

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

Having taught life-span development every semester for 27 years now, I'm always looking for ways to improve my course and *Life-Span Development*. Just as McGraw-Hill looks to those who teach the life-span development course for input, each year I ask the almost 200 students in my life-span development course to tell me what they like about the course and the text, and what they think could be improved. What have my students told me lately about my course and text? Students said that highlighting connections among the different aspects of life-span development would help them to better understand the concepts. As I thought about this, it became clear that a *connections* theme would provide a systematic, integrative approach to the course material. I used this theme to shape my current goals for my life-span development course, which, in turn, I've incorporated into *Life-Span Development*:

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

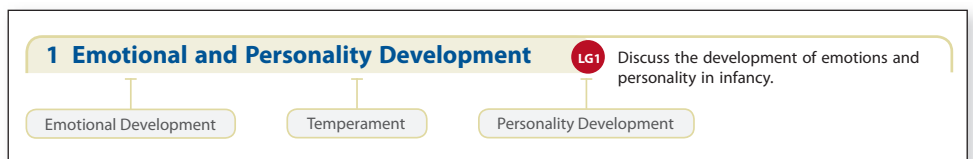
Connecting with Today's Students

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

The Learning Goals System

My students often report the life-span development course to be challenging because of the amount of material covered. To help today's students focus on the key ideas, the Learning Goals System I developed for *Life-Span Development* provides extensive learning connections throughout the chapters. The learning system connects the chapter opening outline, learning goals for the chapter, mini-chapter maps that open each main section of the chapter, *Review*, *Connect*, and *Reflect* 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, which are presented in the chapter-opening spread. Mini-chapter maps that link up with



Prenatal Development and Birth

1 Prenatal Development

LG1 Describe prenatal development.

The Course of Prenatal Development

- Prenatal development is divided into three periods: germinal (conception until 10 to 14 days later), which ends when the zygote (a fertilized egg) attaches to the uterine wall; embryonic (two to eight weeks after conception), during which the embryo differentiates into three layers, life-support systems develop, and organ systems form (organogenesis); and fetal (from two months after conception until about nine months, or when the infant is born), a time when organ systems have matured to the point at which life can be sustained outside the womb. The growth of the brain during prenatal development is nothing short of remarkable. By the time babies are born, they have approximately 100 billion neurons, or nerve cells. Neurogenesis is the term for the formation of new neurons. The nervous system begins with the formation of a neural tube at 18 to 24 days after conception. Proliferation and migration are two processes that characterize brain development in the prenatal period. The basic architecture of the brain is formed in the first two trimesters of prenatal development.

the learning goals are presented at the beginning of each major section in the chapter.

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

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

The tradition of obtaining detailed, extensive input from a number of leading experts in different areas of life-span development also continues in this edition. Biographies and photographs of the leading experts in the field of life-span development appear on pages xiv to xvi, and the chapter-by-chapter highlights of new research content are listed on pages xxv to xxxix. Finally, the research discussions have been updated in every period and topic. I expended every effort to make this edition of *Life-Span Development* as contemporary and up-to-date as possible. To that end, there are more than 1,200 citations from 2011, 2012, and 2013 in the text.

connecting through research

Which Children Are Most Likely to Benefit From Early Intervention?

Fast Track is an intervention that attempts to lower the risk of juvenile delinquency and other problems (Conduct Problems Prevention Research Group, 2010, 2011; Dodge & McCourt, 2010; Jones & others, 2010; Miller & others, 2011). Schools in four areas (Durham, North Carolina; Nashville, Tennessee; Seattle, Washington; and rural central Pennsylvania) were identified as high-risk based on neighborhood crime and poverty data. Researchers screened more than 9,000 kindergarten children in the four schools and randomly assigned 891 of the highest-risk and moderate-risk children to intervention or control groups. The average age of the children when the intervention began was 6.5 years.

The 10-year intervention consisted of parent behavior management training, child social cognitive skills training, reading tutoring, home visitations, mentoring, and a revised classroom curriculum that was designed to increase socioemotional competence and decrease aggression. Outcomes were assessed in the third, sixth, and ninth grades for conduct disorder (multiple instances of behaviors such as truancy, running away, fire setting, cruelty to animals, breaking and entering, and excessive fighting across a six-month period), oppositional defiant disorder (an ongoing pattern of disobedient, hostile, and defiant behavior toward authority figures), attention deficit hyperactivity disorder (as

described in Chapter 9, being characterized by one or more of these characteristics over a period of time: inattention, hyperactivity, and impulsivity), any externalizing disorder (presence of any of the three disorders previously described), and self-reported antisocial behavior (a list of 34 behaviors, such as skipping school, stealing, and attacking someone with an intent to hurt them).

The extensive intervention was successful only for children and adolescents who were identified as having the highest risk in kindergarten, lowering their incidence of conduct disorder, attention deficit hyperactivity disorder, any externalized disorder, and antisocial behavior (Dodge & McCourt, 2010). Positive outcomes for the intervention occurred as early as the third grade and continued through the ninth grade. For example, in the ninth grade the intervention reduced the likelihood that the highest-risk kindergarten children would develop conduct disorder by 75 percent, attention deficit hyperactivity disorder by 53 percent, and any externalized disorder by 43 percent. Recently, data have been reported through age 19 (Miller & others, 2011). Findings indicate that the comprehensive Fast Track intervention was successful in reducing youth arrest rates (Conduct Problems Prevention Research Group, 2011).

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Connecting Developmental Processes

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

Developmental Connections, which appear multiple times in each chapter, points readers to where the topic is discussed in a previous or subsequent chapter. *Developmental Connections* highlight links across age periods of development and connections between biological, cognitive, and socioemotional processes. These key developmental processes are typically discussed in isolation from each other, and students often fail to see their connections. Included in the

developmental connection

Personality

Two key points in development when there is a strong push for independence are the second year of life and early adolescence. Chapter 12, p. 395

Developmental Connections is a brief description of the backward or forward connection. For example, consider the development of the brain. In recent editions, I have significantly expanded content on the changes in the brain through the life span, including new coverage of changes in the brain during prenatal development and an expanded discussion of the aging brain in older adults. The prenatal brain discussion appears in Chapter 3 and the aging brain is described in Chapter 17. An important brain topic that we discuss in Chapters 3 and 17 is neurogenesis, the production of new neurons. In this new edition, connections between these topics in Chapters 3 and 17 are highlighted through *Developmental Connections*.

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

Looking Forward prepares the student for what is to happen in a future period of development. Together, these new features help students construct a topical understanding of development alongside a chronological one.

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

topical connections

Genes form the biological basis of our development. They are passed on through mitosis, meiosis, and, ultimately, fertilization. The impact of our genes involves the genetic principles of dominant-recessive genes, sex-linked genes, genetic imprinting, and polygenically determined characteristics. Approximately 10 to 15 percent of U.S. couples have problems with fertility. Some of these problems can be solved through surgery, drugs, or in vitro fertilization. Whether a pregnancy occurs naturally or with assistance, the resulting infant's development is shaped both by his or her genes (nature) and environment (nurture).

looking back

topical connections

This chapter marks the beginning of our chronological look at the journey of life. In the next three chapters that comprise Section 3 of the book, we will follow the physical, cognitive, and socioemotional development of infants, including the theories, research, and milestones associated with the first 18 to 24 months of life. You will learn about the remarkable and complex physical development of infants' motor skills, such as learning to walk; trace the early development of infants' cognitive skills, such as the ability to form concepts; and explore infants' surprisingly sophisticated socioemotional capabilities, as reflected in the development of their motivation to share and to perceive others' actions as intentionally motivated.

looking forward

Connecting Development to the Real World

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

Each chapter begins with a story designed to increase students' interest and motivation to read the chapter.

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

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

Connecting with Careers profiles careers ranging from an educational psychologist (Chapter 1) to a toy designer (Chapter 7) to a marriage and family therapist (Chapter 8) to the director of an organization that promotes positive adolescent development (Chapter 11) to a geriatric nurse (Chapter 17), each of which requires knowledge about human development.

connecting development to life

Increasing Children's Self-Esteem

Ways to improve children's self-esteem include identifying the causes of low self-esteem, providing emotional support and social approval, helping children achieve, and helping children cope (Bednar, Wells, & Peterson, 1995; Harter, 2006, 2012).

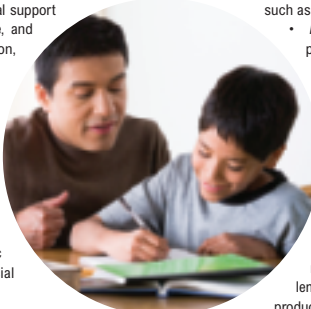
- **Identify the causes of low self-esteem.** Intervention should target the causes of low self-esteem. Children have the highest self-esteem when they perform competently in domains that are important to them. Therefore, children should be encouraged to identify and value areas of competence. These areas might include academic skills, athletic skills, physical attractiveness, and social acceptance.
- **Provide emotional support and social approval.** Some children with low self-esteem come from conflicted families or conditions in which they experienced abuse or neglect—situations in which support was not available. In some cases, alternative sources of support can be arranged either informally through the encouragement of a teacher, a coach, or

another significant adult, or more formally, through programs such as Big Brothers and Big Sisters.

- **Help children achieve.** Achievement also can improve children's self-esteem. For example, the straightforward teaching of real skills to children often results in increased achievement and, thus, in enhanced self-esteem. Children develop higher self-esteem because they know the important tasks that will achieve their goals, and they have performed them or similar behaviors in the past.
- **Help children cope.** Self-esteem often increases when children face a problem and try to cope with it, rather than avoid it. If coping rather than avoidance prevails, children face problems realistically, honestly, and nondefensively. This produces favorable self-evaluative thoughts, which lead to the self-generated approval that raises self-esteem.

How can parents help children develop higher self-esteem?

As discussed in the "Emotional Development" section of Chapter 8, which parenting approach might help accomplish the last goal mentioned here? How?



connecting with careers

Darla Botkin, Marriage and Family Therapist

Darla Botkin is a marriage and family therapist who teaches, conducts research, and engages in marriage and family therapy. She is on the faculty of the University of Kentucky. Botkin obtained a bachelor's degree in elementary education with a concentration in special education and then went on to receive a master's degree in early childhood education. She spent the next six years working with children and their families in a variety of settings, including child care, elementary school, and Head Start. These experiences led Botkin to recognize the interdependence of the developmental settings that children and their parents experience (such as home, school, and work). She returned to graduate school and obtained a Ph.D. in family studies from the University of Tennessee. She then became a faculty member in the Family Studies program at the University of Kentucky. Completing further coursework and clinical training in marriage and family therapy, she became certified as a marriage and family therapist.

Botkin's current interests include working with young children in family therapy, addressing gender and ethnic issues in family therapy, and exploring the role of spirituality in family wellness.



Darla Botkin (left) conducting a family therapy session.

For more information about what marriage and family therapists do, see page 47 in the *Careers in Life-Span Development* appendix.

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

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

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

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

Content Revisions

Following are the main chapter-by-chapter changes that were made in this new edition of *Life-Span Development*.

