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ISBN 978-1-0718-5194-4 90000
9 781071 851944

SAGE college publishing

Kuther

LIFESPAN DEVELOPMENT Third Edition

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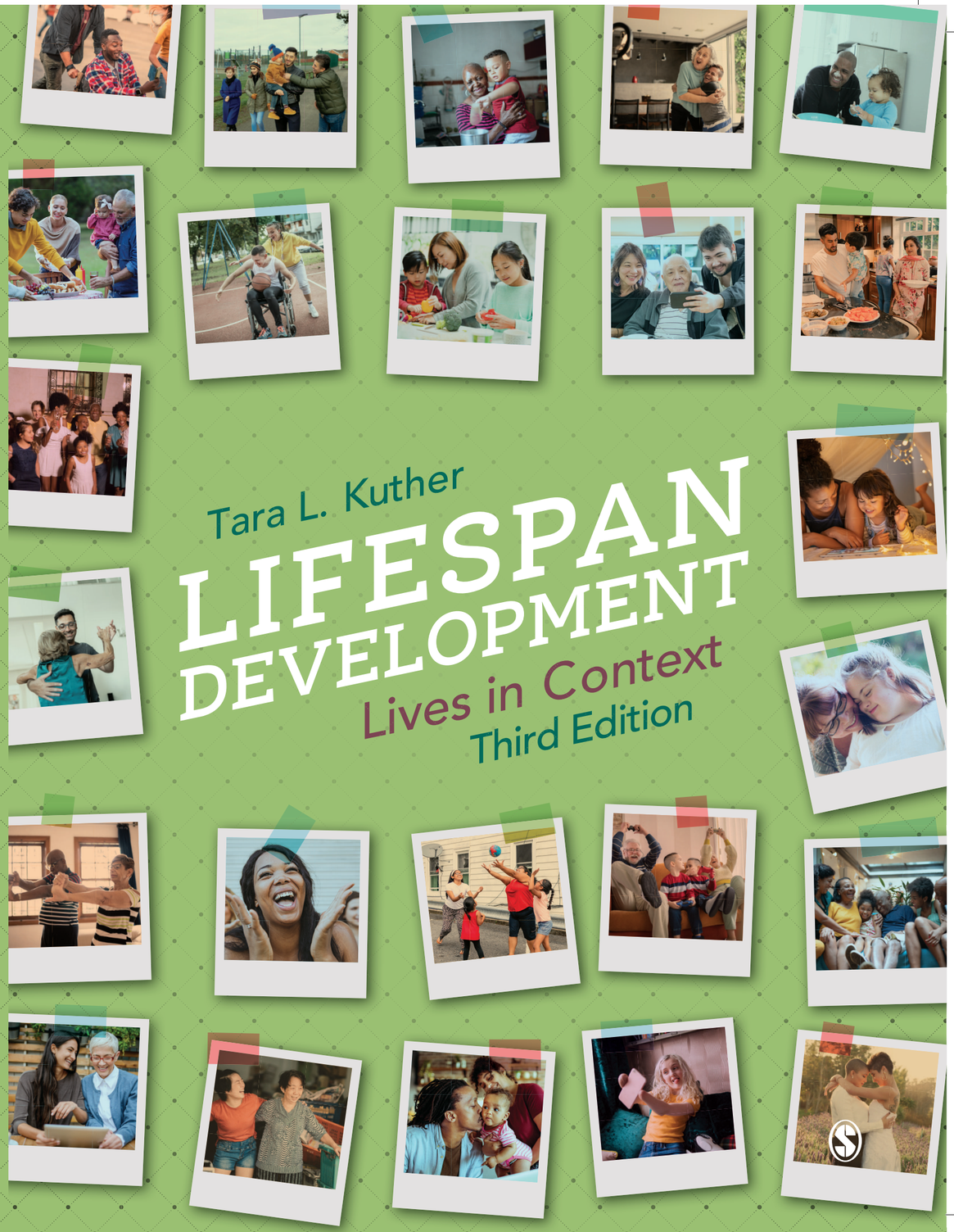

Tara L. Kuther

LIFESPAN DEVELOPMENT

Lives in Context

Third Edition

Lifespan Development

Third Edition

To my parents, Philip and Irene Kuther

Sara Miller McCune founded SAGE Publishing in 1965 to support the dissemination of usable knowledge and educate a global community. SAGE publishes more than 1,000 journals and over 600 new books each year, spanning a wide range of subject areas. Our growing selection of library products includes archives, data, case studies, and video. SAGE remains majority owned by our founder and after her lifetime will become owned by a charitable trust that secures the company's continued independence.

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Lifespan Development

Lives in Context

Third Edition

Tara L. Kuther

Western Connecticut State University

SAGE

Los Angeles | London | New Delhi
Singapore | Washington DC | Melbourne

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2455 Teller Road
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SAGE Publications Ltd.
1 Oliver's Yard
55 City Road
London, EC1Y 1SP
United Kingdom

SAGE Publications India Pvt. Ltd.
B 1/I 1 Mohan Cooperative Industrial Area
Mathura Road, New Delhi 110 044
India

SAGE Publications Asia-Pacific Pte. Ltd.
18 Cross Street #10-10/11/12
China Square Central
Singapore 048423

Printed in the United States of America

ISBN: 978-1-0718-5194-4

Library of Congress Control Number: 2022902708

Acquisitions Editor: Lara Parra

Content Development Editor: Emma Newsom

Production Editor: Veronica Stapleton Hooper

Copy Editor: Terri Lee Paulsen

Typesetter: diacriTech

Cover Designer: Gail Buschman

Marketing Manager: Victoria Velasquez

This book is printed on acid-free paper.

