

SIXTH EDITON



DEVELOPMENT
THROUGH THE

Lifespan

LAURA E. BERK

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Development Through the Lifespan

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Dedication

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in gratitude for wise counsel
and steadfast support

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Printer/Binder and Cover Printer: Courier, Corp., Kendallville, IN
Text Font: Minion
Cover Art: “In a Puzzling Light” by Harold Gregor

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Library of Congress Cataloging-in-Publication Data

Berk, Laura E.

Development through the lifespan / Laura E. Berk. — [Sixth edition].

pages cm

Includes bibliographical references and index.

ISBN 978-0-205-95760-6

1. Developmental psychology—Textbooks. I. Title.

BF713.B465 2014

155—dc23

2013006664

10 9 8 7 6 5 4 3 2 1

Student Edition

ISBN 10: 0-205-95760-9

ISBN 13: 978-0-205-95760-6

Instructor's Review Edition

ISBN 10: 0-205-95845-1

ISBN 13: 978-0-205-95845-0

À la Carte Edition

ISBN 10: 0-205-95869-9

ISBN 13: 978-0-205-95869-6

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About the Author

Laura E. Berk is a distinguished professor of psychology at Illinois State University, where she has taught human development to both undergraduate and graduate students for more than three decades. She received her bachelor's degree in psychology from the University of California, Berkeley, and her master's and doctoral degrees in child development and educational psychology from the University of Chicago. She has been a visiting scholar at Cornell University, UCLA, Stanford University, and the University of South Australia.

Berk has published widely on the effects of school environments on children's development, the development of private speech, and the role of make-believe play in development. Her research has been funded by the U.S. Office of Education and the National Institute of Child Health and Human Development. It has appeared in many prominent journals, including *Child Development*, *Developmental Psychology*, *Merrill-Palmer Quarterly*, *Journal of Abnormal Child Psychology*, *Development and Psychopathology*, and *Early Childhood Research Quarterly*. Her empirical studies have attracted the attention of the general public, leading to contributions to *Psychology Today* and *Scientific American*. She has also been featured on National Public Radio's *Morning Edition* and in *Parents Magazine*, *Wondertime*, and *Reader's Digest*.

Berk has served as a research editor of *Young Children* and as a consulting editor for *Early Childhood Research Quarterly*. Currently, she is associate editor of the *Journal of Cognitive Education and Psychology*. She is a frequent contributor to edited volumes on early childhood development, having recently authored chapters on the importance of parenting, on make-believe play, and on the kindergarten child. She has also written the article on social development for *The Child: An Encyclopedic Companion*; the article on Vygotsky for the *Encyclopedia of Cognitive Science*; and the chapter on storytelling as a teaching strategy for *Voices of Experience: Memorable Talks from the National Institute on the Teaching of Psychology* (Association for Psychological Science). She is coauthor of the forthcoming chapter on make-believe play and self-regulation in the *Sage Handbook of Play in Early Childhood*.

Berk's books include *Private Speech: From Social Interaction to Self-Regulation*; *Scaffolding Children's Learning: Vygotsky and Early Childhood Education*; *Landscapes of Development: An Anthology of Readings*; and *A Mandate for Playful Learning in Preschool: Presenting the Evidence*. In addition to *Development Through the Lifespan*, she is author of the best-selling texts *Child Development* and *Infants, Children, and Adolescents*, published by Pearson. Her book for parents and teachers is *Awakening Children's Minds: How Parents and Teachers Can Make a Difference*.

Berk is active in work for children's causes. In addition to service in her home community, she is a member of the national board of directors and chair of the Chicago advisory board of Jumpstart, a nonprofit organization that provides intensive literacy intervention to thousands of low-income preschoolers across the United States, using college and university students as interveners. Berk is a fellow of the American Psychological Association, Division 7: Developmental Psychology.



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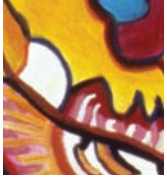
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A Personal Note to Students

My more than 30 years of teaching human development have brought me in contact with thousands of students like you—students with diverse college majors, future goals, interests, and needs. Some are affiliated with my own field, psychology, but many come from other related fields—education, sociology, anthropology, family studies, social service, nursing, and biology, to name just a few. Each semester, my students' aspirations have proved to be as varied as their fields of study. Many look toward careers in applied work—counseling, caregiving, nursing, social work, school psychology, and program administration. Some plan to teach, and a few want to do research. Most hope someday to become parents, whereas others are already parents who come with a desire to better understand and rear their children. And almost all arrive with a deep curiosity about how they themselves developed from tiny infants into the complex human beings they are today.

My goal in preparing this sixth edition of *Development Through the Lifespan* is to provide a textbook that meets the instructional goals of your course as well as your personal interests and needs. To achieve these objectives, I have grounded this book in a carefully selected body of classic and current theory and research. In addition, the text highlights the lifespan perspective on development and the interacting contributions of biology and environment to the developing person. It also illustrates commonalities and differences among ethnic groups and cultures and discusses the broader social contexts in which we develop. I have provided a unique pedagogical program that will assist you in mastering information, integrating various aspects of development, critically examining controversial issues, applying what you have learned, and relating the information to your own life.

I hope that learning about human development will be as rewarding for you as I have found it over the years. I would like to know what you think about both the field of human development and this book. I welcome your comments; please feel free to send them to me at Department of Psychology, Box 4620, Illinois State University, Normal, IL 61790.

Laura E. Berk



Preface for Instructors

My decision to write *Development Through the Lifespan* was inspired by a wealth of professional and personal experiences. First and foremost were the interests and concerns of hundreds of students of human development with whom I have worked in over three decades of college teaching. Each semester, their insights and questions have revealed how an understanding of any single period of development is enriched by an appreciation of the entire lifespan. Second, as I moved through adult development myself, I began to think more intensely about factors that have shaped and reshaped my own life course—family, friends, mentors, co-workers, community, and larger society. My career well-established, my marriage having stood the test of time, and my children launched into their adult lives, I felt that a deeper grasp of these multiple, interacting influences would help me better appreciate where I had been and where I would be going in the years ahead. I was also convinced that such knowledge could contribute to my becoming a better teacher, scholar, family member, and citizen. And because teaching has been so central and gratifying to my work life, I wanted to bring to others a personally meaningful understanding of lifespan development.

The years since *Development Through the Lifespan* first appeared have been a period of considerable expansion and change in theory and research. This sixth edition represents these rapidly transforming aspects of the field, with a wealth of new content and teaching tools:

- *Diverse pathways of change are highlighted.* Investigators have reached broad consensus that variations in biological makeup and everyday tasks lead to wide individual differences in paths of change and resulting competencies. This edition pays more attention to variability in development and to recent theories—including ecological, sociocultural, and dynamic systems—that attempt to explain it. Multicultural and cross-cultural findings, including international comparisons, are enhanced throughout the text. Biology and Environment and Cultural Influences boxes also accentuate the theme of diversity in development.
- *The lifespan perspective is emphasized.* As in previous editions, the lifespan perspective—development as lifelong, multidimensional, multidirectional, plastic, and embedded in multiple contexts—continues to serve as a unifying approach to understanding human change and is woven thoroughly into the text.
- *The complex bidirectional relationship between biology and environment is given greater attention.* Accumulating evidence on development of the brain, motor skills, cognitive and language competencies, temperament and personality, emotional and social understanding, and developmental problems underscores the way biological factors emerge in, are modified by, and share power with experience. Interconnections between biology and environment are integral to the lifespan perspective and are

revisited throughout the text narrative and in the Biology and Environment boxes with new and updated topics.

