Smyth, & Sliwinski, 2019)
- Discussion of a recent study in which participating in an inter-generational civic engagement program enhanced older adults' self-perceptions of generativity (Grunewald & others, 2016)
- Inclusion of recent research that found a higher level of generativity in middle age was linked to greater wisdom in late adulthood (Ardelt, Gerlach, & Vaillant, 2018)
- Inclusion of a recent study of middle-aged adults that revealed intrinsically-rewarding work was associated with feelings of generativity (Chen & other, 2019)

## Chapter 12: Gender and Sexuality

- Clearer definition of congenital adrenal hyperphasia (CAH)
- Inclusion of two recent studies of CAH girls who engaged in more problematic behaviors in childhood (Kung & others, 2018; Spencer & others, 2018)
- Coverage of a recent study in which 3-year-old boys with higher prenatal testosterone levels had shorter delay of gratification and more attention problems (Korner & others, 2019)
- Inclusion of Janet Shibley Hyde and her colleagues' (Hyde & others, 2019) recent conclusion that because the distributions for males and females on different brain features are so overlapping, in most instances is more accurate to characterize human brains as a mosaic of these features rather than as male-typical and female-typical brains
- Updated data on math and reading scores at the fourth and eighth grade levels in the National Assessment of Educational Progress (2017)
- Coverage of a recent large scale study of seventh grade girls that found girls' perceptions of teachers' gendered math expectations and how relevant and meaningful the math curriculum was for them were linked to their math beliefs and math achievement (McKellar & others, 2019)
- Update on Urban Prep Academy, the first all-male African American charter school, indicating that from 2010, its first year as a school, through 2018, 100 percent of the students in each graduating class went on to college
- Inclusion of a recent study that revealed females are better than males at facial emotion perception across the life span (Olderbak & others, 2019)
- Coverage of a recent study of adolescents that revealed those who observed relational aggression on television were more likely to engage in relational aggression when they were texting one year later (Coyne & others, 2019)
- Description of a recent study in which androgynous boys and girls had high self-esteem and few internalizing problems (Pauletto & others, 2017)
- A number of changes made based on feedback from leading experts Bonnie Halpern-Felsher and Ritch Savin-Williams
- New emphasis on the similarities in sexual timing and developmental sequences in heterosexual and sexual minority adolescents except that sexual minority adolescents have to cope with the more stressful aspects of their sexual identity and disclosing this identity (Savin-Williams, 2019)
- Significant updating of the percentage of individuals 18 to 44 years of age in the United States who report they are heterosexual, gay, lesbian, or bisexual, as well as the percentages of these men and women who report about various feelings involving sexual orientation (Copen, Chandra, & Febo-Vazquez, 2016)
- Inclusion of recent research in which sexual activity in adults on day 1 was linked to greater well-being the next day (Kashdan & others, 2018). In this study, higher reported sexual pleasure and intimacy predicted more positive affect and less negative affect the next day.
- New commentary that whether an individual is heterosexual, gay, lesbian, or bisexual, the person cannot be talked out of his or her sexual orientation (King, 2017, 2019)
- Coverage of the recent significant increase in gonorrhea, syphilis, and chlamydia rates in the United States (Centers for Disease Control and Prevention, 2019; Feltman, 2018)
- Updated data on the number of HIV cases in the United States
- New content on the high percentage of college men who admit that they fondle women against their will and force them to have sex with them (Wiersma-Mosley, Jozkowski, & Martinez, 2017)
- Updated data on the percentage of high school students, including female vs. male students, who have been forced to have sexual intercourse against their will (Kann & others, 2018)
- New description of the No Means No worldwide program that is being widely implemented with adolescents in Kenya and Malawi and has been effective in reducing sexual assaults in adolescence
- New coverage of the Me Too movement and how awareness of the widespread sexual harassment of women quickly spread beginning in 2017
- Inclusion of a recent study of prime-time television shows that U.S. adolescents and emerging adults watched found that sexual violence and abuse, casual sex, lack of contraception use, and no coverage of the negative consequences of risky sexual behavior were common (Kinsler & others, 2019)
- Description of a recent study of television shows revealed that sexual behavior with casual acquaintances was almost as common as sexual behavior in committed relationships (Timmermans & Van den Bulck, 2018)

- Inclusion of a recent study of emerging adults in which receiving unwanted sexts and sexting under coercion were linked to higher levels of depression, anxiety, and stress, and lower self-esteem (Klettke & others, 2019)
- Updated data on the percentage of U.S. high school students who have ever had sexual intercourse, are currently sexually active, had sexual intercourse before 13 years of age, and engaged in sexual intercourse with 4 or more persons (Kann & others, 2018)
- Updated data on ethnic variations in adolescents who have ever had sexual intercourse (Kann & others, 2018)
- Coverage of a recent national study of 7,000 15- to 24-year-olds' engagement in oral sex, including the low percentage of youth who use a condom when having oral sex (Holway & Hernandez, 2018)
- Description of a recent study of South African youth that found that early sexual debut predicted a lower probability of graduating from high school (Bengesai, Khan, & Dube, 2018)
- Inclusion of a recent Australian study in which sex at age 15 or younger predicted higher rates of emerging adult pregnancy, lifetime sexual partners, and sex without using a condom (Prendergrast & others, 2019)
- Coverage of a recent study of Korean adolescent girls in which early menarche was linked to earlier initiation of sexual intercourse (Kim & others, 2019)
- New discussion of links between substance abuse and sexual risk practices, including a recent study in which the likelihood of initiating sexual intercourse before age 13 increased in those engaged in substance abuse and having mental health problems (Okumu & others, 2019)
- Coverage of a recent study in which talk about sexual protection with extended family members was linked to adolescents having fewer sexual partners while such talk about sexual risks was associated with adolescents having more sexual partners (Grossman & others, 2019)
- Description of a recent study of African American girls that revealed those for whom religion was very or extremely important were much more likely to have a later sexual debut (George Dalmida & others, 2018)
- Updated data on the percentage of U.S. adolescents who used a contraceptive the last time they had sexual intercourse (Kann & others, 2018)
- Important new section on the increasing number of medical organizations and experts who have recently recommended that adolescents use long-acting reversible contraception (LARC), which consists of intrauterine devices (IUDs) and contraceptive implants (Apter, 2018; Deidrich, Klein, & Peipert, 2017; Fridy & others, 2018; Society for Adolescent Medicine, 2017a; Summit & others, 2019; Turner, 2019; World Health Organization, 2018)
- Updated data on STIs in young people with those 15 to 24 years of age accounting for 50 percent of the new STIs in the United States (Kann & others, 2018)
- Updated data on HIV in the United States with individuals 13 to 24 years of age having 21 percent of all HIV diagnoses and, of these individuals, 81 percent were gay or bisexual males (Kann & others, 2018)
- Updated data on births to U.S. 15- to 19-year-olds, which in 2017 reached its lowest rate in history (Centers for Disease Control and Prevention, 2019). Especially noteworthy was the substantial decline in births to Latina and African American adolescent girls.
- New research on pregnancy in adolescence and factors that are linked to it (Dee & others, 2017; Maravilla & others, 2017)
- New position of the Adolescent Society of Health and Medicine (2017b) that states research clearly indicates that comprehensive sex education programs and policies are effective in delaying sexual intercourse and reducing other sexual risk behaviors
- Coverage of a recent study in which emerging adults reported that on days they had vaginal sex they said they experience more positive affect; however, they reported that higher levels of negative affect occurred on days they had sex with a non-dating partner or had more negative experiences in the sexual encounter (Vasilenko & Lefkowitz, 2018)
- Discussion of a recent study that revealed the more minutes per week that women exercised during the menopausal transition, the lower their stress level was (Guerin & others, 2019)
- Description of a recent analysis of research that concluded mindfulness training is linked to improved psychological adjustment during the menopausal transition (Molefi-Youri, 2019)
- Coverage of a recent cross-cultural study in China that found Mosuo women had fewer negative menopausal symptoms and higher self-esteem than Han Chinese women (Zhang & others, 2019)
- Inclusion of a consensus that there is a slight increase in breast cancer for women taking hormone replacement therapy (American Cancer Society, 2019; www.breastcancer.org, 2019)
- Discussion of recent studies and research reviews that indicate testosterone replacement therapy does not increase the risk of prostate cancer (Debruyne & others, 2017; Yassin & others, 2017)
- Description of a recent study in which TRT-related benefits in quality of life and sexual function were maintained for 36 months after initial treatment (Rosen & others, 2017)
- Revised conclusions about TRT and cardiovascular disease with recent research being inconclusive about this association (Fode & others, 2019)
- Discussion of a recent study that found the more frequently middle-aged and older adults had sex, the better their overall cognitive functioning was, and especially so in working memory and executive function (Wright, Jenks, & Demeyere, 2018)
- Inclusion of recent research on healthy middle-aged women indicating that interpersonal factors such as emotional support and relationship satisfaction, as well as the personality traits of optimism and self-esteem, were key predictors of the quality of sexual functioning (Memone, Fiacco, & Ehlert, 2019)
- Coverage of recent research in which older adults who engaged in sexual activity was linked to greater enjoyment in life (Smith & others, 2019)
- Description of a recent study in which older adults were asked about their motivation for having sex (Gewirtz-Meydan & Avalon, 2019). In this study, five main reasons for having sex were: 1) to maintain overall functioning; 2) to feel young again; 3) to feel attractive and desirable; 4) to go from lust to love; and 5) to change from “getting sex” to “giving sex.”