Chapter 1: Introduction

- Extensive updating of research citations
- Update on life expectancy in the United States (U.S. Census Bureau, 2011)
- Expanded discussion of poverty and children, including updated statistics on the percentage of U.S. children under 18 years of age living in poverty (U.S. Census Bureau, 2012)
- Description of a recent study of more than 300,000 U.S. adults that revealed an increase in psychological well-being after 50 years of age (Stone & others, 2010)
- New Figure 1.9, How Satisfied Am I with My Life? that gives students an opportunity to evaluate their life satisfaction on the most widely used measure in research on life satisfaction (Diener, 2012; Diener & others, 1985)
- Revised and updated commentary about social age and its links to happiness and longevity (Carstensen & others, 2011)
- New Figure 1.18 showing neuroimages of the brains of two adolescents (one a non-drinker, the other a heavy drinker) while they are engaging in a memory task
- Inclusion of recent research and commentary on Millennials involving ethnic diversity and technology based on a recent national survey by the Pew Research Center (2010)
- New Figure 1.19 comparing various generations, their historical periods, and their characteristics
- Coverage of recent reviews regarding child and adolescent outcomes for individuals conceived using new reproductive technologies (Golombok, 2011a, b; Golombok & Tasker, 2010)
- New material indicating that many U.S. adoptions now involve other family members (aunts/uncles/grandparents): 30 percent of U.S. adoptions are made by relatives and slightly more than 50 percent of U.S. adoptions involve the foster care system (Ledesma, 2012)
- New description of research on the age at which children are adopted and whether they engage in juvenile delinquency (Laubjerg & Petersson, 2011)
- Discussion of a recent study of improved cognitive development in children who were adopted after they had lived in foster homes and institutions (van den Dries & others, 2010)
- Addition of information about epigenetic mechanisms involving the actual molecular modification of the DNA strand as a result of environmental inputs in ways that alter gene functioning (Feil & Fraga, 2012; Meaney, 2010)
- Updated coverage of the concept of $G \times E$, which involves the interaction of a specific measured variation in the DNA sequence and a specific measured aspect of the environment (Bihagi & others, 2012; Petersen & others, 2012; Zannas & others, 2012)
- Description of recent research indicating that variations in dopamine-related genes interact with supportive or unsupportive environments to influence children's development (Bakermans-Kranenburg & van IJzendoorn, 2011)

Chapter 2: Biological Beginnings

- Extensive editing and updating of chapter based on detailed reviews by leading experts Kirby Deater-Deckard and David Moore
- New discussion of the genome-wide association study that is increasingly used to identify genetic variations in individuals who have a disease compared with those who don't (National Human Genome Research Institute, 2012)
- New coverage of some diseases for which genome-wide association studies recently have been conducted: childhood obesity (Early Growth Genetics Consortium & others, 2012), Alzheimer disease (Raj & others, 2012), and cardiovascular disease (Lusis, 2012)
- Expanded and updated material on modifications in DNA expression as a result of stress, radiation, and temperature (Georgakilas, 2011)
- Description of a recent study that found exposure to radiation changes the rate of DNA synthesis (Lee & others, 2011)
- Updated and expanded coverage of gene-gene interaction to include recent studies of immune system functioning (Reijmerink & others, 2011), asthma (Su & others, 2012), cancer (Bushel & others, 2012), cardiovascular disease (Xiao & others, 2012), and arthritis (Ronninger & others, 2012)
- Updated material on noninvasive prenatal diagnosis (NIPD) (Chiu & Lo, 2012; Geaghan, 2012)
- New information about being able to determine the sex of the fetus at an earlier point in pregnancy through new noninvasive procedures (Kolialexi, 2012)
- Discussion of a recent meta-analysis indicating that a baby's sex can be determined as early as 7 weeks into pregnancy (Devaney & others, 2011)

Chapter 3: Prenatal Development and Birth

- Description of a recent study that found cigarette smoke weakened and increased oxidative stress in the fetal membranes from which the placenta develops (Menon & others, 2011)
- Inclusion of information from a recent research review indicating that high amounts of caffeine consumption by pregnant women do not increase the risk of miscarriage, congenital malformations, or growth retardation (Brent, Christian, & Diener, 2011)
- Coverage of recent research that found deficiencies in the brain pathways involved in the working memory of children with FASD (Diwadkar & others, 2012)
- Discussion of a recent meta-analysis linking maternal smoking during pregnancy to a modest increase in risk for childhood non-Hodgkin lymphoma (Antonopoulos & others, 2011)
- Information about a recent study that found environmental tobacco smoke exposure during pregnancy was linked to diminished ovarian functioning in female offspring (Kilic & others, 2012)
- Update on the most consistent negative outcomes of cocaine use during pregnancy (Gouin & others, 2011)
- Coverage of a recent research review that concluded cocaine quickly crosses the placenta to reach the fetus (De Giovanni & Marchetti, 2012)
- Description of recent research on the negative effects of cocaine exposure prenatally on children's attention and externalizing problems (Minnes & others, 2010; Richardson & others, 2011)
- New information from research on a link between prenatal cocaine exposure and elevated blood pressure at 9 years of age (Shankaran & others, 2010)

- Coverage of a recent study that found prenatal meth exposure was associated with smaller head circumference, neonatal intensive care unit (NICU) admission, and referral to child protective services (Shah & others, 2012)
- Discussion of prenatal methamphetamine exposure and decreased brain activation, especially in the frontal lobes, in 7- to 15-year-olds (Rousotte, 2011)
- Expanded description of the possible negative outcomes for the offspring of women with syphilis (Caddy & others, 2011; Ishaque & others, 2011)
- Description of a recent large-scale study that found children whose mothers had diabetes during pregnancy had lower expressive language scores than mothers who did not have diabetes during pregnancy (Krakowiak & others, 2012)
- Update on guidelines for eating certain types of fish during pregnancy (American Pregnancy Association, 2012; Mayo Clinic, 2012)
- Description of recent research on more than 30,000 offspring regarding the time during prenatal development when maternal exposure to stress was most likely to increase the risk of preterm birth (Class & others, 2011)
- Coverage of a recent research review that linked maternal depression to preterm birth (Dunkel Schetter, 2011)
- Description of a recent study that revealed paternal smoking around the time of the child's conception was linked to an increased risk of the child developing leukemia (Milne & others, 2012)
- Coverage of a recent research review indicating an increased risk of spontaneous abortion, autism, and schizophrenic disorders in offspring for whom the father is 40 years of age and older (Reproductive Endocrinology and Infertility Committee & others, 2012)
- New discussion of how much weight gain during pregnancy is best for obese women, as well as the importance of their losing weight and increasing exercise prior to becoming pregnant (Simmons, 2011)
- New discussion of the increasing inclusion of exercise in prenatal care programs (Streuling & others, 2011)
- Coverage of a recent study indicating that the risk of exercise-related injury during pregnancy was low (Vladutiu, Evenson, & Marshall, 2010)
- Description of a recent experimental study that found a 3-month aerobic exercise program improved pregnant women's health-related quality of life (Montoya Arizabaleta & others, 2010)
- Inclusion of recent research indicating that exercise during pregnancy improved mothers' perceptions of their health (Barakat & others, 2011)
- Discussion of a recent study that revealed yoga and massage therapy sessions resulted in decreased levels of depression, anxiety, and back and leg pain (Field & others, 2012)
- Coverage of a recent research review that concluded practicing yoga during pregnancy is associated with a number of positive outcomes for mothers and a reduction in the incidence of low birth weight infants (Babbar & others, 2012)
- Description of a recent study that found group prenatal care provided a broad network of social support for pregnant women (McNeil & others, 2012)
- Coverage of a recent experimental study of the effects of a Centering-Pregnancy Plus program on high-stress pregnant women (Ickovics & others, 2011)
- Discussion of a recent research review of prenatal home visits and their link to improved prenatal care use but less evidence for their influence on newborns' birth weight (Issel & others, 2011)
- New material on the recent increase in home births to non-Latino White women (Macdorman, Declercq, & Menacker, 2011)
- Description of a recent research review that found positive outcomes for midwife-led care compared with physician-led care in low-risk women (Sutcliffe & others, 2012)
- Discussion of a recent study that found waterbirth was linked with a shorter second stage of labor (Cortes, Basra, & Kelleher, 2011)
- Updated coverage of the increased evidence that acupuncture can have positive effects on labor and delivery (Citkovitz, Schnyer, & Hoskins, 2011)
- Discussion of the results of two recent research reviews that indicated massage therapy reduces pain during labor (Jones & others, 2012; Smith & others, 2012)
- Update on the dramatic increase in cesarean deliveries in the United States (Solheim & others, 2011)
- Discussion of a recent study indicating that low Apgar scores are linked with developing ADHD in childhood (Li & others, 2011)
- Updated coverage of the percentage of infants born preterm in the United States, including the overall rate and ethnic variations in 2009 (National Center for Health Statistics, 2011)
- Description of a recent research review that concluded kangaroo care reduced the risk of mortality in low birth weight infants (Conde-Agudelo, Belizan, & Diaz-Rossello, 2011)
- Coverage of a recent study that revealed the mechanisms responsible for weight gain in massaged preterm infants (Field, Diego, & Hernandez-Reif, 2011)
- New coverage of the incidence of fathers having elevated depressive symptoms when their wives have postpartum depression (Letourneau & others, 2012; Ramchandani & others, 2011)

Chapter 4: Physical Development in Infancy

- Changes in coverage of the development of the brain based on comments from leading expert consultant Martha Ann Bell
- Addition of John Richards and his colleagues (2009, 2010; Mallin & Richards, 2012; Richards, Reynolds, & Courage, 2010) for conducting important research on the development of the brain in infancy
- Update on the role of myelination in providing energy for neurons (Fancy & others, 2012; Harris & Attwell, 2012)
- New section, The Neuroconstructivist View, that describes an increasingly popular perspective on the brain's development (Diamond, 2013; Johnson, 2012; Westerman, Thomas, & Karmiloff-Smith, 2011; Peltzer-Karpf, 2012)
- Description of a recent research review of sleep patterns in infancy (Galland & others, 2012)
- Inclusion of information about a recent study that revealed by 6 months of age, a majority of infants slept through the night, awakening their mothers only once or twice a week (Weinraub & others, 2012)
- Discussion of a recent study that revealed nighttime wakings at 12 months of age predicted a lower level of sleep efficiency at four years of age (Tikotzky & Shaashua, 2012)
- Coverage of a recent study linking maternal emotional availability to fewer infant sleep problems (Teti & others, 2010)
- Discussion of a recent study indicating that paternal involvement in infant care was related to fewer infant sleep problems (Tikotzky, Sadeh, & Glickman-Gavrieli, 2010)
- Description of recent research on early life risk factors that are linked to infant sleep duration (Nevarez & others, 2010)