- *Inclusion of interdisciplinary research is expanded.* The move toward viewing thoughts, feelings, and behavior as an integrated whole, affected by a wide array of influences in biology, social context, and culture, has motivated developmental researchers to strengthen their ties with other fields of psychology and with other disciplines. Topics and findings included in this edition increasingly reflect the contributions of educational psychology, social psychology, health psychology, clinical psychology, neurobiology, pediatrics, geriatrics, sociology, anthropology, social service, and other fields.
- *The links among theory, research, and applications are strengthened.* As researchers intensify their efforts to generate findings relevant to real-life situations, I have placed even greater weight on social policy issues and sound theory- and research-based applications. Further applications are provided in the Applying What We Know tables, which give students concrete ways of building bridges between their learning and the real world.
- *The role of active student learning is made more explicit.* **TAKE A MOMENT...**, a feature built into the chapter narrative, asks students to think deeply and critically or to engage in an exercise or application as they read. Ask Yourself questions at the end of each major section have been thoroughly revised and expanded to promote four approaches to engaging actively with the subject matter—*Review, Connect, Apply, and Reflect*. This feature assists students in thinking about what they have learned from multiple vantage points. A new **LOOK AND LISTEN** feature asks students to observe what real children, adolescents, and adults say and do; speak with them or with professionals invested in their well-being; and inquire into community programs and practices that influence lifespan development. In addition, highlighting of key terms within the text narrative reinforces student learning in context.

Text Philosophy

The basic approach of this book has been shaped by my own professional and personal history as a teacher, researcher, and parent. It consists of seven philosophical ingredients that I regard as essential for students to emerge from a course with a thorough understanding of lifespan development. Each theme is woven into every chapter:

1. **An understanding of the diverse array of theories in the field and the strengths and shortcomings of each.** The first chapter begins by emphasizing that only knowledge of multiple theories can do justice to the richness of human

development. As I take up each age period and domain of development, I present a variety of theoretical perspectives, indicate how each highlights previously overlooked aspects of development, and discuss research that evaluates it. Consideration of contrasting theories also serves as the context for an evenhanded analysis of many controversial issues.

2. **A grasp of the lifespan perspective as an integrative approach to development.** I introduce the lifespan perspective as an organizing framework in the first chapter and refer to and illustrate its assumptions throughout the text, in an effort to help students construct an overall vision of development from conception to death.
3. **Knowledge of both the sequence of human development and the processes that underlie it.** Students are provided with a discussion of the organized sequence of development along with processes of change. An understanding of process—how complex combinations of biological and environmental events produce development—has been the focus of most recent research. Accordingly, the text reflects this emphasis. But new information about the timetable of change has also emerged. In many ways, the very young and the old have proved to be far more competent than they were believed to be in the past. In addition, many milestones of adult development, such as finishing formal education, entering a career, getting married, having children, and retiring, have become less predictable. Current evidence on the sequence and timing of development, along with its implications for process, is presented for all periods of the lifespan.
4. **An appreciation of the impact of context and culture on human development.** A wealth of research indicates that people live in rich physical and social contexts that affect all domains of development. Throughout the book, students travel to distant parts of the world as I review a growing body of cross-cultural evidence. The text narrative also discusses many findings on socioeconomically and ethnically diverse people within the United States. Furthermore, the impact of historical time period and cohort membership receives continuous attention. In this vein, gender issues—the distinctive but continually evolving experiences, roles, and life paths of males and females—are granted substantial emphasis. Besides highlighting the effects of immediate settings, such as family, neighborhood, and school, I make a concerted effort to underscore the influence of larger social structures—societal values, laws, and government policies and programs—on lifelong well-being.
5. **An understanding of the joint contributions of biology and environment to development.** The field recognizes more powerfully than ever before the joint roles of hereditary/constitutional and environmental factors—that these contributions to development combine in complex ways and cannot be separated in a simple manner. Numerous

examples of how biological dispositions can be maintained as well as transformed by social contexts are presented throughout the book.

6. **A sense of the interdependency of all domains of development—physical, cognitive, emotional, and social.** Every chapter emphasizes an integrated approach to human development. I show how physical, cognitive, emotional, and social development are interwoven. Within the text narrative, and in a special series of Ask Yourself questions at the end of major sections, students are referred to other sections of the book to deepen their grasp of relationships among various aspects of change.
7. **An appreciation of the interrelatedness of theory, research, and applications.** Throughout this book, I emphasize that theories of human development and the research stimulated by them provide the foundation for sound, effective practices with children, adolescents, and adults. The link among theory, research, and applications is reinforced by an organizational format in which theory and research are presented first, followed by practical implications. In addition, a current focus in the field—harnessing knowledge of human development to shape social policies that support human needs throughout the lifespan—is reflected in every chapter. The text addresses the current condition of children, adolescents, and adults in the United States and elsewhere in the world and shows how theory and research have combined with public interest to spark successful interventions. Many important applied topics are considered, such as family planning, infant mortality, maternal employment and child care, teenage pregnancy and parenthood, domestic violence, exercise and adult health, religiosity and well-being, lifelong learning, grandparents rearing grandchildren, caring for aging adults with dementia, adjustment to retirement, optimal aging, and palliative care for the dying.

Text Organization

I have chosen a chronological organization for *Development Through the Lifespan*. The book begins with an introductory chapter that describes the scientific history of the field, influential theories, and research strategies. It is followed by two chapters on the foundations of development. Chapter 2 combines an overview of genetic and environmental contexts into a single integrated discussion of these multifaceted influences on development. Chapter 3 is devoted to prenatal development, birth, and the newborn baby. With this foundation, students are ready to look closely at seven major age periods: infancy and toddlerhood (Chapters 4, 5, and 6), early childhood (Chapters 7 and 8), middle childhood (Chapters 9 and 10), adolescence (Chapters 11 and 12), early adulthood (Chapters 13 and 14), middle adulthood (Chapters 15 and 16), and late adulthood (Chapters 17 and 18). Topical chapters within each chronological division cover

physical development, cognitive development, and emotional and social development. The book concludes with a chapter on death, dying, and bereavement (Chapter 19).

The chronological approach assists students in thoroughly understanding each age period. It also eases the task of integrating the various domains of development because each is discussed in close proximity. At the same time, a chronologically organized book requires that theories covering several age periods be presented piecemeal. This creates a challenge for students, who must link the various parts together. To assist with this task, I frequently remind students of important earlier achievements before discussing new developments, referring back to related sections with page references. Also, chapters or sections devoted to the same topic (for example, cognitive development) are similarly organized, making it easier for students to draw connections across age periods and construct an overall view of developmental change.

New Coverage in the Sixth Edition

Lifespan development is a fascinating and ever-changing field of study, with constantly emerging new discoveries and refinements in existing knowledge. The sixth edition represents this burgeoning contemporary literature, with over 2,000 new citations. Cutting-edge topics throughout the text underscore the book's major themes. Here is a sampling:

CHAPTER 1: Updated Biology and Environment box on resilience • Updated section on developmental cognitive neuroscience • Increased coverage of evolutionary developmental psychology, with special attention to the adaptiveness of human longevity • Expanded illustrations at all levels of Bronfenbrenner's ecological model • New Social Issues: Health box on how family chaos undermines children's well-being • Updated Cultural Influences box on immigrant youths • Clarified explanation of sequential designs

CHAPTER 2: Updated Social Issues: Health box on the pros and cons of reproductive technologies • Updated section on development of adopted children • Enhanced attention to the impact of poverty on development • Expanded introduction to family influences on development, including the importance of coparenting • Updated research on neighborhood influences on children's physical and mental health • Current statistics on the condition of children, families, and the aged in the United States compared with other Western nations • Introduction to the concept of gene–environment interaction, with illustrative research findings • Expanded section on epigenesis, including new examples of environmental influences on gene expression • New Biology and Environment box highlighting a case of epigenesis—prenatal smoking modifies gene expression

