

NINTH EDITION

Life-Span Development

JOHN W. SANTROCK



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John W. Santrock

University of Texas at Dallas



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LIFE-SPAN DEVELOPMENT, NINTH EDITION

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*With special appreciation to my parents,
Ruth and John Santrock*

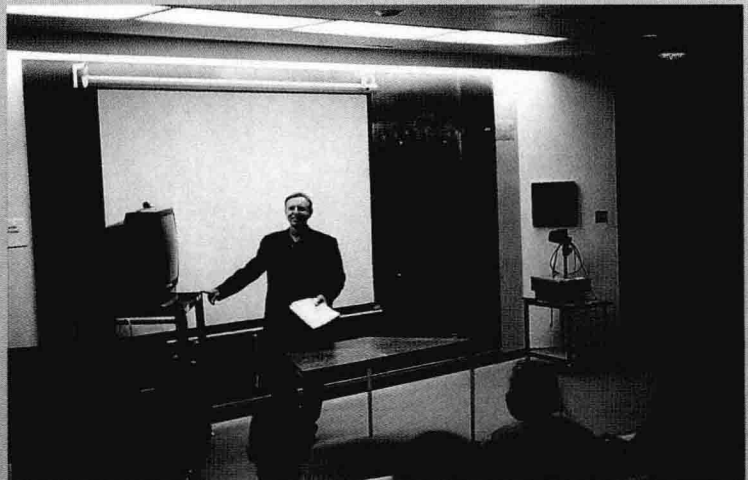
About the Author

John W. Santrock

John Santrock received his Ph.D. from the University of Minnesota in 1973. He taught at the University of Charleston and the University of Georgia before joining the Program in Psychology and Human Development at the University of Texas at Dallas, where he currently teaches a number of undergraduate courses. In 1982, John created the life-span development course at UT-Dallas and has taught it every year since then.

John has been a member of the editorial boards of *Child Development* and *Developmental Psychology*. His research on father custody is widely cited and used in expert witness testimony to promote flexibility and alternative considerations in custody disputes. John also has authored these exceptional McGraw-Hill texts: *Psychology* (7th edition), *Child Development* (9th edition), *Children* (7th edition), *Adolescence* (9th edition), and *Educational Psychology* (2nd edition).

For many years, John was involved in tennis as a player, teaching professional, and coach of professional tennis players. He has been married for more than 35 years to his wife, Mary Jo, who is a realtor. He has two daughters—Tracy, who is a technology specialist at Nortel in Raleigh, North Carolina, and Jennifer, who is a medical sales specialist at Medtronic. He has one granddaughter, Jordan, age 9. Tracy recently completed the New York Marathon, and Jennifer was in the top 100 ranked players on the Women's Professional Tennis Tour. In the last decade, John also has spent time painting expressionist art.



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

Preface

Preparing a new edition of *Life-Span Development* is both a joy and a challenge. I enjoy revising this text because the feedback from instructors and students on each edition has been consistently enthusiastic. The challenge of revising a successful text is always to continue meeting readers' needs and expectations, while keeping the material fresh and up to date. For the ninth edition of *Life-Span Development*, I have emphasized three kinds of revisions to meet this challenge. I have expanded coverage in key areas, incorporated the latest research and applications, and honed the elements of the book that make learning easier and more engaging. Here I describe the thrust of these changes in general terms. A list of chapter-by-chapter changes subsequently provides more detail.

CHANGES IN THE NINTH EDITION

"I am a huge fan of John Santrock's style and textbooks. I thought the 8th edition was very good. The 9th edition promises to be even better."

—JAMES REID, *Washington University in St. Louis*

Expanded Coverage of Adult Development, Aging, and Diversity

Instructors have said repeatedly that most life-span texts don't give enough attention to adult development and aging. In the ninth edition, I have significantly modified, expanded, and updated the content on adult development and aging, continuing a process I began some time ago. Examples of added coverage are new sections on stress in early adulthood (chapter 14), work in midlife (chapter 16), and self-esteem in late adulthood (chapter 20).

"I continue to believe that this book remains the most comprehensive life-span text suitable for undergraduates now available. The major efforts made in the 8th edition to give greater coverage and depth to the 75 percent of the life span spent in adulthood and old age have been continued in this edition. Most other life-span texts still think of development as practically ending by adolescence or early adulthood and treat the remainder of the life course as an appendix 'also to be mentioned.' John Santrock makes the conscious effort to understand the early parts of life as prologue for the much longer period of adulthood. Thus, he conveys to the reader early-on that we must understand the beginnings of human development in order to understand what happens later."