- Updated information about infant-parent bed sharing and an increasing trend of recommending that this not occur until the infant is at least six months old (McIntosh, Tonkin, & Gunn, 2010)
- Discussion of a recent meta-analysis linking breastfeeding to a lower incidence of SIDS (Hauck & others, 2011)
- New material on recent research indicating that as many as 10 to 15 percent of SIDS cases are linked to heart arrhythmias, with gene mutations being involved in the arrhythmias (Brion & others, 2012; Van Norstrand & others, 2012)
- Updated data on recent increases in the percentage of infants who are overweight (Centers for Disease Control and Prevention, 2010)
- Description of a recent study that found the introduction of solid foods before 4 months of age was linked to an increased risk of obesity at 3 years of age (Huh & others, 2011)
- Description of recent research that found low maternal sensitivity when infants were 15 and 24 months of age was linked to a higher risk of obesity in adolescence (Anderson & others, 2012)
- Inclusion of the American Academy of Pediatrics Section on Breastfeeding's (2012) reconfirmation of its recommendation of exclusive breast feeding in the first six months, followed by continued breast feeding as complementary foods are introduced, and further breast feeding for one year or longer as mutually desired by the mother and infant
- Updated data on the percentage of U.S. mothers who breast feed their infants in the hospital and for the first 6 months (Centers for Disease Control and Prevention, 2011)
- Discussion of a recent study of infant feeding practices in 28 developing countries that found the practices were far from optimal (Arabi & others, 2012)
- Description of a longitudinal study that revealed malnourished Barbadian infants had persisting attentional deficits when they were 40 years old (Galler & others, 2012)
- Updated coverage of the WIC program, including recent research, in the *Connecting Development to Life* interlude (WIC New York, 2011)
- New discussion of a recent literacy intervention program with Spanish-speaking families in the Los Angeles WIC program that increased literacy resources and activities in homes, which in turn led to a higher level of school readiness in children (Whaley & others, 2011)
- A number of changes made in the material on motor development based on leading expert Karen Adolph's feedback
- Description of a recent study by Karen Adolph and her colleagues (2012) that found 12- to 19-month-olds took 2,368 steps and fell 17 times an hour during free play, suggesting the extensiveness of locomotor experience
- Inclusion of recent research indicating that training infants to use sticky mittens resulted in advances in their reaching behavior (Libertus & Needham, 2010)
- New coverage of Rachel's Keen's (2011) research indicating that tool use is an excellent context for studying problem solving in children less than 3 years old because motor behavior can indicate how the infant plans to reach a goal
- Updated discussion of the new perspective on infant reflexes arguing that reflexes are not exclusively inborn, genetic mechanisms but rather that infants can deliberately control such movements (Adolph & Berger, 2013; Adolph & Robinson, 2013)
- New coverage of recent research indicating that alternating leg movements occur during the fetal period and at birth (Adolph & Robinson, 2013)
- Revised information about the percentage of infants who do not crawl in some cultures with information that about one-fourth of infants in Jamaica don't crawl (Hopkins, 1991)
- Revised and updated information about cultural variations in promoting or restricting motor development and outcomes of these practices (Adolph, Karasik, & Tamis-LeMonda, 2010)
- A number of changes in the discussion of perceptual development based on feedback from leading experts Scott Johnson and Rachel Keen
- Much expanded and updated coverage of the dramatic increase in the use of sophisticated eye-tracking equipment in the study of infant perception (Aslin, 2012; Oakes, 2012)
- Description of a recent eye-tracking study in which 1-year-old infants were less efficient in looking at an educational video than their older counterparts (Kirkorian, Anderson, & Keen, 2012)
- Coverage of a recent fMRI study that confirmed the fetus can hear at 33 to 34 months into the prenatal period by assessing fetal brain responses to auditory stimuli (Jardri & others, 2012)
- Discussion of a recent study that found 7-month-old infants can process simultaneous pitches when they hear voices but they are more likely to encode the higher-pitched voice (Marie & Trainor, 2012)
- Updated information about learning tastes prenatally through the amniotic fluid (Mennella, 2009)
- Coverage of a recent study indicating that young infants looked longest at reddish hues and shortest at greenish hues (Franklin & others, 2010)
- Added commentary that most perception is intermodal (Bahrick, 2010)

Chapter 5: Cognitive Development in Infancy

- Expanded conclusions about the themes of the current field of infant cognitive development to emphasize the substantial increase in interest in cognitive developmental neuroscience and links between brain processes and cognitive processes (Diamond, 2013; Morasch & others, 2013; Peltzer-Karpf, 2012)
- Description of a recent study indicating that joint attention enhanced the long-term memory of 9-month-old infants (Kopp & Lindenberger, 2011)
- Discussion of a recent study that found responding to joint attention at 1 month of age was linked to self-regulation skills at 3 years of age (Van Hecke & others, 2012)
- Updated coverage of concept formation, including a revised definition of concepts
- Addition of recent commentary about learning by infant researcher Alison Gopnik (2010) on the importance of putting things into the right categories
- Coverage of a recent longitudinal study on the stability of intelligence from 12 months to 4 years of age (Blaga & others, 2009)
- Modifications and updates of the discussion of language development based on comments by leading expert Catherine McBride-Chang
- Updated information about developmental aspects of the pointing gesture in the first two years of life (Colonessi & others, 2010)
- Discussion of recent research on differences in early gesture as explanations for SES disparities in child vocabulary at school entry (Rowe & Goldin-Meadow, 2009)
- New material on cross-linguistic differences in early word learning (Lieven & Stoll, 2010)
- Description of a recent study that revealed 6-month-old infants comprehend names of parts of their body, such as "feet" and "hands" (Tincoff & Jusczyk, 2012)

- Expanded material on why children in low-income families may have difficulty in language development
- Expanded and updated material on how parents can facilitate their infants' and toddlers' language development based on recent recommendations by Ellen Galinsky (2010)
- New discussion of cultural variations in language support (Ochs & Schieffelin, 2008; Schieffelin, 2005)

Chapter 6: Socioemotional Development in Infancy

- Revision and updating of the functions of emotion in infancy to include its role in behavioral organization (social responding and adaptive behavior) (Easterbrooks & others, 2013; Thompson, 2013a)
- Discussion of a recent study that revealed the newborns of depressed mothers showed less vocal distress at the cries of another infant, reflecting emotional and physiological dysregulation (Jones, 2012)
- Description of a recent study that found mothers' emotional reactions (anxiety and anger) increased the risk of subsequent attachment insecurity (Leerkes, Parade, & Gudmunson, 2011)
- Inclusion of recent research indicating a link between problems in infant soothability at 6 months of age and insecure attachment at 12 months of age (Mills-Koonce, Propper, & Barnett, 2012)
- Discussion of a recent study that revealed U.S. infants showed more temperamental fearfulness while Finnish infants engaged in more positive affect, especially effortful control (Gaias & others, 2012)
- Coverage of a recent study linking behavioral inhibition at 3 years of age with shyness 4 years later (Volbrecht & Goldsmith, 2010)
- Description of recent research that found being fearful in situations that are relatively low in threat at 24 months of age was related to higher levels of anxiety in kindergarten (Buss, 2012)
- Discussion of a recent longitudinal study linking shyness/inhibition in infancy/childhood to social anxiety at 21 years of age (Bohlin & Hagekull, 2009)
- New commentary suggesting that too often the biological foundations of temperament are interpreted as meaning that temperament can develop and change; however, key dimensions (such as adaptability and soothability) of the self-regulatory aspect of temperament do develop and change as neurobiological and experiential processes develop and change (Easterbrooks & others, 2013)
- Addition of information about research indicating that decreases in infants' negative emotionality are related to higher levels of parents' sensitivity, involvement, and responsivity (Bates, 2012a, b)
- Coverage of a longitudinal study that found changes in attachment security/insecurity from infancy to adulthood were linked to stresses and supports in socioemotional contexts (Van Ryzin, Carlson, & Sroufe, 2011)
- New description of the developmental cascade model that is increasingly being used to study connections across domains over time that influence developmental pathways and outcomes (Cicchetti, 2013; Masten, 2013)
- New section on Developmental Social Neuroscience and Attachment
- New coverage of the roles of oxytocin and vasopressin in attachment and maternal behavior (Feldman, 2012; Strathearn & others, 2012)
- Discussion of a recent meta-analysis that found strong links between levels or patterns of oxytocin and mother-infant attachment (Galbally & others, 2011)
- New Figure 6.8, Regions of the Brain Proposed as Likely to Be Important in Infant-Mother Attachment
- Inclusion of new information about the concept of transactions reflecting reciprocal socialization (Sameroff, 2009, 2012)

- Inclusion of recent research studies on the transition to parenthood that involve negative changes in relationships for both married and cohabiting women with their partners, and violated expectations (Biehle & Mickelson, 2012; Mortensen & others, 2012)
- New section on Managing and Guiding Infants' Behavior (Holden, Vittrup, & Rosen, 2011)
- New material on the percentage of parents who use various management and corrective methods in dealing with infants' undesirable behaviors, including new Figure 6.10 (Vittrup, Holden, & Buck, 2006)
- Description of a recent study that found marital intimacy and partner support during prenatal development were linked to father-infant attachment following childbirth (Yu & others, 2012)
- Discussion of recent research indicating that fathers with a college-level education engaged in more stimulating physical activities with their infants and that fathers in a conflicting couple relationship participated in less caregiving and physical play with their infants (Cabrera, Hofferth, & Chae, 2011)
- Coverage of recent research linking early higher quality of child care with higher cognitive-academic achievement and lower externalizing behavior at 15 years of age (Vandell & others, 2010)
- Inclusion of the following important point about the NICHD SECCYD research: findings consistently show that family factors are considerably stronger and more consistent predictors of a wide variety of child outcomes than are child care experiences (quality, quantity, type)
- Description of a recent study using the NICHD SECCYD data indicating that the worst socioemotional outcomes for children occurred when both home and child care settings conferred risk (Watanabe & others, 2011)

Chapter 7: Physical and Cognitive Development in Early Childhood

- New discussion of unusually short children, including causes (Wit, Kiess, & Mullis, 2011)
- Coverage of a recent study indicating that growth hormone treatment of very short children was effective in partially reducing their height deficit as adults (Deodati & Cianfarani, 2011)
- Inclusion of recent research indicating that growth hormone treatment of very short children was linked with an increase in height as well as improvements in self-esteem and mood (Chaplin & others, 2012)
- Description of a recent study linking sleep problems in early childhood with subsequent attention problems that in some cases persist into early adolescence (O'Callaghan & others, 2010)
- Coverage of a recent study indicating that having trouble sleeping in childhood was related to alcohol use problems in adolescence and early adulthood (Wong & others, 2010)
- Coverage of a recent analysis indicating that chronic child sleep disorders that deprive children of adequate sleep may lead to impaired brain development (Jan & others, 2010)
- Inclusion of information from a recent research review that concluded a short sleep duration is linked to being overweight in childhood (Hart, Cairns, & Jelalian, 2011)
- Description of a recent study that found the most frequently consumed vegetable by 2- and 3-year-olds was French fries or other fried potatoes (Fox & others, 2010)
- Coverage of recent data on the increasing percentage of 2- to 5-year-old obese children in the United States, including trends from 1976–1980 through 2007–2010 (Ogden & others, 2012)