CHAPTER 3: Enhanced attention to fetal brain development, sensory capacities, and behavior • Expanded and updated consideration of a wide range of teratogens • New evidence on the long-term consequences of emotional stress during pregnancy • New findings on older maternal age and prenatal and birth complications • Updated evidence on the contributions of doula support to the birth process and to newborn adjustment • New research on parenting and development of pre-term and low-birth-weight infants • Expanded and updated Social Issues: Health box on health care and other policies for parents and newborn babies, including cross-national infant mortality rates and the importance of generous parental leave • New Social Issues: Health box on the Nurse–Family Partnership—reducing maternal stress and enhancing child development through social support • Updated findings on the roles of impaired brain functioning, maternal smoking, and maternal drug abuse in sudden infant death syndrome (SIDS) • New evidence on the role of sleep in infant learning • New research on the impact of “proximal care”—extensive holding of young babies—in reducing infant crying • Updated research on touch sensitivity in newborns, including techniques for reducing infant stress to painful medical procedures

CHAPTER 4: Updated introduction to major methods of assessing brain functioning, including the EEG geodesic sensor net (GSN) and near-infrared spectroscopy (NIRS) • Updated discussion of advances in brain development, with special attention to the prefrontal cortex • New research on children adopted from Romanian orphanages, including neurobiological evidence bearing on the question of whether infancy is a sensitive period of development • Updated Cultural Influences box on cultural variation in infant sleeping arrangements • Updated section on breastfeeding • New dynamic systems research on development of walking and reaching • Updated evidence on how caregiving practices and physical surroundings contribute to development of infant motor skills • Enhanced attention to cultural influences—including infant sleep and motor development • New evidence on the perceptual narrowing effect in speech, music, and species-related face perception, and in gender- and race-related face perception • Expanded and updated section on intermodal perception, including its contributions to all aspects of psychological development

CHAPTER 5: Revised and updated section on infant and toddler imitation, revealing toddlers' ability to infer others' intentions • New section on symbolic understanding, including toddlers' developing grasp of words and pictures as symbolic tools • New Social Issues: Education box on baby learning from TV and video, including discussion of the video deficit effect • Revised section introducing information-processing concepts, including working memory, automatic processes, speed of processing, and executive function • New evidence on similarity of infant and toddler recall memory to memory processing in older children and adults • Revised and updated section on infant and toddler

categorization skills • New research on babies' joint attention and preverbal gestures, revealing their developing capacity to participate in cooperative processes necessary for effective communication • Updated findings on toddlers' earliest spoken words, including cultural variations • New findings on adult-child conversation and early vocabulary development, with special attention to SES differences

CHAPTER 6: New research on consequences of effortful control—the self-regulatory dimension of temperament—for cognitive, emotional, and social development • Special attention to the role of child genotype in parenting effects on temperament • Updated evidence on contextual factors that contribute to changes in attachment pattern over time • Revised and updated section on consequences of early availability of a consistent caregiver for attachment security, emotion processing, and adjustment, highlighting studies of children adopted from Eastern European orphanages • New evidence on contributions of fathers' play to attachment security and emotional and social adjustment • Updated findings on employed fathers' increased involvement in caregiving • Revised and updated Social Issues: Health box on child care, attachment, and later development • New evidence on toddlers' scale errors, with implications for body self-awareness • Updated research on the impact of sensitive caregiving on early self-development

CHAPTER 7: Increased attention to brain development in early childhood, with special attention to the prefrontal cortex and executive function • Updated statistics and research on the health status of U.S. young children, including tooth decay, childhood immunizations, and overall health status • New research on development of handedness, including cultural variations • Expanded attention to the impact of adult mealtime practices on children's eating behavior • New evidence on preschoolers' magical beliefs • Revised and updated section on preschoolers' understanding of symbol-real-world relations • New research on cultural variations in effective scaffolding • New Social Issues: Education box on children's questions as a catalyst for cognitive development • Updated discussion of gains in executive function in early childhood, including attention, inhibition, and planning • Recent findings on toddlers' early, implicit false-belief understanding and its relationship to preschoolers' explicit grasp of false belief • New evidence on cognitive attainments and social experiences that contribute to mastery of false belief • Enhanced discussion of SES differences in emergent literacy and math knowledge • Updated discussion of the effects of television and computers on academic learning • New research on preschoolers' strategies for word learning, including cultural variations

CHAPTER 8: Updated consideration of emotional self-regulation in early childhood, including the influence of temperament and parenting • Enhanced Cultural Influences box on ethnic differences in the consequences of physical punish-

ment • New section on the role of positive peer relations in school readiness • New longitudinal evidence on the relationship of early corporal punishment to later behavior problems • Enhanced attention to aggressive children's distorted view of the social world • Updated discussion of parent training programs to reduce child conduct problems, with special attention to Incredible Years • New Social Issues: Education box on young children's learning about gender through mother-child conversations • New section on cultural variations in communication within gender-segregated peer groups • New findings on the harmful impact of parental psychological control on children's adjustment • Updated consideration of consequences of child maltreatment, including new evidence on central nervous system damage

CHAPTER 9: Revised and updated section on overweight and obesity, including current U.S. prevalence rates, international comparisons, and coverage of contributing factors and consequences • Updated statistics on physical activity and fitness among U.S. school-age children • New sections on working-memory capacity and executive function in middle childhood, with implications for academic learning • Revised and updated Biology and Environment box on children with attention-deficit hyperactivity disorder • New research on development of planning in middle childhood • Updated evidence on the school-age child's theory of mind • Updated Social Issues: Education box on emotional intelligence • Discussion of secular trends in IQ, including implications for understanding ethnic variations in IQ • Attention to the impact of the U.S. No Child Left Behind Act on quality of U.S. education • Updated research on academic achievement of U.S. children with limited English proficiency • Expanded consideration of the impact of biased teacher judgments on ethnic minority children's academic achievement • New research on educational consequences of widespread SES and ethnic segregation in American schools • New Social Issues: Education box on magnet schools as a means of attaining equal access to high-quality education • Revised and updated section on U.S. academic achievement in international perspective, including comparisons with high-performing nations

CHAPTER 10: Enhanced attention to cultural variations in self-concept, with special attention to Asian versus U.S. comparisons • Updated research on parenting practices and children's achievement-related attributions, including the influence of cultural values on likelihood of developing learned helplessness • Expanded and updated section on children's understanding of diversity and inequality, development of racial and ethnic prejudice, and strategies for reducing prejudice • New findings on peer acceptance, including implications of peer-acceptance categories for bullying and victimization • Updated Biology and Environment box on bullies and their victims • New evidence on sex differences in development of gender identity in middle childhood • Expanded attention to the role of effective coparenting in children's

adjustment to parental divorce and remarriage • New research on the implications of self-care and after-school programs for school-age children's adjustment • Revised and updated Cultural Influences box on impact of ethnic and political violence on children • Updated findings on the consequences of child sexual abuse

CHAPTER 11: New section on adolescent brain development, focusing on the imbalance between the cognitive control network and the emotional/social network, with implications for teenage reward-seeking, emotional reactivity, and risk-taking • Updated evidence on teenage pregnancy and parenthood prevention and intervention strategies • New findings on key elements of effective sex education programs • Expanded and updated research on adolescent decision making • Updated consideration of factors contributing to sex differences in spatial and mathematical abilities, including cultural valuing of gender equality • New research on the impact of school transitions on adolescent adjustment • Enhanced consideration of teacher and peer supports for academic achievement • Updated discussion of factors contributing to dropping out of school • New Social Issues: Education box on the impact of “media multitasking” on learning

CHAPTER 12: New research on personal and social factors contributing to identity development in adolescence • Updated Social Issues: Health box on adolescent suicide • Updated evidence on adolescents' capacity to integrate moral, social-conventional, and personal concerns • Enhanced consideration of factors that promote moral identity, along with its relationship to moral behavior • Updated Social Issues: Education box on development of civic engagement • New evidence on gender intensification in adolescence • Updated section on parenting and adolescent autonomy, including research on immigrant families • Expanded and updated section on Internet friendships, with special attention to teenagers' use of social networking sites • New evidence on associations among parent, friend, and dating-partner relationships • New findings on long-term outcomes of multisystemic therapy for violent juvenile offenders