—K. WARNER SCHAE, *Pennsylvania State University*

Diversity is another very important aspect of life-span development, one that has come under increasing scrutiny from researchers in recent years. Every effort was made to explore diversity issues in a sensitive manner in every chapter of this edition. In addition to weaving diversity into discussions of life-span topics, I've included a Sociocultural Worlds of Development box in each chapter to highlight a diversity topic related to the chapter's content. New coverage of diversity includes discussions of early childhood education in Japan (chapter 8), attitudes toward corporal punishment in different cultures (chapter 9), the relationship of gender and ethnicity to obesity (chapter 14), and why people live longer in Okinawa (chapter 18).

"John Santrock seems to have a special manner about issues of culture and diversity. I have many different cultures represented in my classes and I have never had one express any difficulties with the manner in which these issues are discussed."

—BARBA PATTON, *University of Houston–Victoria*

"I find this text to be the most comprehensive and culturally inclusive text. The coverage of cultural issues allows me, without apology, to include lectures in my course covering cultural issues and human development."

—YVETTE HARRIS, *Miami University*

Research and Applications

Above all, a text on life-span development must include a solid research foundation. This edition of *Life-Span Development* presents the latest, most contemporary research on each period of the human life span and includes more than 800 citations from the past three years. For example, in chapter 5, I discuss new research on the stressful aspects of co-sleeping (Hunsley & Thoman, 2002); chapter 11 presents recent studies on gender differences in brain structure and function in middle childhood (Frederikse & others, 2000; Halpern, 2001; Swaab & others, 2001); and chapter 16 covers new research on hormonal changes in middle-aged men and women (Sommer, 2001), as well as on hormone replacement therapy for menopausal women (Hlatky & others, 2002).

This edition also includes many more graphs and tables of research data, so that students can see how data from research studies can be visually presented. There are more than 60 new figures and tables of data in *Life-Span Development*, ninth edition. Special care was taken to make sure that these illustrations

"I like the new 'research' sections that highlight the recent research being conducted on that specific topic."

—DEBBIE TINDELL, *Wilkes University*



CHAPTER 2

The Science of Life-Span Development

- Extensive reworking of section on research methods
- Reorganization of types of research; new headings are Descriptive Research, Correlational Research, and Experimental Research
- New discussion of naturalistic observation research (Crowley & others, 2001) and new figure 2.8, illustrating the results of this research
- Expanded and updated coverage of ethics
- Extensively revised discussion of Vygotsky's theory for better student understanding
- Two new photographs to illustrate how research might produce different results depending on how homogeneous or diverse the sample is

"The strengths of this chapter are the depths and clarity of explanations of theories."

—MYRA MARCUS, *Florida Gulf Coast University*



CHAPTER 3

Biological Beginnings

- Important new section, The Collaborative Gene, that discusses why DNA does not determine heredity in a completely independent manner (Gottlieb, 2002)
- Clear, improved discussion of mitosis and meiosis
- New section on genetic imprinting
- Expanded, updated coverage of sex-linked genes
- Updated description of test-tube babies with new recent research studies (Golombok, MacCallum, & Goodman, 2001; Hahn & DiPietro, 2001) and new figure 3.10 on research data
- Expanded, contemporary discussion of the Human Genome Project, including the finding that humans only have about 30,000 to 35,000 genes
- New high-interest figure 3.6: Exploring Your Genetic Future

"The chapter is really rather remarkable in the sheer amount of new and older useful and relevant information that it covers. . . . The chapter for the 9th edition is much improved . . . the breadth of coverage is really admirable and the examples are well chosen."

—GILBERT GOTTLIEB, *University of North Carolina*



CHAPTER 4

Prenatal Development and Birth

- Expanded coverage of teratogens in terms of dose, time of exposure, and genetic susceptibility
- Updated research on cocaine babies
- New teratology section on incompatibility of blood types
- New discussion of cultural variations in childbirth
- New coverage of small for date infants and their comparison to preterm infants
- New discussion of low-birthweight infant rates around the world and very up-to-date information about this topic, including new figure 4.7 (UNICEF, 2001).

"This is a strong chapter."

—LESLEE POLLINA, *Southeast Missouri State University*



CHAPTER 5

Physical Development in Infancy

- Considerable expansion of material on the development of the brain, including new figure 5.4 on synaptic pruning
- Extensive research updating of breast-feeding
- New figure 5.8 on plasticity in the human brain; also new, the fascinating story of Michael Rehbein's loss of his left hemisphere and how his right hemisphere started taking over the functions of speech
- New research on the stressful aspects of co-sleeping (Hunsley & Thoman, 2002)
- Expanded discussion of cultural variations in infants' motor skills

"This is an outstanding chapter. The strengths are the comprehensive coverage of milestones of motor development, excellent figures, and attention to issues of cultural diversity."