- Discussion of a recent study indicating that preschool children who were overweight had a significant risk of being overweight/obese at 11 years of age (Shankaran & others, 2011)
- Description of a recent study that found parental smoking was a risk factor for higher blood pressure in children (Simonetti & others, 2011)
- Description of a recent fMRI study identifying brain locations that were linked to 9- and 10-year-olds' conservation success in comparison with non-conserving 5- and 6-year-olds (Houde & others, 2011)
- Coverage of recent research linking television watching and video game playing to children's attention problems (Swing & others, 2010)
- New material on using computer exercises to improve children's attention, including a website (www.teach-the-brain.org/learn/attention/index.htm) about how to use the games with children (Jaeggi, Berman, & Jonides, 2009; Tang & Posner, 2009)
- New discussion of the increasing interest in executive functioning, including the importance of its early development in the preschool years (Carlson & White, 2013; Zelazo & Muller, 2011)
- Inclusion of recent research by Stephanie Carlson (2010, 2011) on developmental changes in children's executive functioning, including a description and a photograph of a task used in her research
- Deletion of material on strategies and movement to their discussion to Chapter 12, Cognitive Development in Middle and Late Childhood
- New commentary that whether infants have a theory of mind continues to be debated (Rakoczy, 2012)
- New description of the poor performance in task sequencing of children with autism (Peterson, Wellman, & Slaughter, 2012)
- Expanded coverage of cognitive factors other than theory of mind that might be involved in autism, including eye gaze, face processing, memory, and language impairment (Boucher, 2012; Boucher, Mayes, & Bigham, 2012; Elsabbagh & others, 2012)
- New material on Kathy Hirsh-Pasek, Roberta Golinkoff, and Justin Harris' (Harris, Golinkoff, & Hirsch-Pasek, 2011; Hirsh-Pasek & Golinkoff, 2013) six principles for optimal word learning in young children
- New material on strategies for using books with preschoolers (Galinsky, 2010)
- Description of a recent study indicating that Early Head Start had a protective effect on the risks children might experience in parenting, language development, and self-control (Ayoub, Vallotton, & Masten, 2011)
- Expanded material on the importance of emotion regulation in children's social competence, self-regulation, and executive functioning (Cole & Hall, 2012; Nelson & others, 2012; Thompson, 2013a, b)
- New description of recent research by Cybelle Raver and her colleagues (Raver & others, 2012; Zhai, Raver, & Jones, 2012) on links between increased caregiver emotional expression, self-regulation, and reduced behavior problems in Head Start families
- Discussion of research indicating that mothers' knowledge about what distresses and comforts their children predicts children's coping, empathy, and prosocial behavior (Vinik, Almas, & Grusec, 2011)
- Updated and expanded coverage of criticisms of Piaget's view of young children's moral development based on research indicating that young children often show a non-egocentric awareness of others' intentions and know when someone violates a moral prohibition (Thompson, 2012)
- Inclusion of recent research showing that 3-year-olds were less likely to offer assistance to an adult they previously had observed being harmful to another person (Vaish, Carpenter, & Tomasello, 2010)
- New description of research by Ross Thompson and his colleagues (2009) that linked young children's secure attachment with their mother and aspects of the mother's conversational dialogue with the children
- Inclusion of new information about the positive developmental outcomes for children when parents use behavioral and psychological control, thus directing children without being coercive or punitive (Baumrind, Larzelere, & Owens, 2010)
- New commentary about recent research on Asian American parents and Confucian goals (Russell, Crockett, & Chao, 2010)
- Description of a recent study in six countries linking physical punishment to high rates of aggression in children (Gershoff & others, 2010)
- Expanded and updated discussion of the effects of punishment on children's development, including longitudinal studies that have linked early physical punishment to later aggression (Lansford & others, 2011; Taylor & others, 2010), and cross-cultural studies indicating that in countries where physical punishment is considered normal and necessary for handling children's transgressions, the effects of punishment are less harmful (Lansford & others, 2005, 2012)
- Description of a recent study of father involvement and coparenting (Jia & Schoppe-Sullivan, 2011)
- Updated statistics on child maltreatment (U.S. Department of Health and Human Services, 2010)
- Expanded and updated coverage of family-related factors that can contribute to child maltreatment (Cicchetti, 2013; Laslett & others, 2012; Turner & others, 2012)
- Discussion of a study linking child maltreatment with financial and employment-related difficulties in adulthood (Zielinski, 2009)
- Coverage of a recent study that revealed a significant increase in suicide attempts before age 18 when repeated child maltreatment occurred (Jonson-Reid, Kohl, & Drake, 2012)
- Description of recent research studies that linked child maltreatment to risk for various diseases and physical health problems, sexual problems, and depression in adulthood (Lacelle & others, 2012; Nanni, Uher, & Danese, 2012; Widom & others, 2012)
- Added commentary about parental work's effect on children not being only a maternal employment issue but often involving the father as well (Parke & Clarke-Stewart, 2011)
- New discussion of E. Mark Cummings and his colleagues' (Cummings & Davies, 2010; Cummings, El-Sheikh, & Kouros, 2009) emotional security theory and its focus on the type of marital conflict that is negative for children's development

Chapter 8: Socioemotional Development in Early Childhood

- Expanded and updated discussion of young children's optimistic self-conception to consider some young children's negative self-evaluations, especially when they experience stress and adverse family conditions (Goodvin & others, 2008; Thompson, 2011, 2013d)
- Expanded and updated material on the increasing belief that young children are more socially sensitive than was previously envisioned and that this means parents and teachers can help young children to better understand people's internal cognitive and emotional states (Thompson, 2013c, d)
- Description of the current debate about Ross Thompson's (2013c, d) view that young children are more socially sensitive and Susan Harter's (2012) view that they are more egocentric
- Coverage of a recent study that found fathers' emotion coaching was related to children's social competence (Baker, Fenning, & Crnic, 2011)
- Inclusion of recent research indicating that maternal emotional coping was linked to less oppositional behavior in children (Dunsmore, Booker, & Ollendick, 2012)

- Expanded and updated coverage of the relationship between divorced parents and its link to visitations by the non-custodial parent (Fabricius & others, 2010)
- Coverage of a recent study indicating that an intervention aimed at improving the mother-child relationship was linked to improvements in the coping skills of children in divorced families (Velez & others, 2011)
- Added comment about father involvement dropping off more than mother involvement following a divorce, especially for fathers of girls
- Inclusion of information about joint custody working best for children when the divorced parents can get along with each other (Parke & Clarke-Stewart, 2011)
- Coverage of recent information about child and adolescent outcomes for individuals conceived by new reproductive technologies, which are increasingly used by gay and lesbian adults (Golombok, 2011a, b; Golombok & Tasker, 2010)
- Discussion of a recent study linking early and persistent poverty to lower cognitive functioning in 5-year-old children (Schoon & others, 2012)
- Expanded and updated coverage of the stressful and difficult experiences that children in many immigrant families face, including children in undocumented families (Yoshikawa, 2011)
- Description of how many ethnic/immigrant families focus on issues associated with promoting children's ethnic pride, knowledge of their ethnic group, and discrimination (Rogers & others, 2012; Simpkins & others, 2012)
- New discussion of concerns expressed by Kathy Hirsh-Pasek, Roberta Golinkoff, & Dorothy Singer (Hirsh-Pasek & others, 2009; Singer, Golinkoff, & Hirsh-Pasek, 2006) about the decline of play in young children's lives and inclusion of the many positive cognitive and socioemotional outcomes that come from play
- Coverage of a recent study linking 3- to 5-year-olds' sleep problems to (1) watching TV after 7 p.m., and (2) watching violent TV shows (Garrison & others, 2011)
- Updated statistics on the percentage of students with various disabilities who receive special education services in U.S. schools (Aud & others, 2011)
- Expanded discussion of possible misdiagnosis of ADHD, including details of a recent experimental study that found clinicians overdiagnosed ADHD symptoms, especially in boys (Bruchmiller, Margraf, & Schneider, 2012)
- New description of some developmental outcomes of children with ADHD, including increased risks for dropping out of school, adolescent pregnancy, substance abuse problems, and antisocial behavior (Chang, Lichtenstein, & Larsson, 2012; Von Polier, Vioet, & Herpertz-Dahlmann, 2012)
- Coverage of a recent study indicating delayed development in the frontal lobes of children with ADHD, likely due to a delay or a decrease in myelination (Nagel & others, 2011)
- Description of a recent study that linked cigarette smoking during pregnancy to ADHD in 6- to 7-year-old children (Sciberras, Ukoumunne, & Efron, 2011)
- New coverage of executive functioning deficits in children with ADHD and their links to brain functioning (Supekar & Menon, 2012; Tomasi & Volkow, 2012)
- New material on deficits in theory of mind in children with ADHD (Buhler & others, 2011; Shuai, Chan, & Wang, 2011)
- Inclusion of recent estimates indicating that in 2008 1 in 88 children had an autistic spectrum disorder, a dramatic increase since 2002 estimates (Centers for Disease Control & Prevention, 2012)
- New discussion of the role that connectivity between different brain regions might play in the development of autism (Just & others, 2012; Philip & others, 2012)
- New Figure 9.10 that illustrates Baddeley's working memory model
- New coverage of three recent studies of working memory that indicate how important and wide-ranging working memory capacity is for children's cognitive development and achievement (Andersson, 2010; Aslan, Zellner, & Bauml, 2010; Welsh & others, 2010)
- Expanded discussion of children's creative thinking, including recent research indicating a decline in creative thinking by U.S. schoolchildren and increased interest in teaching creative thinking in Chinese schools (Kim, 2010; Plucker, 2010)
- New section, Executive Functioning, that highlights the increased interest in children's executive functioning, including Adele Diamond's (2013; Diamond & Lee, 2011) view on the key dimensions of executive functioning in 4- to 11-year-old children and interventions that have been shown to improve executive functioning
- Description of a recent research review that concluded more than 1,000 genes may influence an individual's intelligence (Davies & others, 2011)
- New information about the environment's role in intelligence that is reflected in the 12 to 18 point IQ gain children make when they are adopted from lower SES to middle SES homes (Nisbett & others, 2012)
- Coverage of recent research indicating that bilingual children have a lower vocabulary in each language than monolingual children (Bialystok, 2011)

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

- Inclusion of recent research on 9-year-olds focused on the connection between physical activity level and risk for metabolic disease (Parrett & others, 2011)
- Description of recent research showing links between aerobic exercise and children's and adolescents' cognitive skills (Best, 2010; Davis & others, 2011; Monti, Hillman, & Cohen, 2012)
- Coverage of a recent research review that found school-based programs for increasing children's physical activity are effective (Kriemler & others, 2011)
- Description of recent data on the percentage of U.S. 6- to 11-year-olds that are overweight or obese, which in 2009–2010 was 50 percent higher than the percentage of 2- to 5-year-olds who were overweight (Ogden & others, 2012)
- Inclusion of recent research that found both peers and family members teased overweight children more than normal-weight children (McCormack & others, 2011)
- Inclusion of information about a recent successful behavior modification program that increased overweight and obese children's exercise and reduced their TV viewing time (Goldfield, 2012)
- Coverage of recent intervention studies that indicate modifying parents' eating habits and increasing children's exercise can help overweight and obese children to lose weight (Collins & others, 2011)
- Updated material on childhood cancer, including improving survival rates for some childhood cancers (National Cancer Institute, 2012; Wayne, 2011)

Chapter 10: Socioemotional Development in Middle and Late Childhood

- Updated and expanded discussion of children's socioemotional development based on leading expert Ross Thompson's feedback
- New discussion of the role of executive functioning and children's perspective taking in socioemotional development (Galinsky, 2010)

- Discussion of a recent study focused on the positive aspects of perspective-taking skills in children who are emotionally reactive (Bengtsson & Arvidsson, 2011)
- New information indicating that the foundations of self-esteem in middle and late childhood occur through the quality of relationships with parents in infancy and early childhood (Thompson, 2011, 2013a, b, c, d)
- New material on dose/response effects in the study of how disasters and traumatic events affect children's adjustment and adaptation (Masten, 2013; Masten & Narayan, 2012)
- Substantial updates on moral development based on feedback from leading experts Darcia Narvaez and Daniel Lapsley
- Coverage of a recent study that revealed links between a higher level of multicultural experience and a lower level of closed mindedness, a growth mindset, and higher moral judgment (Narvaez & Hill, 2010)
- Expanded discussion of moral identity with an emphasis on Darcia Narvaez' (2010) recent view that moral metacognition, especially through self-monitoring and self-reflection, is linked to moral maturity
- Much expanded, revised, and updated material on the domain theory of moral development and social conventional reasoning (Helwig & Turiel, 2011; Smetana, 2011a, b)
- Coverage of a recent gender stereotyping study of 6- to 10-year-olds who reported that math is mainly for boys (Cvencek, Meltzoff, & Greenwald, 2011)
- Inclusion of information about a recent meta-analysis that revealed no gender differences in math skills for adolescents (Lindberg & others, 2010)
- Description of a recent research review focused on girls' negative attitudes about math and the negative expectations that parents and teachers have for girls' math competence (Gunderson & others, 2012)
- New main section on attachment in middle and late childhood
- New discussion of research by Kathryn Kerns and her colleagues (Brumariu, Kerns, & Seibert, 2012; Kerns & Seibert, 2012; Kerns, Siener, & Brumariu, 2011) that focuses on the role of secure attachment in internalizing symptoms, anxiety, depression, and emotion regulation
- Updated and expanded discussion of gender differences in emotion (Leaper & Bigler, 2011; Nolen-Hoeksema, 2012)
- Coverage of a recent study that found having supportive friends was linked to lower levels of bullying and victimization (Kendrick, Jutengren, & Stattin, 2012)
- New discussion of cyberbullying (Donnerstein, 2012; Kowalsky, Limber, & Agatston, 2012)
- Inclusion of recent research on links between children's cyber aggression and negative peer relations outcomes (Schoffstall & Cohen, 2012)
- Discussion of recent research on a higher level of depression and suicide in children who are the victims of bullying (Fisher & others, 2012; Lemstra & others, 2012)
- Description of a recent longitudinal study of more than 6,000 children that found a link between bullying/victimization and suicide ideation (Winsper & others, 2012)
- Coverage of a recent study found a link between victims of peer bullying and the development of borderline personality symptoms (Wolke & others, 2012)
- Description of a recent study linking bullying and moral disengagement (Obermann, 2011)
- Coverage of a recent study that found students who engaged in aggressive-disruptive classroom behavior were more likely to have aggressive friends (Powers & Bierman, 2012)
- Discussion of recent research on outcomes of 9- to 19-year-old African American boys after experiencing the New Hope antipoverty program (McLoyd & others, 2011)
- New commentary about the diversity of Asian American students' academic outcomes, with students from some cultural backgrounds being more successful than those from other backgrounds
- Updated coverage of Carol Dweck's (2013) concept of mindset, including new Figure 10.7 about her Brainology program
- New discussion of the importance of parental involvement in children's learning, including the research of Eva Pomerantz and her colleagues (Cheung & Pomerantz, 2012; Pomerantz, Cheung, & Qin, 2012; Pomerantz, Kim, & Cheung, 2012) that especially focuses on comparisons of U.S. and Chinese children and their parents