CHAPTER 13: Updated Biology and Environment box on telomere length as a marker of the impact of life circumstances on biological aging • New controversial evidence on the role of free radicals in aging • New research on SES variations in adult health • Updated statistics on the continued worldwide rise in adult overweight and obesity, including a revised Social Issues: Health box on environmental factors contributing to the U.S. obesity epidemic • New findings on negative stereotyping and discrimination experienced by overweight adults • Enhanced discussion of treatment of adult obesity • New evidence on the Internet as a contemporary way to initiate dating relationships • Updated research on psychological stress and unfavorable health outcomes • Enhanced discussion of the psychological impact of attending college, including bene-

fits of opportunities to interact with racially and ethnically diverse peers • New findings on the role of gender stereotypes in women's likelihood of choosing STEM careers • Updated Social Issues: Education box on men who choose nontraditional careers

CHAPTER 14: Revised and updated section on emerging adulthood, including new findings on emerging adults' religiosity, spirituality, and commitment to community service • Enhanced discussion of the controversy over whether emerging adulthood really is a distinct period of development • Special attention to parenting of emerging adults, including “helicopter parenting” • Updated consideration of increasingly flexible age-graded expectations for early adulthood life events • Updated consideration of factors that contribute to enduring romantic relationships • New findings on social networking sites as contexts for early adulthood friendship • Expanded discussion of the rise in average age of leaving the parental home • Increased attention to parent–young-adult child relationships • New findings on sharing of household tasks in dual-earner marriages, including cross-national evidence • Updated research on relationship qualities and communication skills contributing to marital satisfaction • Attention to the role of American individualism in the high U.S. divorce and remarriage rates • Updated consideration of the dramatic increase in never-married single parents, including SES and ethnic variations • New findings on career development in early adulthood, with special attention to obstacles to success faced by women and ethnic minorities • Enhanced discussion of combining work and family

CHAPTER 15: Updated Biology and Environment box on anti-aging effects of dietary calorie restriction • Updated evidence on the risks of hormone therapy to reduce physical discomforts of menopause • New survey findings on sexual activity of U.S. middle-aged adults • Updated sections on risk of cancer and heart disease in midlife • New research on gains in effective coping in middle adulthood • Updated evidence on the neurobiological basis of declines in processing speed with age • New findings on midlife changes in attention and memory • New Social Issues: Education box on how lessons in the art of acting improve memory in older adults

CHAPTER 16: Enhanced consideration of the contribution of parenting to generativity in midlife • New research on cultural variations in the link between midlife physical changes and psychological well-being • Updated Social Issues: Health box on grandparents rearing grandchildren in skipped-generation families • Updated evidence on relationships between middle-aged adults and their aging parents, including ethnic variations • New findings on midlife intergenerational assistance to both children and aging parents • Enhanced discussion of care of aging parents in poor health, with emphasis on gender disparities, ethnic variations, and emotional, physical, and financial consequences • New research on middle-aged

adults' use of social networking sites • Updated discussion of the glass ceiling in career advancement faced by women and ethnic minorities • New evidence on career change at midlife, with special attention to blue-collar workers • Discussion of the impact of the late-2000s recession on delayed retirement

CHAPTER 17: Updated statistics on life expectancy in late adulthood, including gender and SES variations • Updated international comparisons in healthy life expectancy • New research on brain development, including neurological changes that enable older adults to compensate for declines in central nervous system functioning • Updated findings on risk and protective factors associated with various aspects of physical aging • New evidence on cultural variations in older adults' sense of personal control, with implications for coping with physical impairments • Updated section on assistive technologies • Expanded and updated discussion of stereotypes of aging, including stereotype threat, with implications for physical and cognitive performance • Updated consideration of SES and ethnic variations in health in late adulthood • Expanded consideration of progress in compression of morbidity • Updated survey findings on sexual activity in late adulthood • New findings on neurological changes associated with Alzheimer's disease, including efforts to understand how abnormal amyloid and tau damage neurons • New evidence on genetic and environmental risks for Alzheimer's, and on protective factors, with special emphasis on diet, education, and physical activity • Updated Social Issues: Health box on interventions for caregivers of older adults with dementia, with increased attention to respite and caregiving skills • Enhanced attention to use of selective optimization with compensation in adapting to cognitive changes • Expanded discussion of episodic memory and prospective memory in late adulthood • Updated research on everyday problem solving in late adulthood • Enhanced consideration of the impact of cognitive

training on older adults' mental functioning, including broadening programs to target self-efficacy • New evidence on the rapid rise in use of computers and the Internet among older people

CHAPTER 18: Updated research on reminiscence in late adulthood • New findings on personality development in late adulthood, with special attention to openness to experience • Enhanced consideration of the benefits of spirituality and religiosity in late life, including a new Biology and Environment box on religious involvement and quality of life in the final year • Consideration of sustaining an effective person–environment fit in older adults' social contexts, including caregiving and housing arrangements • Updated discussion of socioemotional selectivity theory and related research • New research on divorce, remarriage, and cohabitation in late adulthood, including aging baby boomers' use of online dating services • Updated findings on late-life friendships • New evidence on retirement as a dynamic process with multiple transitions and wide individual variation

CHAPTER 19: Updated research on diverse factors influencing people's adaptation to dying • Updated discussion of dying at home, in hospitals, and in nursing homes • New findings on hospice, including reducing patient suffering, improving family functioning, and increasing ability to sustain patient care at home • Updated statistics on public attitudes toward passive euthanasia, voluntary active euthanasia, and assisted suicide • Updated statistics on Oregon residents dying by legalized assisted suicide • New research on the role of expressions of happiness and humor in bereavement adjustment • New evidence on bereavement interventions, with special attention to support groups based on the dual-process model of coping with loss

Acknowledgments

The dedicated contributions of many individuals helped make this book a reality and contributed to refinements and improvements in this sixth edition. An impressive cast of reviewers provided many helpful suggestions, constructive criticisms, and enthusiasm for the organization and content of the text. I am grateful to each one of them.

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 Lois J. Willoughby, Miami-Dade Community College
 Paul Wink, Wellesley College
 Deborah R. Winters, New Mexico State University

I cannot begin to express what a great pleasure it has been, once again, to work with Tom Pauken, Managing Editor, who oversaw the preparation of the third and fifth editions of *Development Through the Lifespan* and who returned to edit this sixth edition. His careful review of manuscript, keen organizational skills, responsive day-to-day communication, insightful suggestions, astute problem solving, interest in the subject matter, and thoughtfulness greatly enhanced the quality of the text and eased the immense challenges that arose during its preparation. Judy Ashkenaz, Development Editor, carefully reviewed and commented on each chapter, helping to ensure that every thought and concept would be clearly expressed and well-

developed. She also assisted with preparation of photo specifications, drafting of photo captions and chapter summaries, and, as needs arose, graciously took on extra tasks, including updating of diverse aspects of the Instructor's Resource Manual. Rachel Trapp, editorial assistant, has been extraordinary. In addition to spending countless hours searching, gathering, and organizing scholarly literature, she assisted with an array of editorial and production tasks. In a pinch, she diligently took over the responsibility of preparing and editing many of the assessments in MyDevelopmentLab (MDL).

The supplements package benefited from the talents and dedication of several other individuals. Leah Shriro revised the IRM brief summaries and lecture outlines. Kimberly Michaud prepared a superb Test Bank and many of the MDL assessments. Judy Ashkenaz designed and wrote a highly attractive PowerPoint presentation. Maria Henneberry and Phil Vandiver of Contemporary Visuals in Bloomington, IL, prepared an artistic and inspiring set of new video segments addressing diverse topics in lifespan development.