—MARIAN S. HARRIS, *University of Illinois, Chicago*



CHAPTER 6

Cognitive Development in Infancy

- New section on infants' understanding of physical reality, including new figure 6.3 on infants' knowledge of cause-and-effect
- New figure 6.5, illustrating the concepts of habituation and dishabituation with seven-hour-old infants
- Expanded, updated coverage of infant memory that focuses on Patricia Bower's recent research
- New section on language production and language comprehension

- New section on language sounds, including Patricia Kuhl's research; also new figure 6.7 on Kuhl's research showing EEG recording of a baby in her research on the transition from a universal to a specialized linguist
- New figure 6.9, summarizing language milestones in infancy
- New discussion of link between level of maternal language and vocabulary growth in infants, including new figure 6.10

"This chapter is a very good one; excellent."

—JULIA RUX, *Georgia Perimeter College*



CHAPTER 7 Socioemotional Development in Infancy

- New section on social referencing
- New section on self-regulation of emotion and coping in infancy
- New discussion of separation protest, including new figure 7.1, showing how separation protest peaks between 13 and 15 months of age in four different cultures
- Discussion of contextual influences on self-regulation of emotion in infancy
- Expanded coverage of the contemporary view of temperament in terms of positive affect and approach, negative affectivity, and effortful control (self-regulation)
- New section on gender, culture, and temperament including recent theory and research (Putnam, Sanson, & Rothbart, 2002)
- Expanded discussion of culture and attachment, including new figure 7.5 on infant attachment in the United States, Germany, and Japan

"The sections on temperament and attachment are very good. In general, this chapter is very strong."

—ALAN FOGEL, *University of Utah*



CHAPTER 8 Physical and Cognitive Development in Early Childhood

- Expansion of discussion on changes in the brain in early childhood, including recent research on neural circuits (Krimel & Golman-Rakic, 2001), and new figure 8.2 on the prefrontal cortex's role in attention and memory
- Expanded coverage of handedness, including new material on the origin and development of handedness, the brain and language, and links of handedness to other abilities
- Addition of recent research on the effects of environmental tobacco smoke on children's respiratory problems and levels of vitamin C (Maninno & others, 2001; Strauss, 2001)

- New figure 8.5, showing the main causes of death in young children in the United States (National Vital Statistics Reports, 2001)
- New discussion of recent study comparing children from a traditional school and children from a Vygotsky-based collaborative school (Matusov, Bell, & Rogoff, 2001)
- New study showing a link between speed of processing information and children's math and reading achievement (Hitch, Towse, & Hutton, 2001)
- Clearer presentation of theory of mind and new figure 8.15 on developmental changes in false belief (Wellman, Cross, & Watson, 2001)
- Expanded coverage of language development in young children

"This is a textbook that I have used for a number of years, and I continue to use it because it is written in an approachable way and its heart is in the right place."

—JEAN BERKO GLEASON, *Boston University*



CHAPTER 9 Socioemotional Development in Early Childhood

- New section on the development of self-conscious emotions, such as pride, shame, and guilt
- New section on co-parenting
- New section on punishment and discipline in discussion of parenting, including cross-cultural comparisons of punishment, and new figure 9.5 on recent cross-cultural research
- New figure 9.7 on Hetherington and Kelly's (2002) research on the effects of divorce on children's adjustment
- Extensive revision and updating of culture, ethnicity, and families, including recent research (Coll & Pachter, 2002; McAdoo, 2002)
- New Sociocultural Worlds of Development box, Acculturation and Ethnic Minority Parenting, based on Cynthia Garcia Coll and Lee Patcher's ideas
- New discussion of recent longitudinal study on the effects of watching educational TV programs on children's achievement and aggression (Anderson & others, 2001).

"The coverage in this chapter is excellent and the new work on punishment and TV are welcome updates."

—ROSS PARKE, *University of California–Riverside*



CHAPTER 10 Physical and Cognitive Development in Middle and Late Childhood

- Recent data on the percentage increase of U.S. children who are overweight (NHANES, 2001)

- New figure 10.1, showing the dramatic decrease in the percentage of children taking daily P.E. classes in the U.S. from 1969 to 1999 (Health Management Resources, 2001)
- New research on Ritalin, behavior management, and ADHD (Swanson & others, 2001)
- Updated, expanded discussion of whether there is evidence for general intelligence (Brody, 2001)
- Updated coverage of language development
- Substantial update of reading issues, including new figure 10.10 on the link between daily reading time and reading achievement
- Expanded coverage of bilingual education, including Kenji Hakuta's (2000) research on how long it takes for language minority students to learn to read and speak English
- New figure 10.11, showing the relation of age of arrival in the United States with grammar proficiency

"Overall, I think this is an excellent chapter. . . . All of the important topics in this area are covered and the topics are well-balanced."