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

- Based on feedback from instructors and students, content on Kohlberg's theory was reduced and made easier for students to understand
- Extensive revisions and updated based on feedback from leading expert consultant, Darcia Narváez
- Inclusion of Albert Bandura's (2015) most recent social cognitive views on morality in which he describes how people can morally disengage themselves yet still feel good about themselves
- New discussion of how recent research has documented the role of guilt in young children's cooperation (Vaish, 2018; Vaish, Carpenter, & Tomasello, 2016)
- Coverage of a recent study that found a higher degree of empathy was linked to greater civic engagement by adolescents (Metzger & others, 2018)
- Description of a recent meta-analysis that concluded better quality parent-child and peer relationships were linked to higher levels of adolescents' empathy (Boele & others, 2019)
- Inclusion of a recent study of individuals from adolescence through middle adulthood that revealed as they got older their external moral identity motivation decreased while their internal moral identity motivation increased (Krettenaur & Victor, 2017)
- Coverage of a recent study that found maternal supportive (emotion-focused and problem-focused) behavior was linked to an increase in young children's prosocial behavior (Eisenberg & others, 2018)
- New Figure 2 that gives students an opportunity to evaluate the extent to which they have a moral identity
- Updated content on the number of states in 2018 that legislatively mandated character education in schools (18), had legislation that encouraged character education (18), supported character education but without legislation (7), and no legislation that specifies character education (8)
- Discussion of a recent study of links between purpose and character, with three components of character (gratitude, compassion, and grit) linked to character in young adolescents (Malin, Liauw, & Damon, 2017)
- Deletion of the section, "Cognitive Moral Education," as less attention is being given to it than in the past
- Coverage of two recent studies in which forgiveness of others was associated with a lower risk of suicidal behavior in adolescence (Dangel, Webb, & Hirsch, 2018; Quintana-Orts & Rey, 2018)
- Inclusion of recent research on middle school students in which a higher level of gratitude was linked to having a higher level of purpose (Malin, Liauw, & Damon, 2017)
- Updated data on the percentage of older adults who engage in volunteering (U.S. Bureau of Labor Statistics, 2016)
- Inclusion of recent research on links between volunteering by older adults and improved health (Burr & others, 2018; Carr, Kail, & Rowe, 2018), better cognitive functioning (Prouix & others, 2018), and less loneliness (Carr & others, 2018)
- Expanded and updated discussion of why volunteering by older adults has positive outcomes for them (Carr, 2018)
- Updated statistics on gender differences in juvenile delinquency in the United States (Hockenberry & Puzanchera, 2017)
- Coverage of a recent study that found delinquency in adolescence was linked to a greater likelihood of being unemployed in adulthood (Carter, 2019)
- Description of a recent study of middle school adolescents that found peer pressure for fighting and friends' delinquent behavior were linked to adolescents' aggression and delinquent behavior (Farrell, Thompson, & Mehari, 2017)
- Inclusion of a recent study of more than 10,000 children and adolescents that revealed a family environment characterized by poverty and child maltreatment was linked to entering the juvenile justice system in adolescence (Vidal & others, 2017)
- Discussion of a recent study that revealed an increase in the proportion of classmates who engage in delinquent behavior increased the likelihood that other classmates would become delinquents (Kim & Fletcher, 2018)
- Inclusion of a recent study that indicated adolescent delinquents were high on affiliating with deviant peers and engaging in pseudomature behavior and low on peer popularity and school achievement (Gordon Simons & others, 2018)
- Description of a recent study that revealed having a best friend who was delinquent increased the probability that adolescents themselves would become delinquent (Levey & others, 2019)
- Coverage of a recent study in which low self-control was linked to a higher incidence of delinquent behavior (Fine & others, 2016)
- Inclusion of recent research in which having callous-unemotional traits predicts an increased risk of engaging in delinquency for adolescent males (Ray & others, 2017)
- Discussion of recent research indicating for populations with high risk profiles, as little as one teacher screening taken during kindergarten or the first grade predicted which males would have adult criminal convictions by age 25 (Kassing & others, 2019)
- Updated data on the goals of first-year college students in relation to the relative importance they assign to developing a meaningful philosophy of life versus becoming well-off financially (Stolzenberg & others, 2019)
- Updated data on the continuing decrease in college freshmen who say they attended a religious service occasionally or frequently in the past year (Stolzenberg & others, 2017)
- Description of a recent study that revealed high school students who reported turning to spiritual beliefs when they were experiencing problems were less likely to engage in substance use (Debnam & others, 2018)
- Discussion of a recent study across three countries (England, Scotland, and Canada) found that adolescents who reported having a higher level of spirituality were more likely to have positive health outcomes (Brooks & others, 2018)
- Inclusion of a recent Slovakian study of adolescents in which spirituality but not religiosity was linked to better self-rated health, fewer health complaints, and higher life satisfaction (Dankulincova Veselska & others, 2019)
- New research that indicated adults who volunteered had lower resting pulse rates and their resting pulse rate improved when they were deeply committed to religion (Krause, Ironson, & Hill, 2017)