Donna Simons, Senior Production Project Manager, coordinated the complex production tasks that resulted in an exquisitely beautiful sixth edition. I am grateful for her keen aesthetic sense, attention to detail, flexibility, efficiency, and thoughtfulness. I thank Sarah Evertson for photo research that contributed to the exceptional photographs that illustrate the text narrative. Margaret Pinette provided outstanding copyediting and careful compilation of the references list, and Julie Hotchkiss offered meticulous proofreading.

Wendy Albert, Executive Marketing Manager, prepared the beautiful print ads and informative e-mails to the field about *Development Through the Lifespan*, Sixth Edition. She has also ensured that accurate and clear information reached Pearson Education's sales force and that the needs of prospective and current adopters were met.

A final word of gratitude goes to my family, whose love, patience, and understanding have enabled me to be wife, mother, teacher, researcher, and text author at the same time. My sons, David and Peter, grew up with my texts, passing from childhood to adolescence and then to adulthood as successive editions were written. David has a special connection with the books' subject matter as an elementary school teacher. Peter is now an experienced attorney, and his vivacious and talented wife Melissa joins a new generation of university faculty dedicated to creative teaching and research. All three continue to enrich my understanding through reflections on events and progress in their own lives. Last, but certainly not least, I thank my husband, Ken, for joining me on a wonderfully fulfilling lifespan journey. Over the past two decades, he willingly made room in our lives for the immensely demanding endeavor of authoring six editions of *Development Through the Lifespan*. His reflections, support, and astute counsel made all the difference during the project's final months.

Laura E. Berk

About the Cover Art



© KEN KASHIAN

Growing up in Depression-era Detroit, Harold Gregor displayed passion for and talent in art as a child. As early as kindergarten, he drew—so much so that he recalls being placed in the corner for wasting paper. He earned his bachelor’s degree from Wayne State University, master’s degree from Michigan State University, and Ph.D. in painting from Ohio State University. After a decade of teaching and experimentation with diverse artistic styles in southern California, he moved to the American heartland, joining the faculty at Illinois State University in 1970.

The Illinois farm and prairie landscape quickly became a compelling source of inspiration, and Gregor gained national prominence as one of the foremost American Photo-realist painters. Starting with close-up views of corn cribs, an indigenous form of architecture that fascinated him, he soon moved to panoramas and aerial views of prairie farm scenes, introducing imaginative colors that accentuated the unique and varied beauty of the Midwestern landscape.

In 2004, while climbing a cliff trail in Italy, he fell and broke his right wrist. With his right arm in a cast, he transformed an obstacle into an opportunity: He began to paint with his left hand. Once his right arm healed, he refined his left-handed paintings, eventually arriving at brilliantly colorful, abstract stylistic innovations he calls Vibrascapes, of which the dazzling, energetic image on the cover of this text is an example.

Now a distinguished professor emeritus, Harold Gregor is the epitome of “optimal aging.” At age 83, he continues to paint prolifically, prepare new exhibitions, and teach. On his studio wall can be found a Chinese proverb, which reads, “What happiness to wake alive again into this same gray world of winter rain.” He says the proverb reminds him that although growing older is accompanied by unforeseen challenges, he feels blessed each day to do what he enjoys most: painting and teaching.

Harold Gregor’s paintings have been shown at the White House, the American Embassy in Moscow, and the Art Institute of Chicago. They have won numerous prestigious awards and can be viewed in galleries across the United States. To learn more about his life and work, visit www.hgregor.com; and watch the video segment, *Creativity in Late Life*, that accompanies this text.

Legend for Photos Accompanying Sofie's Story

Sofie's story is told in Chapters 1 and 19, from her birth to her death. The photos that appear at the beginning of Chapter 1 follow her through her lifespan and include family members of two succeeding generations.

Page 2

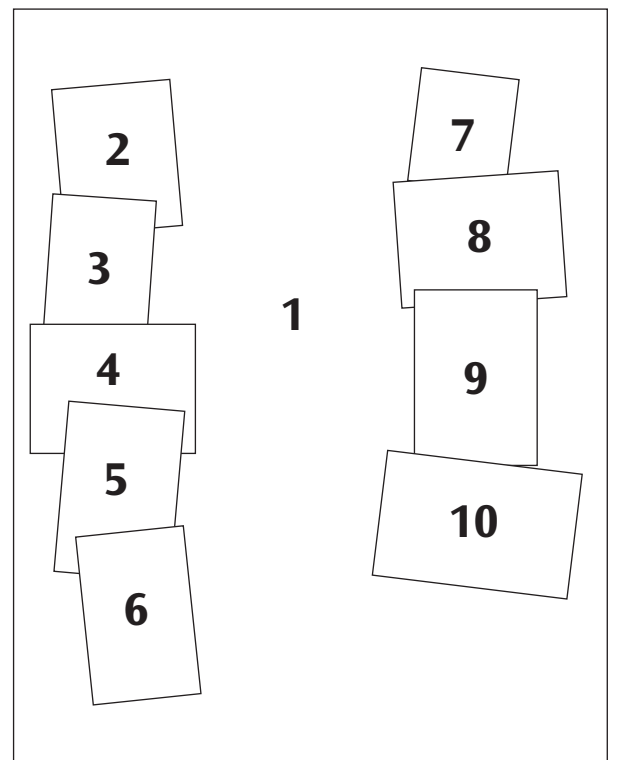
1. Sofie, age 18, high school graduation in 1926.
2. Sofie as a baby, with her mother in 1908.
3. Sofie, age 6, with her brother, age 8, in 1914.
4. Sofie's German passport.
5. Sofie, age 60, and daughter Laura on Laura's wedding day in 1968.
6. Sofie and Phil in 1968, less than two years before Sofie died.
7. Sofie's grandsons, David and Peter, ages 5 and 2, children of Laura and Ken.
8. Laura, Ken, and sons Peter and David, ages 10 and 13, on the occasion of David's Bar Mitzvah in 1985.
9. Peter and Melissa on their wedding day in 2007.
10. Laura, Ken, sons David and Peter, and Peter's wife Melissa, with acclaimed pianist Awadagin Pratt, at the naming of a Pratt Foundation piano scholarship in Sofie's memory.

Page 3

Sofie, age 61, and her first grandchild, Ellen, October 1969, less than three months before Sofie died.

Page 4

Sofie and Phil in their mid-thirties, during World War II, when they became engaged.



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*Development
Through the
Lifespan*

chapter 1



This photo essay chronicles the life course and family legacy of Sofie Lentschner. It begins in 1908 with Sofie's infancy and concludes in 2012, four decades after Sofie's death, at an event celebrating the naming of a piano scholarship in her memory. For a description of each photo, see the legend on page xxv.

BOTTOM RIGHT PHOTO COURTESY OF SANDY WHISKER
ALL OTHER PHOTOS COURTESY OF LAURA E. BERK

History, Theory, and Research Strategies



Sofie Lentschner was born in 1908, the second child of Jewish parents who made their home in Leipzig, Germany, a city of thriving commerce and cultural vitality. Her father was a successful businessman and community leader, her mother a socialite well-known for her charm, beauty, and hospitality. As a baby, Sofie displayed the determination and persistence that would be sustained throughout her life. She sat for long periods inspecting small objects with her eyes and hands. The single event that consistently broke her gaze was the sound of the piano in the parlor. As soon as Sofie could crawl, she steadfastly pulled herself up to finger its keys and marveled at the tinkling sounds.

By the time Sofie entered elementary school, she was an introspective child, often ill at ease at the festive parties that girls of her family's social standing were expected to attend. She immersed herself in schoolwork, especially in mastering foreign languages—a regular part of German elementary and secondary education. Twice a week, she took piano lessons from the finest teacher in Leipzig. By the time Sofie graduated from high school, she spoke English and French fluently and had become an accomplished pianist. Whereas most German girls of her time married by age 20, Sofie postponed serious courtship in favor of entering the university. Her parents began to wonder whether their intense, studious daughter would ever settle into family life.