Chapter 11: Physical and Cognitive Development in Adolescence

- New discussion of changes needed in social policy regarding adolescents
- New material on the work of Peter Benson and his colleagues (2010; Benson & Scales, 2011; Scales, Benson, & Roehlkepartain, 2011)
- Inclusion of recent research indicating that college students from low-SES backgrounds were less likely to engage in healthy behavior patterns than their higher-SES counterparts (VanKim & Laska, 2012)
- Description of a recent cross-cultural study in 29 countries that found childhood obesity was linked to early puberty in girls (Currie & others, 2012)
- Coverage of a recent study that found a linear increase in having a positive body image for both boys and girls as they moved from the beginning to the end of adolescence (Holsen & others, 2012)
- Discussion of a recent study of gender differences in the aesthetic aspects of adolescents' body image (Abbott & Barber, 2010)
- Inclusion of information about a recent study of adolescents with the most positive body images, which was linked to their health-enhancing behaviors, especially regular exercise (Frisen & Holmqvist, 2010)
- Updated material on the negative outcomes of early maturation in girls (Negri, Susman, & Trickett, 2011)
- Revised and updated data (Figure 11.5) on the percentage of adolescents who reported having had sexual intercourse, including a recent gender reversal among twelfth-graders, with a higher percentage of twelfth-grade girls reporting having had sex than twelfth-grade boys (Eaton & others, 2010)
- Updated information on the percentage of U.S. adolescents who report that they are currently sexually active (Eaton & others, 2010)
- Revised and updated data on the percentage of non-Latino White, African American, and Latino adolescents who report having had sexual intercourse (Eaton & others, 2010)
- Discussion of a recent study that revealed a link between neighborhood poverty concentration and 15- to 17-year old boys' and girls' sexual initiation (Cubbin & others, 2010)
- Description of the results from a recent research review of a number of aspects of connectedness, such as family connectedness and parent-adolescent communication about sexuality, and links to adolescent sexuality outcomes (Markham & others, 2010)
- Coverage of recent research in low-income neighborhoods that found caregiver hostility was linked to early sexual activity and sex with multiple partners, while caregiver warmth was related to later sexual initiation and a lower incidence of sex with multiple partners (Gardner, Martin, & Brooks-Gunn, 2012)
- Description of recent research linking deviant peer relations in early adolescence with an increase in multiple sexual partners at age 16 (Lansford & others, 2010)

- Coverage of a recent study that found a high level of impulsiveness was linked to early adolescent sexual risk-taking (Khurana & others, 2012)
- Updated information about trends in the percentage of sexually active adolescents who used a condom the last time they had sexual intercourse (Eaton & others, 2010)
- Discussion of recent research on U.S. 15- to 19-year-olds with unintended pregnancies resulting in live births: 50 percent of these adolescent girls were not using any type of birth control when they got pregnant and 34 percent believed they could not get pregnant at the time (Centers for Disease Control and Prevention, 2012)
- Coverage of the recent decline in births to adolescent girls to a record low in 2009, including new Figure 11.6 (Ventura & Hamilton, 2011)
- Inclusion of information about some sex education programs that are now abstinence-plus sexuality, promoting abstinence as well as contraceptive use (Realini & others, 2010)
- Updated data on trends in adolescent obesity from 1999–2000 to 2009–2010 with an increase in obesity among boys but not in girls during this time frame (Ogden & others, 2012)
- Inclusion of recent research linking obesity in adolescence with the development of severe obesity in emerging adulthood (The & others, 2010)
- Discussion of a recent longitudinal study of overweight and obesity involving individuals from 14 years of age to 24 years of age (Patton & others, 2011)
- New discussion of links between screen-based activity and physical exercise in adolescents, including recent research indicating that adolescents who combine low physical activity and high screen-based activity are nearly twice as likely to be overweight (Sisson & others, 2010)
- Updated data on developmental changes in adolescent sleep patterns (Eaton & others, 2010)
- Coverage of a longitudinal study that found sleep problems in adolescence were linked to subsequent suicidal thoughts and attempts in adolescence and early adulthood (Wong & Brower, 2012)
- Description of a recent study on delaying school start time for ninth- to twelfth-grade students and their improved sleep, alertness, mood, and health (Owens, Belon, & Moss, 2010).
- New content on a comparison of U.S. and Asian adolescents' sleep patterns (Gradisar, Gardner, & Dohnt, 2011)
- New coverage of sleep in emerging adulthood (Galambos, Howard, & Maggs, 2011)
- Discussion of a recent study of emerging adults' sleep patterns and indications that first-year college students have bedtimes and rise times that are later than seniors in high school but that bedtimes and rise times decline by the third and fourth year of college (Lund & others, 2010)
- Updated statistics on leading causes of death in adolescence (Eaton & others, 2010)
- Updated coverage of the Monitoring the Future study's assessment of drug use by secondary school students (Johnston & others, 2011)
- Description of research that found the onset of alcohol use before age 11 was linked to a higher risk of alcohol dependence in early adulthood (Guttmanova & others, 2012)
- Discussion of recent research that linked authoritative parenting with lower adolescent alcohol consumption (Piko & Balazs, 2012) and parent-adolescent conflict with higher consumption (Chaplin & others, 2012)
- Updated research on a confluence of peer factors that are linked to alcohol use in adolescence (Cruz, Emery, & Turkheimer, 2012; Patrick & Schulenberg, 2010)
- New commentary about links between anorexia nervosa, obsessive thinking about weight, and compulsive exercise (Hildebrandt & others, 2012)
- New description of the perfectionistic tendencies of anorexics and bulimics (Lampard & others, 2012)
- New discussion of the likely brain changes in adolescents who are anorexic (Lock, 2012b)
- Coverage of recent research on a link between attachment insecurity and eating disorders in adolescence (Abbate-Daga & others, 2010)
- Extensively expanded and updated content on executive functioning in adolescence
- New section on the importance of controlling attention and reducing interfering thoughts
- New section on cognitive control, including new material on the roles of controlling attention, inhibiting distracting thoughts, and being cognitively flexible (Diamond, 2013; Galinsky, 2010)
- New Figure 11.12, which lets students evaluate their cognitive flexibility (Galinsky, 2010)
- New discussion of Robert Crosnoe's (2011) recent book, *Fitting In, Standing Out*, suggesting that the conformity demands of complex peer cultures in high school undermine students' academic achievement
- Updated coverage of school dropout rates, including new Figure 11.13 that shows dropout rates by gender and ethnicity, as well as the significant decrease of Latino dropouts in the first decade of the twenty-first century (National Center for Education Statistics, 2010)
- New discussion of the controversy in determining accurate school dropout rates

Chapter 12: Socioemotional Development in Adolescence

- Inclusion of recent research indicating that age differences are stronger than generational differences in narcissism (Roberts, Edmonds, & Grijalva, 2010)
- Coverage of a recent study indicating that between 12 and 20 years of age individuals explore their identity in greater depth (Klimstra & others, 2010)
- Revised and updated information about diversity, especially ethnic identity and immigration, based on feedback from leading expert Diane Hughes
- Coverage of a recent study that found a positive ethnic identity helped to buffer the negative effects of discrimination experienced by Mexican American adolescents (Umana-Taylor & others, 2012)
- Updated data on trends in the percentage of first-year college students who attend religious services (Pryor & others, 2011)
- Description of a recent study of religious identity and religious participation of adolescents from different ethnic groups (Lopez, Huynh, & Fuligni, 2011)
- Inclusion of a recent study that found parents' own religiousness during youths' adolescence was positively linked to youths' own religiousness during adolescence (Spilman & others, 2012)
- Updated and expanded section, Parental Management and Monitoring, that especially provides recent information about the increasing interest in studying adolescents' management of their parents' access to information (Laird & Marrero, 2010; Smetana, 2011a, b)

- Description of a recent analysis that concluded the most consistent outcomes of secure attachment in adolescence involve positive peer relations and the development of emotion regulation capacities (Allen & Miga, 2010)
- Discussion of a recent study of young adolescents' friendships and depression (Brendgen & others, 2010)
- Updated and expanded coverage of the positive outcomes of positive friendship relationships in adolescence (Kendrick, Jutengren, & Stattin, 2012; Tucker & others, 2012; Way & Silverman, 2012)
- Coverage of a recent study that found romantic activity was associated with depression in early adolescent girls (Starr & others, 2012)
- Description of recent research on the negative outcomes of adolescent girls having an older romantic partner (Haydon & Halpern, 2010)
- Expanded and updated material on immigrant families and their bicultural orientation, including recent research by Ross Parke and his colleagues (2011)
- New discussion of the role of immigrant adolescents as cultural brokers for their parents (Villanueva & Buriel, 2010)
- Substantial updating of media use rates based on the 2009 national survey of more than 2,000 U.S. adolescents, including comparisons with earlier national surveys to show trends in media use by adolescents (Rideout, Foehr, & Roberts, 2010)
- Description of a recent study of 8- to 12-year-old girls that found a higher level of media multitasking was linked to negative social well-being while a higher level of face-to-face communication was associated with a higher level of social well-being, such as social success, feeling normal, and having fewer friends whom parents perceived as a bad influence (Pea & others, 2012)
- Coverage of a recent national survey of trends in adolescents' use of social media, including dramatic increases in social networking and text messaging, and declines in tweeting and blogging (Lenhart & others, 2010)
- New commentary about text messaging now being the main way that adolescents prefer to connect with their friends (Lenhart & others, 2010)
- Inclusion of information that Facebook replaced Google as the most frequently visited Internet site in 2010
- Description of a recent study of parenting predictors of adolescent media use (Padilla-Walker & Coyne, 2011)
- Inclusion of recent research linking problematic relationships between mothers and early adolescents with negative peer relations on the Internet during emerging adulthood (Szwedo, Mikami, & Allen, 2011)
- Discussion of recent research on the role of parental monitoring and support during adolescence in reducing criminal behavior during emerging adulthood (Johnson & others, 2011)
- Description of a recent study that found repeated poverty was a high risk factor for delinquency (Najman & others, 2010)
- Discussion of a recent meta-analysis of five programs for reducing the recidivism of juvenile offenders, with family treatment being the only one that was effective (Schwalbe & others, 2012)
- Coverage of a recent study that revealed male Chinese adolescents and emerging adults experience more depression than their female counterparts (Sun & others, 2010)
- New discussion of the role of genes in adolescent depression and recent research that found the link between adolescent girls' perceived stress and depression occurred only when the girls had the short version of the serotonin-related gene—5HTTLPR (Beaver & others, 2012)
- Inclusion of recent research indicating that mother-daughter co-rumination was linked to increased anxiety and depression in adolescent daughters (Waller & Rose, 2010)
- Coverage of research indicating that exposure to maternal depression prior to age 12 predicted risk processes during development (difficulties in family relationships, for example), which set the course for the development of the adolescent's depression (Garber & Cole, 2010)
- Description of a recent study that found relational aggression was linked to depression in girls (Spieker & others, 2012)
- Discussion of recent research indicating that four types of bullying were all linked to adolescents' depression (Wang, Nansel, & Ianotti, 2011)
- Inclusion of recent research indicating that weight-related concerns increase adolescent girls' depressive symptoms (Vaughan & Halpern, 2010)
- Coverage of a recent research view that found the most effective treatment for adolescent depression was a combination of drug therapy and cognitive behavior therapy (Maalouf & Brent, 2012)
- Updated national data through 2011 on the percentage of adolescents who seriously think about committing suicide, attempt suicide, and require medical attention for suicide attempts (Youth Risk Behavior Survey, 2011)
- Coverage of a recent study that found increased family support, peer support, and community connectedness was linked to a lower risk of suicidal tendencies (Matlin, Molock, & Tebes, 2011)
- Description of a recent study that found that the most common link between adolescent suicide attempts and drug use was any lifetime use of tranquilizers or sedatives (Kokkevi & others, 2012)
- Inclusion of recent research on suicide attempts by young Latinas (Zayas & others, 2010)
- Discussion of a recent study linking sexual victimization to suicide attempts in adolescence (Plener, Singer, & Goldbeck, 2011)
- Updated coverage of outcomes for the Fast Track delinquency intervention study through age 19 that found the program was successful in reducing juvenile arrest rates (Conduct Problems Prevention Research Group, 2011; Miller & others, 2011)