- Inclusion of a national poll of people in the United States that found they are increasingly spiritual but not religious (Lipka & Gecewicz, 2017)

## Chapter 14: Families

- Description of a recent study in which inadequate dyadic synchrony was found in the preterm infant-mother relationship compared with more positive dyadic synchrony in the full term infant-mother relationship (Spairani & others, 2018)
- Coverage of a recent study that revealed improvement in a couples' relationship coping decreased their coparenting conflict (Zemp & others, 2018)
- Discussion of recent research with adolescents in which light use of digital media was associated with much higher psychological well-being than heavy use of digital media (Twenge & Campbell, 2019)
- Description of a recent study that found that social media use of more than 2 hours a day was linked to lower academic achievement in both middle and high school students (Sampas-Kanyinga, Chaput, & Hamilton, 2019)
- Updated data on the percentage of U.S. individuals 18 and older who are single (U.S. Census Bureau, 2018)
- Inclusion of data from the Match.com Singles in America 2017 national poll that describes Millennials' interest in having sex before a first date, interest in marrying but taking considerable time to get to know someone before committing to a serious relationship, and males interest in having females initiate the first kiss and asking a guy for his phone number (Fisher, 2017; Match.com, 2017)
- Updated data on the continuing increase in cohabitation in U.S. adults (Brown & Wright, 2017)
- Inclusion of recent research that confirms cohabitation is a risk factor for intimate partner violence in emerging adults (Manning, Longmore, & Giordano, 2018)
- Updated data on the increasing percentage of emerging and young adults who are cohabiting (U.S. Census Bureau, 2018)
- Discussion of a recent study in which cohabiting individuals were more likely to engage in risky sexual relationships and more likely to have an unintended birth (Nugent & Daugherty, 2018)
- Description of a recent study that indicated cohabitation was associated with a risk for increased marijuana use among women but not men (Hoffman, 2018)
- Coverage of a recent study in which cohabiting individuals were not as mentally healthy as their counterparts in committed marital relationships (Braithwaite & Holt-Lunstad, 2017)
- Description of a recent study of long-term cohabitation (more than 3 years) in emerging adulthood that found emotional distress was higher in long-term cohabitation than in time spent single, with men especially driving the effect (Memitz, 2019). However, heavy drinking was more common in time spent single than in long-term cohabitation.
- Inclusion of recent research indicating that women who cohabited within the first year of a sexual relationship were less likely to get married than women who waited more than one year before cohabiting (Sassler, Michelmore, & Qian, 2018)
- Updated data on the increasing number of middle-aged and older adult men and women who are cohabiting (Brown & Wright, 2017)
- Updated data on the percentage of U.S. adults who are married (U.S. Census Bureau, 2018)
- New comparison of age at first marriage in a number of developed countries with individuals in Sweden getting married latest and those in Turkey earliest
- Updated data on the continuing increase in being older before getting married in the U.S. with the age for men now at 29.5 years and for women 27.4 years (Livingston, 2017)
- Coverage of a recent study of recently married low income adults that revealed those who received premarital education were more likely to seek therapy when the marriage became distressed than those who had not received premarital therapy (Williamson & others, 2018)
- New Figure 3: Trends and Proposal for Improving Premarital Education in the Next Generation (Clyde, Hawkins, & Willoughby, 2019)
- Inclusion of a longitudinal study of middle-aged married adults that found negative behavior in their marriage decreased and positive behavior increased across 13 years in middle age (Verstaen & others, 2019)
- Update on the countries in which the divorce rate is the highest (Russia) and the lowest (Chile)
- New discussion of the increasing divorce rate in middle-aged adults and the reasons for the increase (Stepler, 2017), as well as the recent labeling of divorce in 50+-year-old adults as "gray divorce" (Crowley, 2018)
- Coverage of a recent study that found the greatest risks for getting divorce in middle adulthood were a shorter duration of marriage, lower marital quality, having financial problems, and not owning a home (Lin & others, 2018). Also in this study, onset of an empty nest, the wife's or husband's retirement, and the wife or husband having a chronic health condition were not related to risk for divorce in middle adulthood.
- Inclusion of a recent Korean study in which middle-aged individuals who were divorced were more likely to smoke, binge drink, get inadequate sleep, and be depressed than their married counterparts (Kim, Lee, & Park, 2018)
- Updated data on the percentage of older adults who are divorced (U.S. Census Bureau, 2016)
- New research on the factors that are associated with having a longer marriage as older adults (Lin & others, 2018)
- Inclusion of a recent study of older adults in Great Britain that revealed those who were divorced were more likely to die earlier and have lower life satisfaction than their married counterparts (Bourassa, Ruiz, & Sbarra, 2019)
- Description of a recent study in which partnered older adults were more likely to receive social security benefits and less likely to live in poverty (Lin, Brown, & Hammersmith, 2017)
- New discussion of why remarried adults often find it difficult to stay married and their divorce rate is increasing (Ganong & Coleman, 2018)
- Coverage of a recent study involving the Bringing Home Baby project found that fathers who participated in the program