Sofie wanted marriage as well as education, but her plans were thwarted by the political turbulence of her times. When Hitler rose to power in the early 1930s, Sofie's father, fearing for the safety of his wife and children, moved the family to Belgium. Conditions for Jews in Europe quickly worsened. The Nazis plundered Sofie's family home and confiscated her father's business. By the end of the 1930s, Sofie had lost contact with all but a handful of her aunts, uncles, cousins, and childhood friends, many of whom (she later learned) were herded into cattle cars and transported to Nazi death camps at Auschwitz and Chelmno, Poland. In 1939, as anti-Jewish laws and atrocities intensified, Sofie's family fled to the United States.

As Sofie turned 30, her parents, convinced that she would never marry and would need a career for financial security, agreed to support her return to school. Sofie earned two master's degrees, one in music and the other in librarianship. Then, on a blind date, she met Philip, a U.S. army officer. Philip's calm, gentle nature complemented Sofie's intensity and worldliness. Within six months they married. During the next four

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chapter outline

A Scientific, Applied, and Interdisciplinary Field

Basic Issues

- Continuous or Discontinuous Development?
- One Course of Development or Many?
- Relative Influence of Nature and Nurture?

The Lifespan Perspective: A Balanced Point of View

- Development Is Lifelong
- Development Is Multidimensional and Multidirectional
- Development Is Plastic
- Development Is Influenced by Multiple, Interacting Forces

■ BIOLOGY AND ENVIRONMENT Resilience

■ CULTURAL INFLUENCES The Baby Boomers Reshape the Life Course

Scientific Beginnings

- Darwin: Forefather of Scientific Child Study
- The Normative Period
- The Mental Testing Movement

Mid-Twentieth-Century Theories

- The Psychoanalytic Perspective
- Behaviorism and Social Learning Theory
- Piaget's Cognitive-Developmental Theory

Recent Theoretical Perspectives

- Information Processing
- Developmental Cognitive Neuroscience
- Ethology and Evolutionary Developmental Psychology
- Vygotsky's Sociocultural Theory
- Ecological Systems Theory

■ SOCIAL ISSUES: HEALTH Family Chaos Undermines Children's Well-Being

Comparing and Evaluating Theories

Studying Development

- Common Research Methods
- General Research Designs
- Designs for Studying Development

■ CULTURAL INFLUENCES Immigrant Youths: Adapting to a New Land

Ethics in Lifespan Research

years, two daughters and a son were born. Soon Sofie's father became ill, his health shattered by the strain of uprooting his family and losing his home and business. After months of being bedridden, he died of heart failure.

When World War II ended, Philip left the army and opened a small men's clothing store. Sofie divided her time between



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caring for the children and helping Philip in the store. Now in her forties, she was a devoted mother, but few women her age were still rearing young children. As Philip struggled with the business, he spent longer hours at work, and Sofie often felt lonely. She rarely touched the piano, which brought back painful memories of youthful life plans shattered by war.

Sofie's sense of isolation and lack of fulfillment frequently left her short-tempered. Late at night, she and Philip could be heard arguing.

As Sofie's children grew older, she returned to school again, this time to earn a teaching credential. Finally, at age 50, she launched a career. For the next decade, she taught German and French to high school students and English to newly arrived immigrants. Besides easing her family's financial difficulties, she felt a gratifying sense of accomplishment and creativity. These years were among the most energetic and satisfying of Sofie's life. She had an unending enthusiasm for teaching—for transmitting her facility with language, her first-hand knowledge of the consequences of hatred and oppression, and her practical understanding of how to adapt to life in a new land. She watched her children, whose young lives were free of the trauma of war, adopt many of her values and commitments and begin their marital and vocational lives at the expected time.

Sofie approached age 60 with an optimistic outlook. Released from the financial burden of paying for their children's college education, she and Philip looked forward to greater leisure. Their affection and respect for each other deepened.

Once again, Sofie began to play the piano. But this period of contentment was short-lived.

One morning, Sofie awoke and felt a hard lump under her arm. Several days later, her doctor diagnosed cancer. Sofie's spirited disposition and capacity to adapt to radical life changes helped her meet the illness head on. She defined it as an enemy to be fought and overcome. As a result, she lived five more years. Despite the exhaustion of chemotherapy, Sofie maintained a full schedule of teaching duties and continued to visit and run errands for her elderly mother. But as she weakened physically, she no longer had the stamina to meet her classes. Bedridden for the last few weeks, she slipped quietly into death with Philip at her side. The funeral chapel overflowed with hundreds of Sofie's students. She had granted each a memorable image of a woman of courage and caring.

One of Sofie's three children, Laura, is the author of this book. Married a year before Sofie died, Laura and her husband, Ken, often think of Sofie's message, spoken privately to them on the eve of their wedding day: "I learned from my own life and marriage that you must build a life together but also a life apart. You must grant each other the time, space, and support to forge your own identities, your own ways of expressing yourselves and giving to others. The most important ingredient of your relationship must be respect."

Laura and Ken settled in a small midwestern city, near Illinois State University, where they have served on the faculty for many years—Laura in the Department of Psychology, Ken in the Department of Mathematics. They have two sons, David and Peter, to whom Laura has related many stories about Sofie's life and who carry her legacy forward. David shares his grandmother's penchant for teaching; he is a second-grade teacher. Peter, a lawyer, shares his grandmother's love of music, and his wife Melissa—much like Sofie—is both a talented linguist and a musician. When Peter asked Melissa to marry him, he placed a family heirloom on her finger—an engagement ring that had belonged to Sofie's aunt, who perished in a Nazi death camp. In the box that held the ring, Melissa found a written copy of the story of Sofie and her family.

Sofie also had a lifelong impact on many of her students. A professor of human development wrote to Laura:

I have been meaning to contact you for a while. I teach a class in lifespan development. When I opened the textbook and saw the pictures of your mother, I was very surprised. I took high school German classes from her. I remember

her as a very tough teacher who both held her students accountable and cared about each and every one of us. That she was an incredible teacher did not really sink in until I went to Germany during my [college] years and was able to both understand German and speak it.

Sofie's story raises a wealth of fascinating issues about human life histories:

- What determines the features that Sofie shares with others and those that make her unique—in physical characteristics, mental capacities, interests, and behaviors?
- What led Sofie to retain the same persistent, determined disposition throughout her life but to change in other essential ways?
- How do historical and cultural conditions—for Sofie, the persecution that destroyed her childhood home, caused the death of family members and friends, and led her family to flee to the United States—affect well-being throughout life?
- How does the timing of events—for example, Sofie's early exposure to foreign languages and her delayed entry into marriage, parenthood, and career—affect development?
- What factors—both personal and environmental—led Sofie to die sooner than expected?

These are central questions addressed by **developmental science**, a field of study devoted to understanding constancy and change throughout the lifespan (Lerner, 2006; Lerner et al., 2011). Great diversity characterizes the interests and concerns of investigators who study development. But all share a single goal: to identify those factors that influence consistencies and transformations in people from conception to death. ●



A Scientific, Applied, and Interdisciplinary Field

The questions just listed are not merely of scientific interest. Each has *applied*, or practical, importance as well. In fact, scientific curiosity is just one factor that led the study of development to become the exciting field it is today. Research about development has also been stimulated by social pressures to improve people's lives. For example, the beginning of public education in the early twentieth century led to a demand for knowledge about what and how to teach children of different ages. The interest of the medical profession in improving people's

health required an understanding of physical development, nutrition, and disease. The social service profession's desire to treat emotional problems and to help people adjust to major life events, such as divorce, job loss, war, natural disasters, or the death of loved ones, required information about personality and social development. And parents have continually sought expert advice about child-rearing practices and experiences that would promote their children's well-being.