—TORU SATO, *Shippensburg University*



CHAPTER 11

Socioemotional Development in Middle and Late Childhood

- New section on coping with stress, including recommendations on how to help children cope effectively with terrorist attacks, such as 9/11/01 (Gurwitch & others, 2001; La Greca & others, 2002)
- New material on gender differences in brain structure and function (Frederikse & others, 2001; Halpern, 2001; Swaab & others, 2001)
- New data presented from the National Assessment of Educational Progress (2001) on gender and science and gender and reading scores, including new figure 11.3 on reading
- Updated coverage of stepfamilies, including Hetherington's most recent findings (Hetherington & Kelly, 2002)
- New graph (figure 11.5) of bullying behaviors in the United States (Nansel & others, 2001)
- New graph of data (figure 11.6) of Stevenson's research on Asian and U.S. children's math achievement

"Very well done with extremely current reference material."

—MYRA MARCUS, *Florida Gulf Coast University*



CHAPTER 12

Physical and Cognitive Development in Adolescence

- Added recent cross-cultural data on the age of initiation of intercourse (Singh & others, 2000)

- New research on pathways to adversity in early childbearers (Jaffe, 2002)
- Revised and updated coverage of adolescent drug use (Johnston, O'Malley, & Bachman, 2001)
- New figure 12.7, Ecstasy and the adolescent's brain, including two brain scans, one of a normal adolescent brain, the other of an adolescent brain under the influence of Ecstasy
- New studies on links between parents, peers, and drug use in adolescence (National Center on Addiction and Substance Abuse, 2001; Simons-Morton & others, 2001). Also new longitudinal study focused on early childhood predictors of early onset of substance abuse in 10- to 12-year-olds (Kaplow & others, 2002)
- New overview of research on eating disorders in adolescents with descriptions of a number of recent studies (Dowda & others, 2001; Field & others, 2001; Graber & Brooks-Gunn, 2001), including new figure 12.8 on the dramatic increase in obesity in adolescence in the last 40 years
- New study on factors involved in binge eating in adolescent girls (Stice, Presnell, & Spangler, 2002)
- New graph (figure 12.9) on U.S. high school dropouts from different ethnic groups
- New section on how to improve U.S. high schools (Dornbusch & Kaufman, 2001; National Commission on the High School Senior Year, 2001)

"This chapter is so well written and the illustrations are so effective that I cannot add any suggestions to make it stronger."

—BARBA PATTON, *University of Houston–Victoria*



CHAPTER 13

Socioemotional Development in Adolescence

- New section on self-esteem, highlighting the decline in self-esteem during adolescence, especially for girls, including new figure 13.1 (Robins & others, in press)
- New discussion of gender differences in autonomy granting by parents based on recent research (Bumpus, Crouter, & McHale, 2001)
- Recent research comparing parent-adolescent conflict, autonomy, and peer orientation in Japanese and U.S. youth
- New research showing the link between active parental monitoring and guidance and more positive adolescent peer relations and lower drug use (Mounts, 2002)
- New figure 13.5 on developmental changes in the age of onset of romantic activity (Buhrmester, 2001)
- New coverage of research on dating and romantic involvement of Latinas (Raffaelli & Ontai, in press)
- New research on Fast Track, a intervention designed to prevent adolescent problems (The Conduct Problems Prevention Research Group, 2002)
- New research by Richard Savin-Williams (2001) showing that earlier statements about estimates of suicide by gay youth were exaggerated

- New research showing links between degree of acculturation and adolescent problems (Gonzales & others, in press; Roosa & others, 2002)

"The new additions to this chapter are excellent."

—ROSS PARKE, *University of California–Riverside*



CHAPTER 14

Physical and Cognitive Development in Early Adulthood

- Expanded discussion of emerging adulthood, including cross-cultural comparisons, and new figure 14.1 on self-perceptions of adult status
- Extensive new research on adapting to college, including stress in college, what makes college students very happy, the role of ethnicity and gender in health, and the roles of optimism and family factors in adapting to college (Brisette, Scheier, & Carver, 2002; Courtenay, McCreary, & Merighi, 2002; Diener & Seligman, 2002; Sax & others, 2001)
- Recent research on alcohol use during college and new coverage of cultural variations in alcohol use (Wechsler & others, 2002) and new figure 14.7 on the decline in substance use after college (Bachman & others, 2002)
- New figure 14.4 on the role of leptin in obesity
- New section on gender, ethnicity, and obesity
- Completely updated discussion of dual-career couples, including recent data on the increased time spent by men in family tasks; new figure 14.14 (Hyde & Barnett, 2001)

"This chapter rates an 'A.' The text covers the material very well. . . . The topics are most interesting and insightful. . . . The clarity is just what you would expect from John Santrock. . . . I have reviewed almost every other text available for this course and have not found one that I think would be comparable to John Santrock's text."