Chapter 13: Physical and Cognitive Development in Early Adulthood

- Expanded discussion of emerging adulthood, including material on whether it is likely to be universal or not, and its occurrence in European countries and Australia, as well as the United States (Kins & Beyers, 2010; Sirsch & others, 2009)
- Coverage of a recent Belgian study indicating that continued co-residence with parents during emerging adulthood slows down the process of becoming a self-sufficient and independent adult (Kins & Beyers, 2010)
- Inclusion of recent research indicating that the majority of 18- to 26-year-olds in India felt that they had achieved adulthood (Seiter & Nelson, 2011)
- Inclusion of criticism of the concept of emerging adulthood (Cote & Bynner, 2008)
- Updated and expanded information about the increase in health problems in emerging adulthood compared with adolescence (Fatusi & Hindin, 2010)
- Updated statistics on the percentage of 20- to 39-year-olds who are obese in the United States (National Center for Health Statistics, 2011)

- Inclusion of a recent forecast that 42 percent of U.S. adults will be obese (Finkelstein & others, 2012)
- New coverage of the highest and lowest percentages of obese adults in 33 developed countries, including new Figure 13.3 (OECD, 2010)
- Discussion of a recent meta-analysis linking obesity with depression in women but not men (de Wit & others, 2010)
- New material on the National Weight Control Registry, including research indicating that individuals who have lost at least 30 pounds and kept it off for one year engage in a high level of physical activity (Catenacci & others, 2008; Ogden & others, 2012)
- Description of a recent study of gender differences in college students' motivation to exercise (Egli & others, 2011)
- Coverage of a recent study estimating the number of years lost in life expectancy because of heavy TV viewing (Veerman & others, 2012)
- Updated material on college students' drinking habits including new data on extreme binge drinking and the recent decline in college drinking (Johnston & others, 2011)
- Updated statistics on the continuing decline in smoking by U.S. adults (Centers for Disease Control and Prevention, 2012)
- Inclusion of recent data from a study of sexual activity by 25- to 44-year-olds in the United States (Chandra, Mosher, Copen, & Sioneau, 2011)
- Updated figures on the number of people in the United States who are living with an HIV infection (National Center for Health Statistics, 2011)
- Inclusion of information about the recent significant drop in the rate of new HIV infections globally (UNAIDS, 2011)
- Inclusion of a recent survey on knowledge regarding contraception and HIV infection in low- and middle-income countries (UNAIDS, 2011)
- New commentary about the increase in "hooking up" during college (Holman & Sillars, 2012)
- Description of a recent study on the significant underreporting of rape in college women (Wolitzky-Taylor & others, 2011)
- Coverage of a recent study that indicated sexual assault was more likely to occur if the offender was using substances, regardless of whether or not the victim was using them (Brecklin & Ullman, 2010)
- New discussion of the views of Labouvie-Vief and her colleagues (2010) on the role of developmental changes in the integration and complexity of cognition and emotion, as well as the presence of increasing internal reflection and less context-dependent thinking in middle-aged adults as compared with young adults
- Revision of the definition of postformal thought to include the view of Labouvie-Vief and her colleagues (2010) on the role of emotion in cognitive changes
- Inclusion of recent information about the assessment of postformal thinking, including new Figure 13.9 that gives students an opportunity to evaluate their postformal thinking (Cartwright & others, 2009)
- Discussion of a recent study indicating that college students with a higher number of cross-category friends have a higher level of postformal thinking than their counterparts with fewer cross-category friends (Galupo, Cartwright, & Savage, 2010)
- Coverage of a recent study indicating that discussing purpose in life benefitted college students' goal direction (Bundick, 2011)
- New commentary about the increasing trend in the U.S. workforce of the disappearing long-term career, with many young and older adults working at a series of jobs and/or short-term jobs (Hollister, 2011)
- Inclusion of recent information from the *Occupational Outlook Handbook* (2012) that includes job projections through 2020

- Updated statistics on the percentage of college students who work while going to college (National Center for Education Statistics, 2010)
- Description of a recent study of unemployment and mortality risk at different points in an individual's career (Roelfs & others, 2011)

Chapter 14: Socioemotional Development in Early Adulthood

- New description of a longitudinal study that linked undercontrolled temperament at age 3 with compulsive gambling in early adulthood (Slutske & others, 2012)
- Coverage of a longitudinal study that found individuals who were securely attached to their caregivers during infancy were in more stable romantic relationships in adulthood (Salvatore & others, 2011)
- Inclusion of recent research on emerging adults' attachment security and the quality of their romantic relationships (Holland & Roisman, 2010)
- Discussion of a recent study that revealed attachment-anxious individuals show strong ambivalence toward a romantic partner (Mikulincer & others, 2010)
- Description of a recent study indicating that anxiously attached adults were more ambivalent about relationship commitment than their securely attached counterparts (Joel, MacDonald, & Shiomotomai, 2011)
- Inclusion of recent research indicating that insecurely attached adults had higher levels of depressive and anxious symptoms than securely attached adults (Jinyao & others, 2012)
- New research indicating that adults with an avoidant attachment style are less resistant to the temptations of infidelity, which is linked to their lower level of relationship commitment (DeWall & others, 2011)
- Description of recent research that found insecurely attached adults had a lower level of sexual satisfaction than securely attached adults (Brassard & others, 2012)
- Coverage of a recent meta-analysis confirming that adults who are securely attached have better close relationships than adults who are characterized by avoidant or anxious attachment (Li & Chan, 2012)
- Discussion of recent research on links between anxious and avoidant attachment styles and various health problems (McWilliams & Bailey, 2010)
- Description of recent research confirming Erikson's theory that identity development in adolescence is a precursor of intimacy in romantic relationships in emerging adulthood (Beyers & Seiffge-Krenke, 2010)
- Coverage of a recent meta-analysis that found identity development was linked to intimacy with the connection being stronger for men than women (Arseth & others, 2009)
- Inclusion of information from a recent meta-analysis in which males showed higher avoidance and lower anxiety about romantic love than females (Del Giudice, 2011)
- Description of a recent study of relationship dissolution in 18- to 35-year-olds and its links to psychological stress and life satisfaction (Rhoades & others, 2011)
- New coverage of Andrew Cherlin's (2009) recent analysis of how Americans move in and out of relationship styles more than is the case than in other countries
- Updated data on single adults in the United States—for the first time, in 2009 the number of U.S. single adults from 25 to 34 years of age surpassed the number of married adults (U.S. Census Bureau, 2010)
- New coverage of Bella DePaulo's (2006, 2011) conclusion that there is widespread bias against unmarried adults
- Discussion of a recent large-scale study of U.S. singles that found women are now more likely than men to want their independence in relationships (Match.com, 2011)

- Coverage of another large-scale survey that found many singles reported that they were looking for love, but either were ambivalent about getting married or did not want to get married (Match.com, 2012)
- Updated data on the continuing increase in the number of U.S. adults who are cohabiting (U.S. Census Bureau, 2010)
- Coverage of recent research indicating that the link between premarital cohabitation and marital instability in first marriages has weakened in recent cohorts (Manning & Cohen, 2012; Reinhold, 2010)
- Description of a recent study that found cohabiting relationships were characterized by more commitment, lower satisfaction, more negative communication, and more physical aggression than dating (noncohabiting) relationships (Rhoades, Stanley, & Markman, 2012)
- Inclusion of information from a recent study on the motivation for cohabiting, including gender differences regarding drawbacks in cohabiting (Huang & others, 2011)
- Further clarification of factors involved in whether cohabiting results in negative marital outcomes (Cherlin, 2009)
- Updated coverage of the continuing decline in the rate of marriage in the United States from 2007 to 2010 (Pew Research Center, 2010)
- Updated information about the percentage of individuals in the United States who have ever been married by age 40 (Pew Research Center, 2011)
- Revised and updated analysis of marriage trends, including recent research on the percentage of U.S. adults under age 30 who think marriage is headed for extinction and the percentage of those young adults who still plan to get married (Pew Research Center, 2010)
- Discussion of a recent study of premarital education in first and second marriages (Doss & others, 2009)
- Expanded and updated discussion on the benefits of a good marriage, including a recent study indicating that a lower proportion of time spent in marriage was linked to a likelihood of earlier death (Henretta, 2010)
- Description of a recent large-scale analysis of a number of studies that concluded married individuals have a survival advantage over unmarried individuals, and that marriage gives men a longevity boost more than it does women (Rendall & others, 2011)
- Updated coverage on the resumption of a decline in the rate of divorce in the United States from 2007 to 2009 following an increase from 2005 to 2007 (National Center for Health Statistics, 2010)
- New discussion of remarried families suggesting that some of these families are more adult-focused and others more child-focused (Anderson & Greene, 2011)
- Description of a recent study of stigma and same-sex relationships (Frost, 2011)
- New Figure 14.10 that lets students evaluate how effective they are in making bids for improving a relationship, and how they respond to bids based on leading expert John Gottman's work
- Updated statistic on the age at which U.S. women give birth to a child for the first time (U.S. Census Bureau, 2011)
- Updated data on the percentage of middle-aged adults in the United States who are classified as obese (National Center for Health Statistics, 2011)
- Description of a recent research review that concluded management of weight and resistance training were the best strategies for slowing down sarcopenia (Rolland & others, 2011)
- Coverage of a recent study linking low cognitive development in early adulthood to reduced lung functioning in middle age (Carroll & others, 2011)
- Recent analysis that indicates the link between reduced lung functioning and a decline in cognitive ability is likely related to the influence of lung functioning on brain structure and functioning (MacDonald, DeCarlo, & Dixon, 2011)
- Description of a recent research review indicating a link between chronic stress exposure and metabolic syndrome (Tamashiro & others, 2011)
- Inclusion of recent research results involving physical activity, metabolic syndrome, and cardiovascular disease (Broekuizen & others, 2011)
- Discussion of a recent study that found several factors in adolescence were related to the development of metabolic syndrome in middle-aged women and men (Gustaffson, Persson, & Hammerstrom, 2011)
- Description of a recent study that found middle-aged adults who slept less than six hours a night on average had an increased risk of developing stroke symptoms (Ruiter & others, 2012)
- Coverage of a recent study that found links between changes in the number of hours of sleep and cognitive functioning in middle-aged adults (Ferrie & others, 2011)
- New discussion of the increase in sleep-disordered breathing and restless legs syndrome in middle age (Polo-Kantola, 2011)
- Coverage of a recent study that found social support had a positive influence on reducing the link between cardiovascular disease and depression in aging African Americans (Heard & others, 2011)
- New description of the view of David Almeida and his colleagues (2011) regarding chronic stress and its potential damage to physiological functioning and health
- Discussion of a recent study indicating that aerobic exercise was related to the presence of a lower level of senescent T cells (Spielmann & others, 2011)
- New section on having a sense of control, which peaks in middle age, and its links to health and disease (Lachman, Neupert, & Agrigoroaei, 2011)
- Expanded and updated coverage of lifestyle factors during perimenopause and whether these factors are linked to the development of cardiovascular disease or chronic illnesses (ESHRE Capri Workshop Group, 2011)
- Updated statistics on mortality causes in middle age (Kochanek & others, 2011)
- Inclusion of information from a recent analysis indicating that diabetes has a higher mortality risk in Latinos than non-Latino Whites (Hunt & others, 2011)
- Description of a recent study indicating that increased estradiol and improved sleep but not hot flashes predicted enhanced mood during the menopausal transition (Joffe & others, 2011)
- Discussion of a recent research review indicating that there is no clear evidence that depressive disorders occur more frequently during menopause than at other times in a woman's reproductive life (Judd, Hickey, & Bryant, 2012)
- Description of the recent conclusion that reduction of cardiovascular disease occurs when HRT is initiated before 60 years of age and/or