Our large storehouse of information about development is *interdisciplinary*. It has grown through the combined efforts of people from many fields of study. Because of the need for solutions to everyday problems at all ages, researchers from psychology, sociology, anthropology, biology, and neuroscience have joined forces in research with professionals from education, family studies, medicine, public health, and social service, to name just a few. Together, they have created the field as it exists today—a body of knowledge that is not just scientifically important but also relevant and useful.



Basic Issues

Developmental science is a relatively recent endeavor. Studies of children did not begin until the late nineteenth and early twentieth centuries. Investigations into adult development, aging, and change over the life course emerged only in the 1960s and 1970s (Elder & Shanahan, 2006). But speculations about how people grow and change have existed for centuries. As they combined with research, they inspired the construction of *theories* of development. A **theory** is an orderly, integrated set of statements that describes, explains, and predicts behavior. For example, a good theory of infant-caregiver attachment would (1) *describe* the behaviors of babies of 6 to 8 months of age as they seek the affection and comfort of a familiar adult, (2) *explain* how and why infants develop this strong desire to bond with a caregiver, and (3) *predict* the consequences of this emotional bond for future relationships.

Theories are vital tools for two reasons. First, they provide organizing frameworks for our observations of people. In other words, they *guide and give meaning* to what we see. Second, theories that are verified by research provide a sound basis for practical action. Once a theory helps us *understand* development, we are in a much better position to know *how to improve* the welfare and treatment of children and adults.

As we will see, theories are influenced by the cultural values and belief systems of their times. But theories differ in one important way from mere opinion or belief: A theory's continued existence depends on *scientific verification*. Every theory must be tested using a fair set of research procedures agreed on by the scientific community, and the findings must endure, or be replicated over time.

Within the field of developmental science, many theories exist, offering very different ideas about what people are like and

how they change. The study of development provides no ultimate truth because investigators do not always agree on the meaning of what they see. Also, humans are complex beings; they change physically, mentally, emotionally, and socially. No single theory has explained all these aspects. But the existence of many theories helps advance knowledge as researchers continually try to support, contradict, and integrate these different points of view.

This chapter introduces you to major theories of human development and research strategies used to test them. In later chapters, we will return to each theory in greater detail and will also introduce other important but less grand theories. Although there are many theories, we can easily organize them by looking at the stand they take on three basic issues: (1) Is the course of development continuous or discontinuous? (2) Does one course of development characterize all people, or are there many possible courses? (3) What are the roles of genetic and environmental factors—nature and nurture—in development? Let's look closely at each of these issues.

Continuous or Discontinuous Development?

How can we best describe the differences in capacities among infants, children, adolescents, and adults? As Figure 1.1 illustrates, major theories recognize two possibilities.

One view holds that infants and preschoolers respond to the world in much the same way as adults do. The difference between the immature and mature being is simply one of *amount or complexity*. For example, when Sofie was a baby, her perception of a piano melody, memory for past events, and ability to categorize objects may have been much like our own. Perhaps her only limitation was that she could not perform

these skills with as much information and precision as we can. If this is so, then changes in her thinking must be **continuous**—a process of gradually augmenting the same types of skills that were there to begin with.

According to a second view, infants and children have *unique ways of thinking, feeling, and behaving*, ones quite different from adults. If so, then development is **discontinuous**—a process in which new ways of understanding and responding to the world emerge at specific times. From this perspective, Sofie could not yet perceive, remember, and categorize experiences as a mature person can. Rather, she moved through a series of developmental steps, each of which has unique features, until she reached the highest level of functioning.

Theories that accept the discontinuous perspective regard development as taking place in **stages**—*qualitative* changes in thinking, feeling, and behaving that characterize specific periods of development. In stage theories, development is like climbing a staircase, with each step corresponding to a more mature, reorganized way of functioning. The stage concept also assumes that people undergo periods of rapid transformation as they step up from one stage to the next. In other words, change is fairly sudden rather than gradual and ongoing.

Does development actually occur in a neat, orderly sequence of stages? This ambitious assumption has faced significant challenges. Later in this chapter, we will review some influential stage theories.

One Course of Development or Many?

Stage theorists assume that people everywhere follow the same sequence of development. Yet the field of human development is becoming increasingly aware that children and adults live in

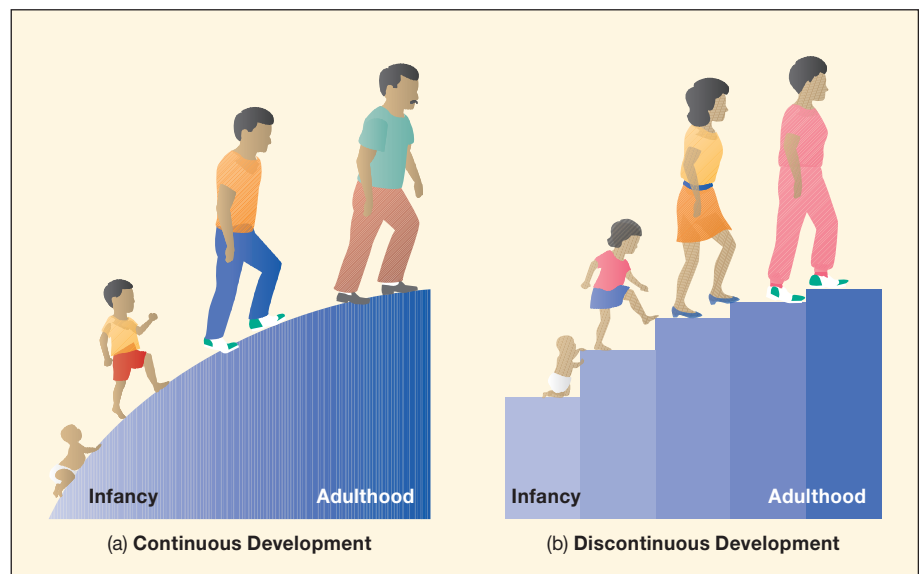


FIGURE 1.1 Is development continuous or discontinuous? (a) Some theorists believe that development is a smooth, continuous process. Individuals gradually add more of the same types of skills. (b) Other theorists think that development takes place in discontinuous stages. People change rapidly as they step up to a new level and then change very little for a while. With each new step, the person interprets and responds to the world in a reorganized, qualitatively different way. As we will see later, still other theorists believe that development is characterized by both continuous and discontinuous change.

distinct **contexts**—unique combinations of personal and environmental circumstances that can result in different paths of change. For example, a shy individual who fears social encounters develops in very different contexts from those of an outgoing agemate who readily seeks out other people (Kagan, 2003, 2008a). Children and adults in non-Western village societies have experiences in their families and communities that differ sharply from those of people in large Western cities. These different circumstances foster different intellectual capacities, social skills, and feelings about the self and others (Shweder et al., 2006).

As you will see, contemporary theorists regard the contexts that shape development as many-layered and complex. On the personal side, they include heredity and biological makeup. On the environmental side, they include both immediate settings—home, school, and neighborhood—and circumstances more remote from people’s everyday lives: community resources, societal values, and historical time period. Finally, researchers today are more conscious than ever before of cultural diversity in development.

Relative Influence of Nature and Nurture?

In addition to describing the course of human development, each theory takes a stand on a major question about its underlying causes: Are genetic or environmental factors more important? This is the age-old **nature–nurture controversy**. By *nature*, we mean the hereditary information we receive from our parents at the moment of conception. By *nurture*, we mean the complex forces of the physical and social world that influence our biological makeup and psychological experiences before and after birth.

Although all theories grant roles to both nature and nurture, they vary in emphasis. Consider the following questions: Is the developing person’s ability to think in more complex ways largely the result of a built-in timetable of growth, or is it primarily influenced by stimulation from parents and teachers? Do children acquire language rapidly because they are genetically predisposed to do so or because parents teach them from an early age? And what accounts for the vast individual differences among people—in height, weight, physical coordination, intelligence, personality, and social skills? Is nature or nurture more responsible?