—BARBA PATTON, *University of Houston–Victoria*



CHAPTER 15

Socioemotional Development in Early Adulthood

- New figure 15.2 on the effects that mere exposure to someone has on the extent to which the person is liked
- New study on women's and men's views of love (Fehr & Broughton, 2001)
- Completely revamped discussion of loneliness, including new section on loneliness and technology
- New national survey on young adults' perceptions of marriage (Whitehead & Popenoe, 2001)
- New discussion of the anxiety that many childless, highly successful women have (Hewlett, 2002)

- New coverage of Hetherington's recent research on the six pathways that divorced adults follow (Hetherington & Kelly, 2002) and new discussion of recommended strategies for divorced adults

"This chapter covers a wider range of topics than some other texts and I consider that a strength."

—CYNTHIA REED, *Tarrant County College*



CHAPTER 16

Physical and Cognitive Development in Middle Adulthood

- New coverage of recent research suggesting that many people in their sixties and even seventies say that they are in middle age (Lachman, Maier, & Budner, 2000; National Council on Aging, 2000)
- New discussion of George Vaillant's recent presentation of new data from his longitudinal study of aging and new figure 16.1 based on this study that focuses on the link between characteristics in middle age and successful aging at 75 to 80 years of age
- New figure 16.2 on the relation of age and gender to cardiovascular disease and new section on lungs, including figure 16.3 on the relation of lung capacity to age and cigarette smoking
- New figure 16.4 on self-rated health at different points in adulthood (National Center for Health Statistics, 1999)
- New research on links between personality factors and health in a large longitudinal study (Aldwin & others, 2001)
- Updated, revised discussion of menopause and hormone replacement therapy
- New discussion of researcher Denise Park's (2001) view on why working memory declines in middle age
- New section on work in midlife

"I was very impressed with the quality of this chapter. . . . It is well conceived, well-written, and attractive."

—JAMES BIRREN, *University of California, Los Angeles*



CHAPTER 17

Socioemotional Development in Middle Adulthood

- New discussion of Vaillant's (2002) longitudinal study showing a link between generativity in middle age and marital quality at 75 to 80 years of age
- Discussion of recent longitudinal study of generativity and identity certainty from the thirties through the fifties (Stewart, Ostrove, & Helson, 2001), including two new figures, figure 17.1 and figure 17.2

- Updated information about the women in the Mills College study conducted by Ravenna Helson, who most recently were assessed in their fifties
- New research on link between earlier support by parents and later support of aging parents by adult children (Silverstein & others, 2002)
- New description of six characteristics in midlife, including purpose in life, autonomy, and environmental mastery, based on Ryff and Keyes' (1998) research, including new figure 17.5
- New discussion of recent study on gender differences in personality traits in 26 countries (Costa, Terracciano, & McCrae, 2001)
- Updated and expanded conclusions about stability and change in personality development in middle adulthood, including the view of Caspi and Roberts (2001) that stability increases in the fifties and sixties

"Both chapters 16 and 17 are great. . . . The coverage is very good."

—JAMES REID, *Washington University*



CHAPTER 18 **Physical Development in Late Adulthood**

- New Sociocultural Worlds of Development box on living longer in Okinawa, including new figure 18.2 (Willcox, Willcox, & Suzuki, 2002)
- New figure 18.4 on the decrease in brain lateralization in older adults based on recent research (Cabeza, 2002)
- New research from the McArthur Studies of Successful Aging on factors linked with improved physical functioning in older adults (Seeman & Chen, 2002)
- New discussion of ethnicity and U.S. death rates (Centers for Disease Control and Prevention, 2002)
- Recent data on the percentage of men from 65 to 80 and over 80 who have erection difficulties (Butler & Lewis, 2002)
- Expanded, updated discussion of calorie restriction and longevity (Goto & others, 2002; Johannes, 2002)
- Extensive updating of research on exercise and aging (Singh, 2002)
- New discussion of general slowdown in central nervous system functioning
- New dramatic figure 18.5 showing new brain cells generated in an adult male as a consequence of exercise and an enriched environment
- New research on the link between B vitamins and cognitive performance in older adults (Calvaresi & Bryan, 2001)

"In many ways, John Santrock has successfully translated the data on aging into terms that will be understandable to the undergraduate and has done an excellent job of presenting material that focuses on positive images of aging."

—SUSAN WHITBOURNE, *University of Massachusetts, Amherst*



CHAPTER 19 **Cognitive Development in Late Adulthood**

- New section on aging and attention that focuses on selective attention, divided attention, and sustained attention
- New section on prospective memory and the complexity of age changes involved
- New figure 19.2 on the relation of age to speed of processing as measured by reaction time and new research on the role of exercise in preventing cognitive decline in older adults (Yaffe & others, 2001)
- New discussion of longitudinal study on engaging in stimulating cognitive activities and its link to a lower incidence of Alzheimer's disease (Wilson & others, 2002)
- New research on the link between chronic mild depression in older adults and reduced immune system functioning (McGuire, Kiecolt-Glaser, & Glaser, 2002)
- New research on the link between gender, depression, and aging from 50 to 80, including new figure 19.5 (Barefoot & others, 2001)
- Discussion of new research on religiosity and church attendance in the last year of life (Idler, Stanislav, & Hays, 2001)

"This chapter provides a good overview of major issues and findings."