- felt more appreciated by their wives and also wives were more satisfied with the division of labor when fathers were more involved in parenting (Shapiro, Gottman, & Fink, 2019)
- Inclusion of a recent study that found better parental monitoring was linked to lower marijuana use by adolescents (Haas & others, 2018) and another study that revealed lower parental monitoring was associated with earlier initiation of alcohol use, binge drinking, and marijuana use in 13- to 14-year-olds (Rusby & others, 2018)
  - Description of a recent study that indicated parental media monitoring was linked to lower media use by adolescents (Padilla-Walker & others, 2018)
  - Discussion of a recent study that discovered a higher level of general parental monitoring of adolescents' money spending, friends, and whereabouts was linked to the adolescents having a lower weight status, better dietary habits, more physical exercise, and less screen time (Kim & others, 2019)
  - Coverage of a recent study of young adolescents that revealed they got more sleep when their parents engaged in more monitoring of their waking activities (Gunn & others, 2019)
  - Inclusion of recent research that found adolescents who engaged in problem behavior were more secretive and disclosed less information to parents (Darling & Tilton-Weaver, 2019)
  - Coverage of a recent study in which an authoritarian style, as well as pressure to eat, were associated with a higher risk for being overweight or obese in young children (Melis Yavuz & Selkuk, 2018)
  - Description of a recent study that revealed authoritarian parenting was associated with being a bully perpetrator in adolescence (Krisnana & others, 2019)
  - Discussion of a recent study that found authoritarian parenting was linked to all forms of child maltreatment while authoritative parenting was associated with a lower risk for all types of child maltreatment (Lo & others, 2019)
  - Inclusion of a recent review that concluded there is widespread approval of corporal punishment by U.S. parents (Ciocca, 2017)
  - Description of a recent study in which daughters reported being less likely to experience physical punishment and the daughters also indicated they were less likely to be physically punished by both parents (Mehlhasen-Hassoen, 2019)
  - Discussion of recent research that revealed coparenting when children were 3- to 5-years-of-age was linked less to externalizing problems 8 to 10 years later (Parkes, Green, & Mitchell, 2019)
  - Updated data on the extent of child maltreatment in the United States, including new data on specific types of abuse
  - Coverage of a recent study that found physical abuse was linked to lower levels of cognitive performance and school engagement in children (Font & Cage, 2018)
  - Discussion of a longitudinal study in which experiencing early abuse and neglect in the first five years of life was linked to having more interpersonal problems and lower academic achievement from childhood through their 30s (Raby & others, 2019)
  - Description of a recent study of Chinese American families that found parent-adolescent conflict increased in early adolescence, peaked at about 16 years of age, and then declined through late adolescence and emerging adulthood (Juang & others, 2018)
  - Coverage of a recent study that revealed when they had grown up in poverty, adolescents engaged in less risk-taking if they had a history of secure attachments to caregivers (Delker, Bernstein, & Laurent, 2018)
  - Inclusion of a recent analysis that found secure attachment to the mother and to the father was associated with fewer depressive symptoms in adolescents (Kerstis, Aslund, & Sonnby, 2018)
  - Coverage of recent research indicating the continued importance of parenting through the fourth year of college as low parental permissiveness was associated with reducing risk for drinking even as their offspring turned 21 (Mallett & others, 2019)
  - Inclusion of a recent cross-cultural study that found college students in four countries (United States, Germany, Hong Kong, and Korea) experienced frequent contact with and support from their parents (Fingerman & others, 2017). In this study, Asian students were given more frequent support than U.S. or German students but were less satisfied with it.
  - Description of two recent national surveys on working parents focusing on various issues in working parent families (Career Builder, 2018; Livingston & Bialik, 2018)
  - Discussion of a recent study in which experiencing parents' divorce, as well as child maltreatment, in childhood was linked to midlife suicide ideation (Stansfield & others, 2017)
  - Inclusion of a recent meta-analysis that revealed when their parents had become divorced, as adults they were more likely to have depression (Sands, Thompson, & Gavsina, 2017)
  - Description of a recent study in which stepfathers' affinity-seeking (developing a friendship relation with his stepchildren) was linked to less conflict with stepchildren, a better couple relationship, and closer stepfamily ties (Ganong & others, 2019)
  - Inclusion of recent research indicating that positive adolescent-stepfather relationship quality was associated with a higher level of physical health and a lower level of mental health problems for adolescents (Jensen & Harris, 2017; Jensen & others, 2018)
  - Coverage of a large-scale study that found a birth order effect for intelligence, with older siblings having slightly higher intelligence, but no birth order effects for life satisfaction, internal/external control, trust, risk taking, patience, and impulsivity (Rohrer, Egloff, & Schukle, 2017)
  - Description of a recent cross-cultural study in which U.S. grandparents were characterized by higher parental efficacy, more role satisfaction, better well-being, and more attachment than Chinese grandparents, who were characterized by more resilience and a higher level of authoritative parenting (Wang & others, 2019)
  - Discussion of a recent study in which high levels of parental control and helicopter parenting were detrimental to emerging adults' vocational identity development and perceived competence in transitioning to adulthood (Lindell, Campione-Barr, & Killoren, 2017)
  - Coverage of a recent study that revealed helicopter parenting was related to more negative emotional functioning, less competent decision making, and lower grades/poorer adjustment in college students (Luebbe & others, 2018)
  - New content on "lawnmower parents" who "mow down" obstacles, stressors, and potential failure for children rather than let them learn how to make decisions and develop coping strategies on their own