Chapter 15: Physical and Cognitive Development in Middle Adulthood

- Inclusion of recent ideas from Patricia Cohen's (2012) book, *In Our Prime: The Invention of Middle Age*, that traces the emergence of the concept of middle age in the nineteenth century
- New commentary about taking a balanced approach to middle age, acknowledging the physical declines that characterize middle age but also recognizing that in recent decades an increasing number of middle-aged adults have engaged in healthier lifestyles

within 10 years of menopause and continued for six years or more (Hodis & others, 2012)

- Updated coverage of recent research studies in a number of countries indicating that coinciding with the decreased use of HRT in recent years, research is mixed regarding effects on the incidence of breast cancer (Baber, 2011; Chlebowski & others, 2010; Gompel & Santen, 2012; Howell & Evans, 2011)
- Update on the percentage of aging men who experience erectile dysfunction (Berookhim & Bar-Charma, 2011)
- Description of recent research that found how often middle-aged adults engaged in sexual intercourse, the quality of their sexual life, and their interest in sex was linked to how healthy they were (Lindau & Gavrilova, 2010)
- Expanded and updated coverage of the causes of increases in intelligence during middle age in recent cohorts (Schaie, 2011)
- Updated and expanded evaluation of the lack of age differences in everyday cognition from 20 to 75 years of age, and why there is no decline (Allaire, 2012; Salthouse, 2012)
- New discussion of whether there are differences between the job performance of young adults and middle-aged adults (Salthouse, 2012)
- Description of a recent study in which task persistence in early adolescence predicted career success in middle age (Andersson & Bergman, 2011)
- New commentary about the premature retirement of some middle-aged adults because of the recent economic downturn and recession (Lusardi, Mitchell, & Curto, 2012)
- New discussion of an analysis of research studies indicating a strong link between spirituality/religion and mortality (Lucchetti, Lucchetti, & Koenig, 2011)
- New coverage of the distinctions between religion, religiousness, and spirituality based on a recent analysis by Pamela King and her colleagues (2011)
- New discussion of links between having an increased sense of meaning in life and clearer guidelines for living one's life, enhanced motivation to take care of oneself and reach goals, a higher level of psychological well-being, and better health (Park, 2012b)

Chapter 16: Socioemotional Development in Middle Adulthood

- New discussion of a recent study linking generativity with positive social engagement in such contexts as family life and community involvement (Cox & others, 2010)
- Description of a recent study of older adult women's daily stressors and negative affect (Charles & others, 2010)
- New discussion of the manner in which different stressors—chronic and daily—affect health events (Piazza & others, 2010)
- New section on stress and gender that focuses on how women and men differ in the way they experience and respond to stressors (Almeida & others, 2011)
- Coverage of a recent study on gender differences in depressive symptoms and the social contexts linked to those symptoms in middle-aged and older women (Lin & others, 2011)
- New discussion of Shelley Taylor and her colleagues' (2011a, b, c; Taylor & others, 2000) concept that women are more likely to respond to stress with “tend and befriend” behavior than with the “fight or flight” reaction that characterizes men
- Inclusion of a recent research study on the stability and change in the Big Five personality factors indicating that the positive aspects of four

of the five factors (such as emotional stability) peaked between 40 and 60 years of age, while being conscientious continued to increase from early through late adulthood (Specht, Egloff, & Schukle, 2011)

- New coverage of research on how the Big Five factors of personality are linked to important aspects of a person's life, such as health (Turiano & others, 2012), intelligence (Sharp & others, 2010), achievement and work (Zhao, Seibert, & Lumpkin, 2010), and relationships (Donnellan, Larson-Rife, & Conger, 2005)
- New discussion of research on how the Big Five factors are related to historical changes (George, Helson, & John, 2011)
- Updated research on the greatest change in personality occurring in early adulthood (Lucas & Donnellan, 2011)
- Description of two recent studies that found middle-aged parents provide more support for their children than for their aging parents (Fingerman & others, 2011a, 2012)
- Coverage of recent research that indicated affection and support, reflecting solidarity, were more prevalent in intergenerational relationships than ambivalence was (Hogerbrugge & Komter, 2012)
- New discussion of how more than 40 percent of middle-aged children (mainly daughters) provide care for their aging parents or parents-in-law (Blieszner & Roberto, 2012; National Alliance for Caregiving, 2009)
- New coverage of the concept of the middle generation more often functioning as a “pivot” generation than a “sandwich” generation (Fingerman & Birditt, 2011; Fingerman & others, 2011b)

Chapter 17: Physical Development in Late Adulthood

- Added commentary about increased longevity being due not only to improvements in the health and well-being of adults but also to the substantial reduction in infant deaths in recent decades
- Updated statistics on life expectancy around the world, with Monaco having the highest estimated life expectancy at birth in 2011 (90 years of age) (Central Intelligence Agency, 2012)
- Updated statistics on life expectancy at birth and at 65 and 100 years of age today (U.S. Census Bureau, 2011)
- New commentary suggesting that the sex difference in longevity favoring women is still present but less pronounced in late adulthood and is especially linked to the higher level of cardiovascular disease in men than women (Yang & Kosloski, 2011)
- Updated information about the number of centenarians in the United States (U.S. Census Bureau, 2011)
- Coverage of a recent study indicating that the older the age group of centenarians (110 to 119 compared with 100 to 104, for example), the later the onset of diseases such as cancer and cardiovascular disease, as well as delayed functional decline (Andersen & others, 2012)
- Discussion of a recent study that found telomere length was linked to the quality of middle-aged and older adults' social relationships (Uchino & others, 2012)
- Updated and expanded material on telomeres and telomerase, including the increasing role they might play in stem cell regeneration (Piper & others, 2012; Shay, Reddel, & Wright, 2012)
- Inclusion of information about recent research interest in the role that exercise might play in reducing oxidative damage in cells (Muthusamy & others, 2012)
- New material on the allostatic load view of stress in the coverage of the hormonal stress theory of aging (Almeida & others, 2011)
- Discussion of a recent study that found a decrease in total brain volume and volume in key brain structures, such as the frontal lobes and hippocampus, from 22 to 88 years of age (Sherwood & others, 2011)

- Recent analysis indicating that the decrease in brain volume in healthy aging is likely due primarily to neuron shrinkage, lower numbers of synapses, and reduced length of axons and only to a minor extent to neuron loss (Fjell & Walhovd, 2010)
- Updated coverage of neurogenesis and aging, including a recent study in which coping with stress stimulated hippocampal neurogenesis in adult monkeys (Lyons & others, 2010)
- New commentary about the increased interest in the role that neurogenesis might play in neurodegenerative diseases such as Alzheimer disease, Parkinson disease, and Huntington disease (Walton & others, 2012)
- Discussion of recent research on variation in the link between cognitive processing and asymmetry in the prefrontal cortex in older adults (Manenti, Cotelli, & Miniussi, 2011)
- Updated information on links between unintended accidents and death in the elderly
- New main section on sleep in older adults
- New information about the percentage of older adults who have difficulty in sleeping (Neikrug & Ancoli-Israel, 2010)
- Discussion of recent research on sleep difficulties and lower cognitive functioning in older adults (Aly & Moscovitch, 2010; Pace-Schott & Spencer, 2011)
- Coverage of a recent study that found regular exercise improves the sleep profile of older adults (Lira & others, 2011)
- New commentary about reductions in the number of older adults, especially the young old, who have problems with erectile dysfunction because of the recent development of drugs such as Viagra (Lowe & Costabile, 2012; Rubio-Aurioles & others, 2012)
- Coverage of recent research on obesity and mobility restrictions in older adults, including the benefits of walking for obese older adults (Mullen & others, 2012; Vincent, Raiser, & Vincent, 2012)
- Inclusion of recent research indicating that a combined program of physical activity and weight loss were linked to preserving mobility in older, obese adults in poor cardiovascular health (Rejeski & others, 2011)
- Expanded coverage of factors involved in declining vision in elderly adults to include speed of visual processing and contrast sensitivity (Owsley, 2011; van Rijn & others, 2011)
- Description of recent research that found hearing decline was associated with a reduction in cognitive functioning in older adults (Lin, 2011)
- Description of a study linking macular degeneration to an increased risk of falls in older adults (Wood & others, 2011)
- Coverage of a recent national survey of the percentage of adults 70 years and older with hearing loss (Lin & others, 2011)
- Inclusion of recent research that found the severity of age-related hearing loss was linked to impaired activities in daily living (Gopinath & others, 2012)
- Coverage of a recent national study that found an increase in resistant hypertension in the United States in recent years, likely because of increases in obesity and the number of older adults (Roberie & Elliott, 2012)
- Description of a recent study of older adults that found total daily activity was linked to increased longevity across a four-year period (Buchman & others, 2012)
- Discussion of a recent study of postmenopausal women that found exercise buffered the effect of chronic stress on telomere length (Puterman & others, 2010)
- Description of two recent studies that revealed exercise training was linked to improvements in hippocampal functioning and memory in older adults (Erickson & others, 2011; Head, Singh, & Bugg, 2012)
- New data indicating that 28 percent of U.S. adults 60 years and age older were obese in 2011 (Centers for Disease Control and Prevention, 2012)
- New section on overweight and obesity and the current controversy regarding whether overweight adults live longer than normal-weight adults (Chang & others, 2012)
- Discussion of a recent study that found being overweight was consistently linked with the worst health profiles (Zajacova, Dowd, & Burgard, 2011)
- New coverage of the recent controversy about what the best measure of overweight/obesity is to predict longevity (de Hollander & others, 2012; Staiano & others, 2012)
- Description of recent research reviews indicating that taking antioxidant vitamin supplements does not reduce the risk of cancer and cardiovascular disease (Chen & others, 2012; Dolara, Bigagli, & Collins, 2012)
- Coverage of a recent meta-analysis that found dietary intake (not vitamin supplements) of antioxidants was associated with a reduced risk of Alzheimer disease (Li, Shen, & Ji, 2012)
- New Figure 17.16, Binge Drinking Through the Life Span, that provides recent data on developmental changes in binge drinking through the adult years (Centers for Disease Control and Prevention, 2012)

Chapter 18: Cognitive Development in Late Adulthood

- Update on 92-year-old Helen Small's cognitive fitness, including publication of her first book, *Why not? My seventy year plan for a college degree* (Small, 2011)
- Coverage of recent research indicating that especially as attentional demands increase, the greater distractibility of older adults is associated with less effective functioning in neural networks running through the frontal and parietal lobes of the brain that are involved in cognitive control (Campbell & others, 2012)
- Description of a recent study of sustained attention from early adulthood through late adulthood (Carriere & others, 2010)
- New discussion of a recent study of older adults that found the greater their variability in sustained attention the more likely they were to experience falls (O'Halloran & others, 2012)
- Discussion of a recent study showing a decline in executive attention in older adults (Mahoney & others, 2010)
- Description of a recent study that found the most common memory errors older adults reported having had in the last 24 hours were those involving tip-of-the-tongue (Ossher, Flegal, & Lustig, 2012)
- Coverage of a recent study indicating that working memory continued to decline from 65 to 89 years of age (Elliott & others, 2011)
- Discussion of research that found multitasking was especially disruptive to older adults' working memory, likely because of an interruption in retrieving information (Clapp & others, 2011)
- Description of a recent study that linked a reduction in decision-making quality in risky situations by older adults to declines in memory and processing speed (Henninger, Madden, & Huettel, 2010)
- Coverage of a recent study that found older adults who had a higher level of trans fat in their blood plasma showed a lower level of cognitive functioning (Bowman & others, 2012)
- Discussion of recent research across a 12-year period that found older adults who reduced their participation in lifestyle cognitive activities (using a computer and playing bridge, for example) showed subsequent

poorer cognitive functioning (semantic memory for example) (Small & others, 2012b). The poorer cognitive functioning was then linked to a lower level of engaging in social activities.