—JOANN MONTEPARE, *Emerson College*



CHAPTER 20 **Socioemotional Development in Late Adulthood**

- New figure 20.3 based on national study of changes in positive and negative emotions in older and younger adults
- New section on self-esteem, including discussion of recent large-scale study of developmental changes in self-esteem and new figure 20.5 (Robins & others, 2002)
- New section on changes in self-acceptance across the adult years, including new figure 20.6
- New section on personal control, highlighting Heckhausen's theory and research on primary and secondary control strategies and new figure 20.7 to illustrate developmental changes in these processes across the life span
- New material on links of depression and lower life satisfaction to not having a close friend as an older adult (Antonucci, Lansford, & Akiyama, 2001)

"This chapter has good coverage of major issues."

—JOANN MONTEPARE, *Emerson College*



CHAPTER 21

Death and Grieving

- New research on the economic consequences of widowhood in the U.S. and Germany (Hungerford, 2001)
- New research on the role of psychological and religious factors in the well-being of older adults after the death of a spouse (Fry, 2001)
- New discussion of palliative care (Chochinov, 2002)
- Update on Oregon's active euthanasia through 2001
- Increased coverage of end-of-death issues (Wilson & Truman, 2002)

"This chapter is another 'A.' It is very insightful about the last stanza of human life."

—BARBA PATTON, *University of Houston–Victoria*

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I very much appreciate the support and guidance provided to me by many people at McGraw-Hill. Steve Debow, President, and Thalia Dorwick, Editor-in-Chief, have been truly outstanding in their administration of the social sciences area of McGraw-Hill Higher Education. Steve Rutter, Publisher, has brought a wealth of publishing knowledge and vision to bear on improving this book. This is the second edition of *Life-Span Development* that Rebecca Hope has been the editor. She is a wonderful editor who has made very competent decisions and provided valuable advice about many aspects of the ninth edition. Judith Kromm, Senior Developmental Editor, orchestrated important changes in the manuscript. The new edition has considerably benefited also from the energy, organization, and wisdom of Kate Russillo, Editorial Assistant. Melissa Caughlin, Marketing Manager, has contributed in numerous creative ways to this book, as did Chris Hall, the former Marketing Manager. Marilyn Rothenberger was a superb project manager and Bea Sussman did a stellar job in copyediting the book.

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 ninth edition. The experts have provided me with detailed recommendations on new research to include for every period of the life span.

The panel of experts who contributed to the ninth edition literally is a who's who register for the field of life-span

development. Their photographs and biographies appear on pages xxvii through xxix. Here are the names and areas of expertise of those individuals, whose invaluable feedback and evaluations I gratefully acknowledge:

- K. Warner Schaie**, *Pennsylvania State University* One of the architects of the field of adulthood and aging
- James Birren**, *University of California, Los Angeles* A major contributor to the field of aging
- Yvette R. Harris**, *Miami University (Ohio)* An expert on the effects of ethnicity on cognitive, intellectual, academic, and occupational development
- Ross Parke**, *University of California at Riverside* One of the world's leading authorities on family processes and children's socioemotional development
- Jean Berko Gleason**, *Boston University* One of the world's leading experts on children's language development
- Scott Miller**, *University of Florida* An authority on children's cognitive development
- Carolyn Saarni**, *Sonoma State University* An expert on children's emotional development
- Alan Fogel**, *University of Utah* A leading figure in the study of infant development
- Susan Whitbourne**, *University of Massachusetts, Amherst* An expert on adult development and aging
- James Reid**, *Washington University* An expert on middle adulthood and aging
- Marian Underwood**, *University of Texas at Dallas* An expert on peer relations and socioemotional development
- Gilbert Gottlieb**, *University of North Carolina* A leading figure in biological foundations of development
- Barba Patton**, *University of Houston–Victoria* An expert on education
- Bert Hayslip**, *University of North Texas* An expert on the topics of death and grieving

GENERAL TEXT REVIEWERS

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SUPPLEMENTS

The ninth edition of *Life-Span Development* is accompanied by a comprehensive and fully integrated array of supplemental materials, both print and electronic, written specifically for instructors and students of life-span development. In addition, a variety of generic supplements are available to further aid in the teaching and learning of life-span development.

For the Instructor

Once again, based on comprehensive and extensive feedback from instructors, we spent considerable time and effort in expanding and improving the ancillary materials.