## Chapter 15: Peers and the Sociocultural World

- Description of a recent study of adolescents in which peer rejection increased the likelihood that both victims and bullies would engage in increased non-suicidal self-injury (Esposito, Bacchini, & Affuso, 2019)
- Inclusion of recent research indicating that mothers with a permissive parenting style have adolescents who are negatively attached to their peers (Llorca, Richaud, & Malonda, 2017)
- Coverage of a recent study of 12- to 15-year-olds in 48 countries worldwide that found being the victim of bullying was linked to an increased risk of suicide in 47 of the 48 countries (Koyanagi & others, 2019)
- New commentary about overweight and obese children being at risk for being bullied (Bacchini & others, 2017)
- Description of a recent study of 10- to 14-year-olds in which being a victim of a bully often led to a cascading effect of bullying perpetration that eventually produced disordered eating behavior (Lee & Vaillancourt, 2019)
- Coverage of a recent study that revealed the most common behavioral reactions to cyberbullying were informing a friend, counterattacking, and ignoring the cyber incident (Heiman, Olenik-Shemesh, & Frank, 2019)
- New discussion of five ways that social media have transformed the way that peer and friendship interactions and relationships take place in adolescence (Nesi, Choukas-Bradley, & Prinstein, 2018)
- Description of a recent study of 2- to 5-year-olds in which television/DVD/video viewing was negatively linked to young children's social skills, while outdoor play was positively associated with their social skills (Hinkley & others, 2018)
- Coverage of a Danish study across 33 years of individuals 20 to 93 years of age found that those who engaged in a light level of leisure time physical activity lived 2.8 years longer, those who engaged in a moderate level of leisure time physical activity lived 4.5 years longer, and those who engaged in a high level of leisure time physical activity lived 5.5 years longer (Schnohr & others, 2017)
- Inclusion of a recent study of more than 300,000 individuals 50 to 71 years of age in which those who engaged in the most leisure-time physical activity were at lower risk for all cause, cardiovascular-related disease related, and cancer-related mortality (Saint-Maurice & others, 2019)
- Discussion of a recent study of 29 European countries that examined age discrimination in individuals aged 15 to 115 years of age (Bratt & others, 2018). In this study, younger individuals displayed more age discrimination than did older individuals.
- Coverage of a recent research review that concluded Japan is becoming more individualistic in a number of areas of people's lives (Ogihara, 2017)
- Description of a recent study of preschool children in which those who used screen time two or more hours a day were much more likely to have inattention problems compared with children who used screen time less than 30 minutes a day, including a higher risk of developing ADHD symptoms and externalizing problems (Tamana & others, 2019)
- Discussion of a recent study of 13- to 16-year-olds that found increased night-time mobile phone use was linked to increased externalizing problems and decreased self-esteem (Vernon, Modecki, & Barber, 2018)
- Inclusion of information about adolescents' engaging in media multitasking while they are doing homework and almost two-thirds don't think it interferes with the quality of their homework (Common Sense Media, 2015)
- Coverage of a recent study of 11- to 18-year-olds in Spain in which media multitasking during homework was linked to lower executive function, a lower level of working memory, and worse academic performance in language and math (Martin-Perona, Vinas Poch, & Malo Cerrato, 2019)
- Description of a recent meta-analysis that found children's exposure to prosocial media is linked to higher levels of prosocial behavior and empathetic concern (Coyne & others, 2018)
- Coverage of two recent research views indicating that violent videogame exposure is linked to increased aggression and decreased empathy and prosocial behavior in children and adolescents (Anderson & others, 2017; Calvert & others, 2017)
- Inclusion of a recent study in which African American and Latino adolescents who have lived 10 to 15 years in a high poverty neighborhood improved their physical fitness by playing Wii Fit games for 6 weeks (Flynn & others, 2018)
- Discussion of recent research indicating that parental monitoring of media violence exposure was linked to lower levels of aggression in adolescents (Khurana & others, 2018)
- Description of two recent studies of adolescents that found higher levels of screen time were linked to lower academic achievement (Hunter & others, 2018; Poulan & others, 2018)
- Coverage of recent research that found less screen time was linked to adolescents' better health-related quality of life (Yan & others, 2017) and that a higher level of social media use was associated with a higher level of heavy drinking by adolescents (Brunborg, Andreas, & Kvaavik, 2017)
- Coverage of a recent national study of social media indicating how extensively 18- to 24-year-olds are using various sites such as Snapchat, Instagram, twitter, and YouTube (Smith & Anderson, 2018)
- Updated data on the significant increase in Internet, smartphone, and social networking use by U.S. older adults (Anderson, 2017)
- Coverage of a recent Hong Kong study that found adults 75 years and older who used smartphones and the Internet to connect with family, friends, and neighbors had a higher level of psychological well-being than their counterparts who did not use this information and communicative technology (Fang & others, 2018)
- Inclusion of a recent survey that revealed older adults continue to watch extensive amounts of television (51+ hours per week), far more than any age group (Recode, 2016)
- Description of a recent study that found of 13 risk factors, low SES was the most likely to be associated with smoking initiation in fifth graders (Wellman & others, 2017)
- Discussion of a recent Chinese study in which adolescents were more likely to have depressive symptoms in low SES families (Zhou, Fan, & Zin, 2017)

- Coverage of a U.S. longitudinal study that revealed low SES in adolescence was linked to having a higher level of depressive symptoms at age 54 for females (Pino & others, 2018). In this study, low SES females who completed college were less likely to have depressive symptoms than low SES females who did not complete college.
  - Inclusion of a U.S. longitudinal study that found low SES in adolescence was a risk factor for cardiovascular disease 30 years later (Doom & others, 2017)
  - Coverage of a longitudinal study that indicated low child SES was associated with lower cognitive function and more cognitive decline in middle and late adulthood (Liu & Lachman, 2019)
  - Description of a recent Australian study in which children and adolescents from lower SES backgrounds were less likely to achieve a healthy level of physical fitness than their higher SES counterparts (Peralta & others, 2019)
  - Inclusion of a recent study of more than 13,000 high school students that found those who attended more affluent schools had a greater likelihood of drug use, being intoxicated, and engaging in property crime while those who attended poorer schools were more likely to have a higher level of depressive and anxiety symptoms, as well as engaging in more violent behavior (Coley & others, 2018)
  - Updated poverty rates for African American, Latino, and non-Latino White children under 18 years of age (U.S. Census Bureau, 2018)
  - Updated poverty rates for single parent mothers (U.S. Census Bureau, 2018)
  - Updated poverty data for older adults, including gender and ethnic variations (U.S. Census Bureau, 2018)
  - New opening commentary in the section on Ethnicity focused on the importance of not using a deficit model in studying ethnic minority adolescents and to recognize not just stressors in their lives but also the positive aspects of their lives (Bornstein & Cote, 2019; Helegunseth, 2019; Perreria & others, 2019)
  - Updated data on the percentage of 18-year-old and younger children from different ethnic groups as well as predictions on when ethnic minority children will begin to outnumber non-Latino White children in the U.S. (U.S. Census Bureau, 2018)
  - Coverage of a recent study in which immigrant children who were once separated from their parents had a lower level of literacy and a higher level of psychological problems than those who migrated with parents (Lu, He, & Brooks-Gunn, 2019). Also in this study, a protracted period of separation and prior undocumented status of parents further increased the children's disadvantages.
  - Inclusion of a recent study that found a higher level of family obligation was associated with higher academic achievement (Anguiano, 2018)
- network of preschools in underserved communities that he says will be Montessori inspired (Guernsey, 2019)
- Coverage of a recent multigenerational study that found when both Head Start children and their mothers had participated in Head Start, positive cognitive and socioemotional outcomes occurred for the children (Chor, 2018)
  - Description of two recent studies that confirmed the importance of improved parenting engagement and skills in the success of Head Start programs (Ansari & Gershoff, 2016; Roggman & others, 2016)
  - Discussion of an early childhood intervention designed to improve preschool children's developmental outcomes and the Head Start programs they attended in a high violence, high crime area of Chicago (Watts & others, 2018). The program was effective in improving the children's executive function and academic achievement, but not their behavioral outcomes, 10 to 11 years after the intervention.
  - Inclusion of a recent Spanish study that documented middle school students had a lower self-concept in a number of areas (academic, social, family, and physical) than elementary school students (Onetti, Fernandez-Garcia, & Castillo-Rodriquez, 2019)
  - Coverage of a recent study in which teacher warmth was higher in the last 4 years of elementary school then dropped in the middle school years (Hughes & Cao, 2018). The drop in teacher warmth was associated with lower student math scores.
  - Description of a longitudinal study that found both breadth and intensity of extracurricular activities in the tenth grade were associated with higher educational attainment 8 years later (Haghighat & Knifsend, 2019)
  - Inclusion of new information on the Bill and Melinda Gates Foundation (2017, 2019) indicating that many adolescents graduate from high school without the necessary academic skills to succeed in college or to meet the demands of the modern workplace
  - Updated data on school dropout rates, which have dropped considerably in recent years with the biggest percentage decline occurring for Latino adolescents (National Center for Education Statistics, 2018)
  - Updated data on lifetime and annual earnings of college graduates versus high school graduates (Georgetown University Center on Education, 2016)
  - Updated data on the percentage of first-year college students who feel overwhelmed with what they have to, which has increased to almost 40 percent (Stolzenberg & others, 2019)
  - Updated data on the percentage of children with a disability receiving special education services in different disability categories (National Center for Education Statistics, 2017)
  - New content on links between ADHD and increased risk of school dropout, adolescent pregnancy, substance abuse, and antisocial behavior (Machado & others, 2019; Regnart, Truter, & Meyer, 2017)
  - Discussion of a recent study that found childhood ADHD was associated with long-term underachievement in math and reading (Voight & others, 2017)
  - Inclusion of a recent study that revealed children with ADHD were more likely to become parents at 12 to 16 years of age (Ostergaard & others, 2017)