A theory’s position on the roles of nature and nurture affects how it explains individual differences. Theorists who emphasize *stability*—that individuals who are high or low in a characteristic (such as verbal ability, anxiety, or sociability) will remain so at later ages—typically stress the importance of *heredity*. If they regard environment as important, they usually point to *early experiences* as establishing a lifelong

pattern of behavior. Powerful negative events in the first few years, they argue, cannot be fully overcome by later, more positive ones (Bowlby, 1980; Sroufe, Coffino, & Carlson, 2010). Other theorists, taking a more optimistic view, see development as having substantial **plasticity** throughout life—as open to change in response to influential experiences (Baltes, Lindenberger, & Staudinger, 2006; Overton, 2010).

Throughout this book, you will see that investigators disagree, often sharply, on the question of *stability versus plasticity*. Their answers often vary across *domains*, or aspects, of development. Think back to Sofie’s story, and you will see that her linguistic ability and persistent approach to challenges were stable over the lifespan. In contrast, her psychological well-being and life satisfaction fluctuated considerably.



The Lifespan Perspective: A Balanced Point of View

So far, we have discussed basic issues of human development in terms of extremes—solutions favoring one side or the other. But as we trace the unfolding of the field, you will see that the positions of many theorists have softened. Today, some theorists believe that both continuous and discontinuous changes occur. Many acknowledge that development has both universal features and features unique to each individual and his or her contexts. And a growing number regard heredity and environment as inseparably interwoven, each affecting the potential of the other to modify the child’s traits and capacities (Gottlieb, 2007; Overton, 2010; Rutter, 2007).

These balanced visions owe much to the expansion of research from a nearly exclusive focus on the first two decades

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Since the 1960s, researchers have moved from focusing only on child development to investigating development over the entire life course. This woman and her companions on a river rafting trip illustrate the health, vitality, and life satisfaction of many contemporary older adults.

of life to include development during adulthood. In the first half of the twentieth century, it was widely assumed that development stopped at adolescence. Infancy and childhood were viewed as periods of rapid transformation, adulthood as a plateau, and aging as a period of decline. The changing character of the North American population awakened researchers to the idea that gains in functioning are lifelong.

Because of improvements in nutrition, sanitation, and medical knowledge, *average life expectancy* (the number of years an individual born in a particular year can expect to live) gained more in the twentieth century than in the preceding 5,000 years. In 1900, life expectancy was just under age 50; today, it is 78.5 years in the United States and even higher in most other industrialized nations, including neighboring Canada. Life expectancy continues to increase; in the United States, it is predicted to reach 84 years in 2050. Consequently, there are more older adults—a worldwide trend that is especially striking in developed countries. People age 65 and older accounted for about 4 percent of the U.S. population in 1900, 7 percent in 1950, and 13 percent in 2010 (U.S. Census Bureau, 2012b).

Older adults are not only more numerous but also healthier and more active. Challenging the earlier stereotype of the withering person, they have contributed to a profound shift in our view of human change and the factors that underlie it. Increasingly, researchers are envisioning *development as a dynamic system*—a perpetually ongoing process, extending

from conception to death, that is molded by a complex network of biological, psychological, and social influences (Lerner et al., 2011). A leading dynamic systems approach is the **lifespan perspective**. Four assumptions make up this broader view: that development is (1) lifelong, (2) multidimensional and multidirectional, (3) highly plastic, and (4) affected by multiple, interacting forces (Baltes, Lindenberger, & Staudinger, 2006; Smith & Baltes, 1999; Staudinger & Lindenberger, 2003).

Development Is Lifelong

According to the lifespan perspective, no single age period is supreme in its impact on the life course. Rather, events occurring during each major period, summarized in Table 1.1, can have equally powerful effects on future change. Within each period, change occurs in three broad domains: *physical*, *cognitive*, and *emotional/social*, which we separate for convenience of discussion (see Figure 1.2 for a description of each). Yet, as you already know from reading the first part of this chapter, these domains are not really distinct; they overlap and interact.

Every age period has its own agenda, its unique demands and opportunities that yield some similarities in development across many individuals. Nevertheless, throughout life, the challenges people face and the adjustments they make are highly diverse in timing and pattern, as the remaining assumptions make clear.

TABLE 1.1 Major Periods of Human Development

PERIOD	APPROXIMATE AGE RANGE	BRIEF DESCRIPTION
Prenatal	Conception to birth	The one-celled organism transforms into a human baby with remarkable capacities to adjust to life outside the womb.
Infancy and toddlerhood	Birth–2 years	Dramatic changes in the body and brain support the emergence of a wide array of motor, perceptual, and intellectual capacities and first intimate ties to others.
Early childhood	2–6 years	During the “play years,” motor skills are refined, thought and language expand at an astounding pace, a sense of morality is evident, and children establish ties with peers.
Middle childhood	6–11 years	The school years are marked by improved athletic abilities; more logical thought processes; mastery of basic literacy skills; advances in self-understanding, morality, and friendship; and the beginnings of peer-group membership.
Adolescence	11–18 years	Puberty leads to an adult-sized body and sexual maturity. Thought becomes abstract and idealistic and school achievement more serious. Adolescents begin to establish autonomy from the family and to define personal values and goals.
Early adulthood	18–40 years	Most young people leave home, complete their education, and begin full-time work. Major concerns are developing a career, forming an intimate partnership, and marrying, rearing children, or establishing other lifestyles.
Middle adulthood	40–65 years	Many people are at the height of their careers and attain leadership positions. They must also help their children begin independent lives and their parents adapt to aging. They become more aware of their own mortality.
Late adulthood	65 years–death	People adjust to retirement, to decreased physical strength and health, and often to the death of a spouse. They reflect on the meaning of their lives.



FIGURE 1.2 Major domains of development. The three domains are not really distinct. Rather, they overlap and interact.

Development Is Multidimensional and Multidirectional

Think back to Sofie's life and how she continually faced new demands and opportunities. From a lifespan perspective, the challenges and adjustments of development are *multidimensional*—affected by an intricate blend of biological, psychological, and social forces.

Lifespan development is also *multidirectional*, in at least two ways. First, development is not limited to improved performance. Rather, at every period, it is a joint expression of growth and decline. When Sofie directed her energies toward mastering languages and music as a school-age child, she gave up refining other skills to their full potential. Later, when she chose to become a teacher, she let go of other career options. Although gains are especially evident early in life, and losses during the final years, people of all ages can improve current skills and develop new ones, including skills that compensate for reduced functioning (Lang, Rohr, & Williger, 2010; Scheibe, Freund, & Baltes, 2007). Most older adults, for example, devise compensatory techniques for dealing with their increasing memory failures. They may rely more on external aids, such as calendars and lists, or generate new internal strategies, such as visualizing exactly where they will be and what they will be doing when they must keep an appointment or take medication (de Frias & Dixon, 2005).

Second, besides being multidirectional over time, change is multidirectional within each domain of development. Although some qualities of Sofie's cognitive functioning (such as memory) probably declined in her mature years, her knowledge of both English and French undoubtedly grew throughout her life. And she also developed new forms of thinking. For example, Sofie's wealth of experience and ability to cope with diverse problems led her to become expert in practical matters—a quality of reasoning called *wisdom*. Recall Sofie's wise advice to Laura and Ken on the eve of their wedding day. We will consider the development of wisdom in Chapter 17. Notice in these examples how the lifespan perspective includes both continuous and discontinuous change.

Development Is Plastic

Lifespan researchers emphasize that development is plastic at all ages. Consider Sofie's social reserve in childhood and her decision to study rather than marry as a young adult. As new opportunities arose, Sofie moved easily into marriage and child-bearing in her thirties. And although parenthood and financial difficulties posed challenges to Sofie's and Philip's happiness, their relationship gradually became richer and more fulfilling. In Chapter 17, we will see that intellectual performance also remains flexible with advancing age. Older adults respond to