Instructor's Manual *Christine Malecki* This comprehensive manual provides a variety of useful tools for both seasoned instructors and those new to the life-span development course. The instructor's manual provides these tools, all of which are tied to the text's Learning Goals as appropriate:

- A focused introductory section on teaching life-span development. This section covers helpful material for new instructors, including course-planning ideas, teaching tips, and teaching resources.
- A Total Teaching Package Outline begins each chapter. It features a fully integrated outline to help instructors better use the many resources for the course. Most of the supplementary materials offered in conjunction with *Life-Span Development*, ninth edition, are represented in this outline and have been correlated to the main concepts in each chapter.
- Lecture suggestions, classroom activities, out-of-class activities, research projects, and critical thinking multiple-choice and essay exercises, all of which provide answers where appropriate.
- Classroom activities now provide logistics for required materials, such as accompanying handouts, varying group sizes, and time needed for completion.
- Greatly expanded chapter outlines and personal application projects where students can apply development topics to their own lives.
- Comprehensive transparency, film, and video resources, updated URLs for useful Internet sites, and chapter maps derived from the textbook that can be used for lecture aids.

Printed Test Bank *Angela Sadowski* This comprehensive Test Bank has once again been extensively revised to include over 2,400 multiple-choice and short-answer/brief essay questions for the text's 21 chapters. Each multiple-choice item is classified as factual, conceptual, or applied, as defined by Benjamin Bloom's taxonomy of educational objectives. New to this edition, each test question is now keyed to a chapter learning goal,

and the test bank notes which learning goal each item addresses. In response to customer feedback, this Test Bank also provides page references that indicate where in the text the answer to each item can be found.

PowerPoint Slide Presentations The chapter-by-chapter PowerPoint lectures for this edition integrate the text's learning goals, and provide key text material and illustrations, as well as additional illustrations and images not found in the textbook. These presentations are designed to be useful in both small- and large-lecture settings, and are easily tailored to suit an individual instructor's lectures.

Computerized Test Bank on CD-ROM The computerized test bank contains all of the questions in the printed test bank and can be used in both Windows and Macintosh platforms. This CD-ROM provides a fully functioning editing feature that enables instructors to integrate their own questions, scramble items, and modify questions.

The McGraw-Hill Developmental Psychology Image Bank This set of 200 full-color images was developed using the best selection of our human development art and tables and is available online for both instructors and students on the text's Online Learning Center.

Online Learning Center The extensive website designed specifically to accompany Santrock, *Life-Span Development*, ninth edition, offers an array of resources for both instructor and student. For instructors, the website includes a full set of PowerPoint Presentations, hotlinks for the text's topical web links that appear in margins and for the *Taking It to the Net* exercises that appear at the end of each chapter. These resources and more can be found by logging on to the website at <http://www.mhhe.com/santrockld9>.

Annual Editions—Developmental Psychology Published by Dushkin/McGraw-Hill, this is a collection of articles on topics related to the latest research and thinking in human development. These editions are updated annually and contain helpful features including a topic guide, an annotated table of contents, unit overviews, and a topical index. An Instructor's Guide containing testing materials is also available.

Sources: Notable Selections in Human Development This volume presents a collection of more than 40 articles, book excerpts, and research studies that have shaped the study of human development and our contemporary understanding of it. The selections are organized topically around major areas of study within human development. Each selection is preceded by a headnote that establishes the relevance of the article or study and provides biographical information about the author.

Taking Sides This debate-style reader is designed to introduce students to controversial viewpoints on the field's most crucial issues. Each issue is carefully framed for the student, and the pro and con essays represent the arguments of leading scholars and commentators in their fields. An Instructor's Guide containing testing material is available.

For the Student

Student Study Guide *Barba Patton* The revised Study Guide provides a complete introduction for students on how best to use each of the various study aids plus invaluable strategies on setting goals, benefiting from class, reading for learning, taking tests, and memory techniques in the section "Being an Excellent Student." Each Study Guide chapter begins with an outline of the chapter that also directs students to additional resources available for the study of specific topics or concepts. Resources referenced include the text's Online Learning Center and Student CD-ROM. The Study Guide also now thoroughly integrates the learning goals provided in each text chapter. The self-test sections contain multiple-choice questions and comprehensive essays with suggested answers, all of which are keyed to the learning goals. Self-tests also include matching sets on key people found in the text and word scramblers on key terms found in the text. Finally, the Study Guide also includes out-of-class projects such as personal application projects and Internet exercises that complement the revised student research projects and allow for more effective student learning.

Interactive CD-ROM for Students This user-friendly CD-ROM gives students an opportunity to test their comprehension of the course material. Prepared specifically to accompany Santrock, *Life-Span Development*, ninth edition, this CD-ROM provides 25 multiple-choice questions for each chapter to help students further test their understanding of key concepts. Feedback is provided for each question's answer. In addition, the CD-ROM provides a Learning Assessment questionnaire to help students discover which type of learner they are, of the three types covered in the program.