## Chapter 16: Schools, Achievement, and Work

- Update on the implementation of ESSA into the American education system (Ujifusa & Klein, 2019; Ujifusa, 2019)
- New description of leading American businessman, Jeff Bezos, the CEO of Amazon who became the world's richest person in 2018, who recently provided 2 billion dollars to fund a new

- Coverage of a recent meta-analysis that found neurofeedback had medium effects on improving children’s attention and reducing their hyperactivity/impulsivity (Van Doren & others, 2019)
- Discussion of a research review that indicated physical exercise was effective in improving the attention of children with ADHD (Jeyanthi, Arumugam, & Parasher, 2019)
- Description of a recent review that concluded there are approximately 800 genes linked to autism (Gabrielli, Manzardo, & Butler, 2019)
- Inclusion of a longitudinal study that involved implementation of the Child-Parent Center Program in high-poverty neighborhoods of Chicago that provided school-based educational enrichment and comprehensive family services from 3 to 9 years of age (Reynolds, Ou, & Temple, 2018). Children who participated in the program had higher rates of postsecondary completion, including more years of education, an associate’s degree or higher, and a master’s degree.
- New content on Teach for America (2019) and its efforts to place college graduates in teaching positions in schools located in low-income areas and a new *Connecting with Careers* feature on a Teach for America instructor
- Inclusion of a recent meta-analysis that concluded self-determination plays a central role in human motivation (Howard, Gagne, & Bureau, 2018)
- Description of a recent Chinese study in which autonomy-supportive parenting was associated with adolescents’ adaptive school adjustment, while a higher level of parental psychological control was linked to their maladaptive school adjustment (Xiang, Liu, & Bai, 2017)
- Discussion of a recent study that revealed having a growth mindset protected women’s and minorities’ outlook when they chose to confront expressions of bias toward them in the workplace (Rattan & Dweck, 2018)
- New main section, “Grit”
- Inclusion of recent research linking grit to academic engagement and success, including students’ grade point average (Muenks, 2018; Steinmayr, Weidinger, & Wigfield, 2018)
- Updated information about the fastest growing jobs anticipated through 2026 in the 2018–2019 *Occupational Outlook Handbook*
- Updated data on the percentage of full-time and part-time college students who work, which has slightly decreased in recent years (National Center for Education Statistics, 2017)
- Updated data from a recent survey that revealed that employers say that 2017 is the best year for recent college graduates to be on the job market since 2007 (CareerBuilder, 2017)
- Inclusion of recent research in which an increase in job strain increased workers’ insomnia while a decrease in job strain reduced their insomnia (Halonon & others, 2018)
- Description of a recent study that found depression following job loss predicted increased risk of continued unemployment (Stolove & others, 2017)
- Discussion of a recent study in which following a period of unemployment, recovery of a sense of well-being upon reemployment was fast and enduring even when individuals took less favorable jobs upon returning to work (Zhou & others, 2019)
- Coverage of a study that revealed heavy drinking from 16 to 30 years of age was linked to higher unemployment in middle age (Berg & others, 2018)
- Update on job outlook for U.S. college graduates in 2018, which is the best it has been in more than a decade (careerbuilder.com)
- Inclusion of a recent study in which heavy drinking from 16 to 30 years of age was linked to a greater risk of being unemployed in middle adulthood (Berg & others, 2018)
- Discussion of a recent study that indicated the following were among the most important motives and preconditions involved when older adults worked beyond retirement age: financial, health, knowledge, and purpose in life (Swedas & others, 2017)
- Inclusion of a recent study that revealed older adults who continued to work in paid jobs had better physical and cognitive functioning than retirees (Tan & others, 2017)
- Coverage of recent cross-cultural comparisons of retirement age, with France having the earliest age and South Korea the oldest (OECD, 2017)
- Description of a recent study that revealed workplace organizational pressures, financial security, and poor physical and mental health were the main antecedents of retirement (Topa, Depolo, & Alcover, 2018)

## Chapter 17: Death, Dying, and Grieving

- Inclusion of a recent study in which completion of an advanced directive was associated with a lower probability of receiving life-sustaining treatment (Yen & others, 2018)
- New separate descriptions and recent updates of countries that allow euthanasia (Belgium, Colombia, Luxembourg, and the Netherlands) and assisted suicide (Belgium, Canada, Finland, Luxembourg, the Netherlands, and Switzerland)
- Update on the increasing number of states that allow assisted suicide—California, Colorado, Montana, Oregon, Vermont, and Washington, as well as Washington, DC
- New definition of assisted suicide as a key term and clearer distinctions made between euthanasia, in which the patient self-administers the lethal medication and is allowed to decide when and where to do this (assisted suicide), and euthanasia, in which the physician or a third party administers the lethal medication
- Inclusion of a recent Gallup poll in which 69 percent of U.S. adults said that euthanasia should be legal, 51 percent said that they would consider ending their own lives if faced with a terminal illness, and 50 percent reported that physician-assisted suicide is morally acceptable (Swift, 2016)
- New content on recent criticisms of the “good death” concept to move away from focusing on a single event in time to improving people’s last years and decades of life (Pollock & Seymour; Smith & Periyakoil, 2018)
- New coverage of the shortage of trained individuals to work in hospices and as home health aides for dying individuals (Landes & Weng, 2019)
- Significantly revised content in the section on children’s conceptions of death to include recent research indicating that young children have a better understanding of death than previously thought, as well as developmental changes that