- New Figure 18.5 that shows an image of the prefrontal cortex
- Coverage of a recent study of older adults who engaged in a memory training program and how it affected their source memory and brain (Engvig & others, 2010)
- Discussion of two recent neuroimaging studies that found older adults' memory was better the less lateralized their brain activity was (Angel & others, 2011; Manenti, Cotelli, & Miniussi, 2011)
- New section on executive functioning in late adulthood and connections with discussions of executive functioning in earlier periods of development
- New coverage of Schaie's (2012) recent research regarding links between hippocampal and cognitive functioning from middle age to late adulthood
- Description of a recent study that found a higher level of cognitive stimulation at work and outside work was linked with improved cognitive functioning over a 10-year period for both young and older adults (Marque & others, 2010)
- Coverage of a recent study that concluded cognitive change before death is more accurately described as terminal decline than as terminal drop (MacDonald, Hulstsch, & Dixon, 2011)
- Description of a recent study of older adults that linked cardiorespiratory fitness to better performance on a cognitive task through recruitment of neural circuits in the prefrontal cortex and parietal regions of the brain that are involved in attentional control (Prakash & others, 2011)
- Expanded, updated, and revised content on interventions in cognitive aging to include the views of a consensus of leading experts at the Stanford Center for Longevity (2011)
- Discussion of a recent research review of dietary supplements and cognitive aging (Gorby, Brownawell, & Falk, 2010)
- Description of a recent study that found that when retelling a story older adults were less likely than younger adults to compress discourse and less likely to improve the cohesiveness of their narratives (Saling, Laroo, & Saling, 2012)
- New Figure 18.6: Percentage of 65- to 69-Year-Old Men and Women Working or Looking for Work in 1998 and 2008
- New Figure 18.7: Percentage of U.S. Adults 65 Years and Older in the Labor Force Who Are Working Full-Time or Part-Time
- Expanded commentary about older adults increasingly seeking a type of bridge employment that permits a gradual rather than a sudden movement out of the work context (Bowen, Noack, & Staudinger, 2011)
- New data on the average age of retirement for men (64 years) and women (62 years) in 2011 in the United States (Munnell, 2011)
- Discussion of a 2012 survey that indicated confidence regarding having enough money to live comfortably in retirement had dropped to 14 percent (Helman, Copeland, & VanDerhei, 2012)
- New commentary suggesting that the two main income concerns as individuals approach retirement are (1) drawing retirement income from savings, and (2) paying for health care expenses (Yakoboski, 2011)
- Coverage of a recent study that revealed different predictors for men's and women's psychological well-being after retirement (Kubicek & others, 2010)
- Description of a recent meta-analysis that found the following living conditions were associated with risk for depression in older adults:

living alone, in a nursing home, or in an institutionalized setting (Xiu-Ying & others, 2012)

- Expanded material on links between the ApoE4 gene and Alzheimer disease (Caselli, 2012; Ward & others, 2012)
- New discussion of K. Warner Schaie's (2012) recent research that found individuals who had the ApoE4 allele showed more cognitive decline beginning in middle age
- Coverage of a recent research study that found the ApoE4 gene creates a cascade of molecular signaling that causes blood vessels to become more porous and leak toxins into the brain and damage neurons (Bell & others, 2012)
- Description of recent research indicating that the presence of amyloid protein in the spinal fluid of individuals with mild cognitive impairment predicted whether they would develop Alzheimer disease within the next five years (De Meyer & others, 2010)
- New material indicating that one of the best strategies for preventing/intervening in the lives of people who are at risk for Alzheimer disease is to improve their cardiac functioning (Gelber, Launer, & White, 2012; Wagner & others, 2012)
- Coverage of a recent study that compared the family caregivers' perceptions of caring for someone with Alzheimer disease, cancer, or schizophrenia; the highest perceived burden was for Alzheimer disease (Papastavrou & others, 2012)
- Description of a Pew poll that found belief in God was higher in older adults than in any other age group (Pew Forum on Religion and Public Life, 2008)
- Inclusion of recent research that found a higher level of spirituality was linked to resilience in older women (Vahia & others, 2011a)
- Discussion of the religious interest of older African American adults (Williams, Keigher, & Williams, 2012)

Chapter 19: Socioemotional Development in Late Adulthood

- Expanded coverage of regrets in older adults, indicating that it is important not to dwell on them, especially since opportunities to undo earlier actions decline with age (Suri & Gross, 2012)
- Inclusion of recent research that revealed an important factor in older adults who showed a higher level of emotion regulation and successful aging was reduced responsiveness to regrets (Brassen & others, 2012)
- Discussion of a recent meta-analysis of 128 studies of reminiscence interventions in older adults with positive effects on a number of dimensions (Pinquart & Frostmeier, 2012)
- Description of a recent study that found older adults were happiest when they combined effortful social, physical, cognitive and, household activities with restful activities (Oerlemans, Bakker, & Veenhoven, 2011)
- Coverage of research by Laura Carstensen and her colleagues (2011) on links between aging and emotional well-being, emotional stability, and longevity
- Expanded discussion of emotion and aging indicating that compared to younger adults, older adults react less to negative circumstances, are better at ignoring irrelevant negative information, and remember more positive than negative information (Mather, 2012)
- Description of a recent study that found positive emotion increased from 50 years of age through the mid-eighties while anger was highest in the early twenties (Stone & others, 2011)
- Discussion of a recent study of younger and older adults' information-focus and emotion-focus in health-care decision making (Mikels & others, 2010)

- New coverage of the newly emerging field of developmental social neuroscience that involves connecting changes in the aging brain and older adults' emotion (Kasznik & Menchola, 2012; Samanez-Larkin & Carstensen, 2011)
- Inclusion of information about a recent study that found conscientiousness predicted greater longevity in older adults (Hill & others, 2011)
- Discussion of a recent study that revealed higher neuroticism was linked to older adults' medication non-adherence across a six-year time frame (Jerant & others, 2011)
- Description of a recent study indicating that elevated neuroticism, lower conscientiousness, and lower openness were related to increased risk of developing Alzheimer disease across a six-year period in older adults (Duberstein & others, 2011)
- Coverage of a recent study that found older adults had higher self-esteem when they had a youthful identity and more positive personal experiences (Westerhof, Whitbourne, & Freeman, 2012)
- Updated information about the percent of older adults living in poverty (Administration on Aging, 2011)
- Discussion of recent research on links between frequency of computer use among older adults and their levels of cognitive functioning (Tun & Lachman, 2010)
- Description of a study in which a 40-hour video game training program improved older adults' attention and memory (Smith & others, 2009)
- Coverage of a recent study that revealed when older adults played a brain training game about 15 minutes a day for 4 weeks, the experience improved their executive functioning and speed of processing information (Nouchi & others, 2012)
- Updated data on the percentage of older adults living in poverty (U.S. Census Bureau, 2010)
- Updated statistics on the percentage of older adults who are married and divorced (U.S. Census Bureau, 2011)
- Coverage of a recent study that found cohabiting older adults were less likely to receive partner care than married older adults were (Noel-Miller, 2011)
- Description of research on marital satisfaction in octogenarians and its ability to protect their happiness from the effects of daily fluctuations in perceived health (Waldinger & Schulz, 2010)
- New material on how in late adulthood married individuals are more likely to find themselves having to care for a sick spouse with a limiting health condition (Blieszner & Roberto, 2012)
- Updated and expanded discussion of social support and aging, including recent research linking a higher level of social support with reduced cognitive decline (Dickinson & others, 2011)
- Coverage of a recent study in which loneliness predicted increased blood pressure four years later in middle-aged and older adults (Hawley & others, 2010)
- Discussion of a recent study that linked social isolation in late adulthood to a greater risk of being inactive, smoking, and engaging in other health-risk behaviors (Shankar & others, 2011)
- Description of three recent longitudinal studies that found feelings of loneliness were linked with an earlier death (Luo & others, 2012; Perissinotto, Stijacic Cenzer, & Covinsky, 2012)
- Inclusion of information from a recent study that found older adults who volunteered for other-oriented reasons had a lower mortality risk but those who volunteered for self-oriented reasons had a mortality risk similar to that of nonvolunteers (Konrath & others, 2012)
- Discussion of a recent study that found the more older adults engaged in volunteering the happier they were (Dulin & others, 2012)
- New description of a research study that revealed maximizing one's psychological resources (self-efficacy and optimism) was linked to a higher quality of life in late adulthood (Bowling & Iliffe, 2011)
- Expanded discussion of successful aging, including information about the important agenda of continuing to improve our understanding of how people can live longer, healthier, more productive and satisfying lives (Beard & others, 2012)

Chapter 20: Death, Dying, and Grieving

- New discussion of Physician Orders for Life-Sustaining Treatment (POLST), a document that is more specific than other advanced directives in translating treatment preferences into medical orders (Fromme & others, 2012; Hammes & others, 2012)
- Inclusion of a recent Dutch study of passive and active euthanasia, including the percentage of dying persons who requested them and the percentage whose request was granted (Onwuteaka-Philipsen & others, 2010)
- Discussion of a recent Belgian study that found approximately 50 percent of the requests for euthanasia were granted (Van Wesemael & others, 2011)
- Description of a recent study in the Netherlands indicating that approximately 75 percent of the euthanasia requests came from cancer patients and the main reason for the requests was pain (van Alphen, Donker, & Marquet, 2010)
- Expanded and updated coverage of complicated grief or prolonged grief disorder, including its recent proposal for inclusion in DSM-V (Shear, 2012a, b)
- Description of recent research on aspects of death most likely to be linked to prolonged grief (Fujisawa & others, 2010)
- Discussion of a recent study that found individuals who were depressed were more likely to have complicated grief (Sung & others, 2011)
- Inclusion of research that found complicated grief was more likely to be present in older adults when the grief occurred in response to the death of a child or spouse (Newsom & others, 2011)
- New information about the percentage of women and men 65 years of age and older who are widowed in the United States (U.S. Census Bureau, 2011)
- Coverage of a recent large-scale study that found a link between loss of a spouse and risk of psychiatric visits as well as earlier death in individuals 75 years of age and older (Moller & others, 2011)
- Updated statistics and projections on the percentage of corpses being cremated in the United States (Cremation Association of North America, 2011)

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REVIEWERS

I owe a special debt of gratitude to the reviewers who provided detailed feedback on *Life-Span Development*.

Expert Consultants

Life-span development has become an enormous, complex field, and no single author can possibly be an expert in all areas of the field. To solve this problem, beginning with the sixth edition, I have sought the input of leading experts in many different areas of life-span development. This tradition continues in the fourteenth edition. These experts have provided me with detailed recommendations of new research to include in every period of the life span. The panel of experts is literally a *Who's Who* in the field of life-span development. The names of the expert consultants, their photographs, and biographies are on pages xiv–xvi.

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