Online Learning Center The extensive website designed specifically to accompany Santrock, *Life-Span Development*, ninth edition, offers an array of resources for instructors and students. For students, the website includes interactive quizzing and exercises as well as hotlinks for the text's topical web links that appear in the margins and for the *Taking It to the Net* exercises that appear at the end of each chapter. An important new feature in this edition is the inclusion of many self-assessments related to chapter topics. These resources and more can be found by logging on to the website at <http://www.mhhe.com/santrockld9>.

Guide to Life-Span Development for Future Educators and ***Guide to Life-Span Development for Future Nurses*** These new course supplements help students apply the concepts of human development to education. They contain information, exercises, and sample tests designed to help students prepare for certification and understand human development from a professional perspective.

Resources for Improving Human Development This informative booklet provides descriptions and contact information for organizations and agencies that can provide helpful information, advice, and support related to particular problems or issues in life-span development. Recommended books and journals are also described and included. The booklet is organized by chronological order of the periods of the life span.

Expert Consultants



K. Warner Schaie

K. Warner Schaie was one of the pioneers who created and shaped the field of life-span development. He continues to be one of the world's leading experts on adult development and aging. Schaie is currently the Evan Pugh Professor of Human Development and Psychology and Director of the Gerontology Center at the Pennsylvania State University. He also

holds an appointment as Affiliate Professor of Psychiatry and Behavioral Science at the University of Washington. Schaie received his Ph.D. in psychology from the University of Washington and an honorary doctorate from the Friedrich-Schiller-University of Jena,

Germany. He was honored with the Kleemeier Award for Distinguished Research Contributions from the Gerontological Society of America and the Distinguished Scientific Contributions award from the American Psychological Association. He is author or editor of 32 books including the textbook *Adult Development and Aging* (with S. L. Willis) and the *Handbook of the Psychology of Aging* (with J. E. Birren), both of which are now in their fifth edition. He has directed the Seattle Longitudinal Study of cognitive aging since 1956 and is the author of more than 250 journal articles and chapters on the psychology of aging. His current research interest focuses on the life course of adult intelligence, its antecedents and modifiability, as well as methodological issues in the developmental sciences.



James E. Birren

James E. Birren is a pioneering figure in the field of life-span development and continues to be one of the world's leading experts on adult development and aging. He currently is Associate Director of the UCLA Center on Aging and is also Professor Emeritus of Gerontology and Psychology at the University of Southern California. Birren received his M.A. and

Ph.D. from Northwestern University, and has been a Visiting Scientist at the University of Cambridge, England, and a Fellow at the Center for Advanced Study in the Behavioral Sciences at Stanford University. Birren's career includes serving as founding Executive Director and Dean of the Gerontology Center at the University of Southern

California, as well as Past President of the Gerontological Society of America, the Western Gerontological Society, and the Division on Adult Development and Aging of the American Psychological Association. In addition, he has served as Chief of the Section on Aging of the National Institutes of Mental Health. His awards include the Brookdale Foundation Award for Gerontological Research; honorary doctorates from the University of Gothenberg, Sweden, Northwestern University, and St. Thomas University, Canada; the Gerontological Society Award for Meritorious Research; the Sandoz Prize for Gerontological Research; and the Canadian Association of Gerontology Award for Outstanding Contribution to Gerontology. Birren is Series Editor of the internationally recognized *Handbooks on Aging* and has published more than 250 academic journal articles and books.



Yvette R. Harris

Yvette R. Harris is a leading expert on diversity. She received her Ph.D. from the University of Florida and is currently a faculty member in the Department of Psychology at Miami University in Oxford, Ohio. Harris, a cognitive-developmental psychologist, has authored and co-authored articles on African-

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Ross Parke is one of the world's leading experts on socioemotional development. He currently is Distinguished Professor of Psychology and Director of the Center for Family Studies at the University of California, Riverside. Parke obtained his Ph.D. from the University of Waterloo, Ontario, Canada. He is a Past President of Division 7 (Developmental Psychology)

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rently is editor of the *Journal of Family Psychology*, having previously served as editor of *Developmental Psychology* and as associate editor of *Child Development*. He is the author of *Fatherhood* and co-author of two books: *Throwaway Dads* and *Child Psychology*, fifth edition, revised. Parke is also the co-editor of these books: *Family-Peer Relationships*; *Children in Time and Place*; and *Exploring Family Relationships with Other Social Contexts*. Parke is well known for his pioneering research on punishment, aggression, child abuse, and the father's role. His current work focuses on the links between family and peer social systems and on the impact of economic stress on families of diverse ethnic backgrounds.