- occur (Panagiotaki & others, 2018; Rosengren, Guitierrez, & Schein, 2014a,b)
- Coverage of a recent research review that concluded relatively brief interventions with bereaved children after the death of a parent can prevent children from developing severe problems, such as traumatic grief and mental disorders (Bergman, Axberg, & Hanson, 2017)
  - Description of recent experimental studies that found the Family Bereavement Program, a 12-session program designed to promote effective parenting and teach coping skills following the death of a parent or caregiver, was effective in improving children's and adolescents' adjustment 6 years after the program (Sandler & others, 2017)
  - Discussion of a recent study in which the Family Bereavement Program resulted in fewer mental health problems and less service use by bereaved young adults and their parents (Sandler & others, 2018)
  - Inclusion of a study of young and middle-aged adults in which women had more difficulty than men in adjusting to the death of a parent and also women had a more intense grief response to a parent's death (Hayslip, Purrett, & Caballero, 2015)
  - New coverage of suicide rates for individuals of all ages, with Lithuania having the highest rate, followed by South Korea, and South Africa having the lowest rate (OECD, 2017)
  - New discussion of cross-cultural suicide rates for 15- to 19-year-olds, with New Zealand, followed by Iceland, having the highest rates, and Greece and Israel the lowest rates (OECD, 2017)
  - Updated data on the percentage of U.S. adolescents who seriously consider suicide each year and attempt suicide each year, including gender and ethnicity figures (Kann & others, 2018)
  - New coverage of the influence of genes on adolescent suicide (Jokinen & others, 2018)
  - Description of a recent study that confirmed childhood sexual abuse was linked to later suicide attempts (Ng & others, 2018)
  - Coverage of a recent study in which a sense of hopelessness predicted an increase in suicide ideation in depressed adolescents (Wolfe & others, 2019)
  - Discussion of a recent cross-cultural study of more than 130,000 12- to 15-year-olds that indicated that in 47 of 48 countries being a victim of bullying was associated with a higher probability of attempting suicide (Kovangi & others, 2019)
  - Inclusion of a recent research review that revealed half of the studies involving heart failure patient interventions emphasizing meaning-making coping substantially improved the quality of life of the patients compared to less than one-third of the interventions not focusing on meaning-making coping (self-care or medical adherence, for example) (Sacco, Leahey, & Park, 2019)
  - Coverage of a recent study in which meaning was negatively associated with depression but positively linked to grief in suicide survivors (Scharer & Hibberd, 2019)
  - New research on the percentage of adult bereavement cases that involve prolonged grief disorder and ages at which this disorder is more likely to occur (Lundorff & others, 2017)
  - Inclusion of a 7-year longitudinal study of older adults in which those experiencing prolonged grief had greater cognitive decline than those with normal grief (Perez & others, 2018)
  - Discussion of a recent study that found individuals with complicated grief had a higher level of the personality trait neuroticism (Goetter & others, 2019)
  - In recent research, cognitive behavior therapy reduced prolonged grief symptoms (Bartl & others, 2018; Lichtenthal & others, 2019)
  - Updated content about a recent extension of the dual-process model of bereavement, which focused mainly on an individual's bereavement, toward an integrative intrapersonal/interpersonal model that includes bereaved immediate family members and relatives who also have experienced the loss (Stroebe & others, 2017; Stroebe & Schutt, 2017)
  - Inclusion of recent research using the dual-process model as a conceptual framework, including studies on parents' use of oscillating coping strategies following their infant's death (Currie & others, 2019) and the importance of restoration-rather than loss-oriented coping both early and late in the bereavement process following a spouse's death (Lundorff & others, 2019)
  - Description of a recent meta-analysis of mental disorders in widows with depressive disorders being the most prevalent followed by anxiety disorders (Balnner Kristiansen & others, 2019)
  - Coverage of a recent study of widows' and widowers' mental health coping strategies in which widows were more likely to use positive reframing, active distraction, help-seeking, and turning to God for strength, while widowers were more likely to use avoidant strategies and seek connection with their late spouse (Carr, 2019)
  - In a recent study, volunteering reduced widowed older adults' loneliness (Carr & others, 2018)
  - Updated data on cremation with continuing increases in cremation in the United States and Canada (Cremation Association of North America, 2018)
  - Updated data on the percentage of widowed women and men 65 years and older in the United States (Administration on Aging, 2018)

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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.*

FatCamera/E+/Getty Images

# The Life-Span Perspective

Our focus in this course is on 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 the 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



Ariel Skelley/Blend Images/Getty Images

# preview

*A Topical Approach to Life-Span Development* 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 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

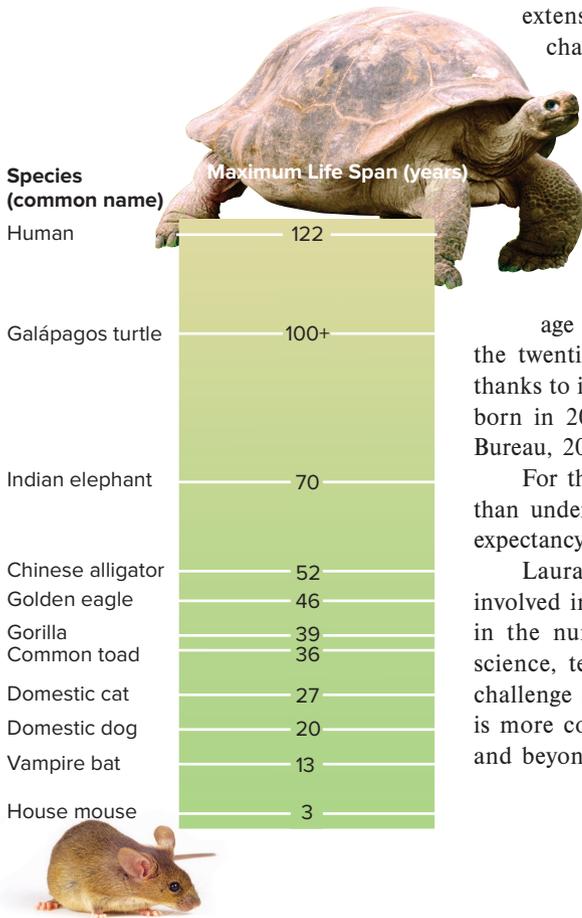
How might people benefit from examining life-span development? Perhaps you are, or will be, a parent or a teacher. If so, responsibility for children is, or will be, a part of your everyday life. The more you learn about them, the better you can deal with them. Perhaps you hope to gain some insight about 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 (Benetos, 2019; Park & Festini, 2018). The traditional approach to the study of development emphasizes

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



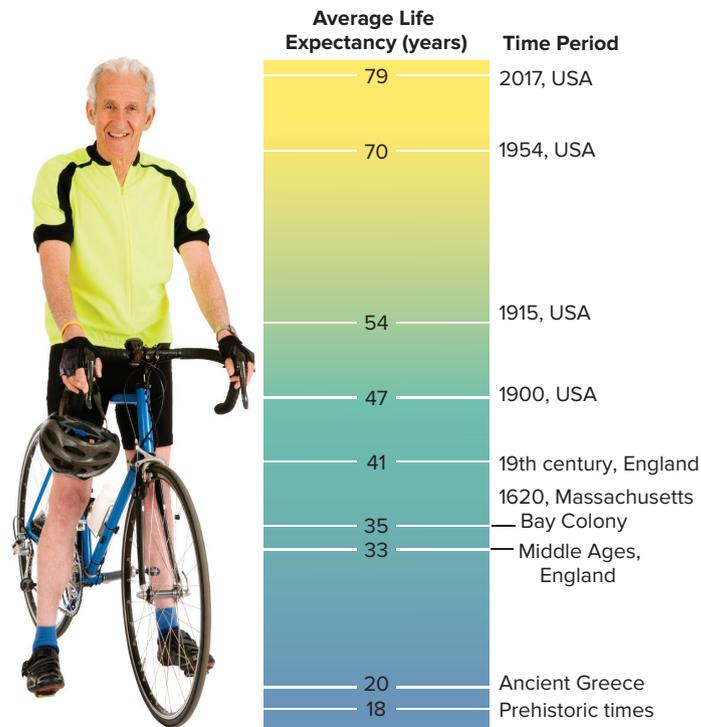
**FIGURE 1**  
**MAXIMUM RECORDED LIFE SPAN FOR DIFFERENT SPECIES.** Our only competitor for the maximum recorded life span is the Galápagos turtle.  
*(tortoise):* Medioliimages/SuperStock;  
*(mouse):* Redmond Durrell/Alamy Stock Photo

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.

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 in 2017 in the United States, their life expectancy is 79 years of age (U.S. Census Bureau, 2018).

For the first time in U.S. history, in 2019 there were more people over 60 years of age than under 18 years of age. In less than a century, more years were added to human life expectancy than in all of the prior millennia.

Laura Carstensen (2015, 2016) recently described the challenges and opportunities involved in this dramatic increase in life expectancy. In her view, the remarkable increase in the number of people living into old age has happened in such a short time that science, technology, and social expectations have not kept pace. She proposes that the challenge is to change from a world constructed mainly for young people to a world that is more compatible and supportive for the increasing number of people living to age 100 and beyond.



**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.  
 leezsnow/iStock.com

In further commentary, Carstensen (2015, p. 70) remarked that making this transformation would be no small feat:

... parks, transportation systems, staircases, and even hospitals presume that the users have both strength and stamina; suburbs across the country are built for two parents and their young children, not single people, multiple generations or elderly people who are not able to drive. Our education system serves the needs of young children and young adults and offers little more than recreation for experienced people.

Indeed, the very conception of work as a full-time endeavor ending in the early sixties is ill suited for long lives. Arguably the most troubling is that we fret about ways the older people lack the qualities of younger people rather than exploit a growing new resource right before our eyes: citizens who have deep expertise, emotional balance, and the motivation to make a difference.

Certainly, some progress has been made recently in improving the lives of older adults (Fernandez-Ballesteros, 2019; Marquez-Gonzalez, Cheng, & Losada, 2019). In our discussion of late adulthood, you will read about progress in understanding topics related to aging such as modifying the activity of genes related to aging, improving brain function in the elderly, and slowing or even reversing the effects of various chronic diseases. You'll also learn about ways to help people plan for a better life when they get old, become more cognitively sharp as they age, improve their physical fitness, and feel more satisfied with their lives as older adults. But much more remains to be accomplished, as described earlier by Laura Carstensen.

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 (Dale & others, 2018; Moss & Wilson, 2018; Zammit & others, 2018). 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 (Kuntzmann, 2019; Sternberg & Hagen, 2018; Strandberg, 2019). For example, when one language (such as English) is acquired early in development, the capacity for acquiring second and third languages (such as Spanish and Chinese) decreases later in development, especially after early childhood (Levelt, 1989). During adolescence, as individuals establish romantic relationships, their time spent with friends may decrease. During late adulthood, older adults might become wiser by calling on past experience to guide their intellectual decision making (Kuntzmann, 2019; Rakoczy & others, 2018), but they perform more poorly on tasks that require speed in processing information (Karlamañgla & others, 2017; Salthouse, 2017).

**Development Has Plasticity** Developmentalists debate how much *plasticity* people have in various dimensions at different points in their development (Kinugawa, 2019; Park & Festini, 2018). 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 (Calero, 2019). However, possibly we possess less



What characterizes the life-span perspective on development?

Hill Street Studios/DigitalVision/Getty Images

One's children's children's children: Look back to us as we look to you; we are related by our imaginations. If we are able to touch, it is because we have imagined each other's existence, our dreams running back and forth along a cable from age to age.

—ROGER ROSENBLATT

American Writer, 20th Century

**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.



Paul Baltes, a leading architect of the life-span perspective of 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

capacity for change when we become old (Salthouse, 2014, 2017; Shivarama Shetty & Sajikumar, 2017). The search for plasticity and its constraints is a key element on the contemporary agenda for developmental research (Kinugawa, 2019; Walker, 2019).

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

**Development Is Contextual** All development occurs within a context, or setting. Contexts include families, 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 (Lowenstein, Katz, & Tur-Sinai, 2019; Wahl & Gitlin, 2019).

Contexts, like individuals, change (Huang & others, 2019; Nair, Roche, & White, 2018). 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 (Lindahl-Jacobsen & Christensen, 2019).

**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 (Atkins & others, 2019; Jeuring & others, 2019). 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, smart phones, the Internet, and social media into everyday life in recent decades (Dimock, 2019; Smith & Anderson, 2018). 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 (Kurita, 2019; Shah & others, 2018). 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.



Nonnormative life events, such as Hurricane Sandy in October 2012, are unusual circumstances that have a major impact on a person's life.  
Adam Hunger/Reuters/Landov Images

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

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

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

## 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, & Rosler, 2012; De La Fuente, 2019). 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: “Technology Threatens Communication Skills,” “Political Leanings May Be Written in the Genes,” “Mother Accused of Tossing Children into Bay,” “Gender Gap Widens,” “FDA Warns About Side Effects of ADHD Drug,” “Religious Group Protests Transgender Bathrooms,” “Heart Attack Death Rates 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, 2019; Teague, Mackenzie, & Rosenthal, 2020). 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 (Goode, 2020; Telljohann & others, 2020). In every chapter, issues of health and well-being are integrated into our discussion.

Clinical psychologists are among the health professionals who help people improve their well-being. Read about one clinical psychologist who helps adolescents and adults improve their developmental outcomes in the *Connecting with Careers* profile.

## connecting with careers

### Gustavo Medrano, Clinical Psychologist

Gustavo Medrano specializes in helping children, adolescents, and adults of all ages improve their lives when they have problems involving depression, anxiety, emotion regulation, chronic health conditions, and life transitions. He works individually with clients and provides therapy for couples and families. As a native Spanish speaker, he also provides bicultural and bilingual therapy for clients.

Dr. Medrano is a faculty member at the Family Institute at Northwestern University. He obtained his undergraduate degree in psychology at Northwestern and then became a teacher for Teach for America, which involves a minimum of two years spent teaching in a high-poverty area. He received his master’s and doctoral degrees in clinical psychology at the University of Wisconsin—Milwaukee. As a faculty member at Northwestern, in addition to doing clinical therapy with clients, he also conducts research with a focus on how family experiences, especially parenting, influence children’s and adolescents’ coping and pain.



Gustavo Medrano, clinical psychologist, who does therapy with children, adolescents, and adults, especially using his bilingual background and skills to work with Latino clients.

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