22 23 24 25 26 10 9 8 7 6 5 4 3 2 1

BRIEF CONTENTS

PART VIII LATE ADULTHOOD

PART IX ENDINGS

DETAILED CONTENTS

PART VI EMERGING AND EARLY ADULTHOOD

PART VII MIDDLE ADULTHOOD

PREFACE

Lifespan Development: Lives in Context is the result of 25 years of classroom discussions with students about the nature of development during our lifetime. Many students find lifespan development inherently interesting as they have observed, experienced, or anticipate experiencing the topics we discuss. Sharing observations and personal experiences is fun and engaging. But sometimes our individual experiences don't completely match the theoretical and research conclusions we discuss. How do we make sense of the differences? In class, as well as in this text, I adopt a contextual perspective to help students understand variability in development and to make sense of the growing body of findings in lifespan development.

THEMES: CONTEXT AND APPLICATION

Lifespan Development: Lives in Context focuses on two key themes that promote understanding of how humans develop through the lifespan: the centrality of context and the applied value of developmental science. These two themes are highlighted throughout the text as well as in critical thinking features. In addition, an accessible writing style helps students to grasp these complex issues.

Contextual Perspective

The most central tenet of development is that it occurs in context. At all points in life, human development is the result of dynamic transactions among individuals, their physical, cognitive, and socioemotional capacities, and the web of interacting contexts in which they are immersed, such as family, peers, school, neighborhood, society, culture, and history. *Lifespan Development: Lives in Context* discusses these processes, emphasizing how individual factors combine with the people, places, circumstances, and time in which we live to influence development. A contextual approach can provide the backstory to development and help us understand why individuals vary. In addition, the emerging body of research on intersectionality in development offers opportunities to shed light on these complex processes and their role in development.

This contextual theme is infused throughout the text and highlighted specifically in critical thinking questions that appear at the end of each section. *Thinking in Context: Biological Influences* items ask students to consider how biological factors, such as brain development, physical development, and health, interact with context to produce developmental outcomes. *Thinking in Context: Lifespan Development* items examine developmental theory and themes, including applying Bronfenbrenner's bioecological systems theory to understand real-world problems, as well as the role of culture in development. New to this third edition is an expansion of discussions of diversity to consider intersectionality and its impact on the development of children, adolescents, and adults. *Thinking in Context: Intersectionality* calls attention to the ways in which race, ethnicity, gender, sexual orientation, and socioeconomic status overlap to determine opportunities and outcomes.

Applied Emphasis

The field of lifespan developmental science is unique because so much of its content has immediate relevance to our daily lives. Students may wonder: Do the first 3 years shape the brain for a lifetime of experiences? Is learning more than one language beneficial to children? Do people's personalities change over their lifetimes? Do adults go through a midlife crisis? How common is dementia in older adulthood? Moreover, findings from lifespan developmental science have been applied to inform social policies that affect us all. *Lifespan Development: Lives in Context* engages students by exploring these

and many more real-world questions. This theme is integrated throughout the text and highlighted specifically in a fourth type of end-of-section critical thinking question. *Thinking in Context: Applied Developmental Science* items ask students to apply the course content by considering cases, designing research studies, and explaining the material to different audiences and contexts. An *Apply Your Knowledge* case appears at the end of each chapter. These cases invite students to consider how the content may be applied to a realistic scenario.

Accessible Writing Style

Having taught at a regional public university since 1996, I write in a style intended to engage diverse undergraduate readers like my own students. I attempt to write in the same voice as I teach, carefully structuring sections to build explanations and integrating content with examples that are relevant to students. I regularly use my own texts in class, students work with me in preparing elements of each text, and my students' responses and learning guide my writing. My experience teaching 12 courses during the COVID-19 pandemic in Spring 2020 and the 2020–2021 academic year reinforced (for me) the importance of accessible, concise textbooks. Like many faculty, I was able to record only so many videos for my asynchronous classes, so I relied heavily on my text, asynchronous discussion posts, and, for the classes where available, SAGE Vantage, which enabled students to interactively read the text.

PEDAGOGICAL FEATURES

My day-to-day experiences in the classroom have helped me to keep college students' interests and abilities at the forefront. Unlike many textbook authors, I teach four classes each semester (and have done so for 25 years). I taught my first online course in 2002. My daily exposure to multiple classes and many students helps keep me grounded in the ever-changing concerns and interests of college students. I teach a diverse group of students. Some live on campus but most commute. Most of my students are ages 18 to 24, but my classes also include many so-called adult learners over the age of 24. Many are veterans, a rapidly increasing population at my institution with unique perspectives and needs. I have many opportunities to try new examples and activities. I believe that what works in my classroom will be helpful to readers and instructors. I use the pedagogical elements of *Lifespan Development: Lives in Context* in my own classes and modify them based on my experiences.

Critical Thinking Questions

In March 2020, my institution, like most in the United States, suddenly transitioned to an entirely online campus. Like many faculty across the country and world, I taught my four-course load entirely online during the 2020–2021 academic year. Interacting with students in many asynchronous courses (sprinkled with a small handful of classes that met partially on Zoom) inspired the expansion of my critical thinking feature *Thinking in Context* to include four types of items that highlight critical themes in developmental science. *Thinking in Context* items encourage readers to compare concepts, apply theoretical perspectives, and consider applications of the research findings presented. They appear at the end of each main section within each chapter and highlight the following previously described themes:

- Thinking in Context: Biological Influences
- Thinking in Context: Lifespan Development
- Thinking in Context: Applied Developmental Science
- Thinking in Context: Intersectionality

Case-Based Application

Each chapter closes with a case scenario, *Applying Your Knowledge*, followed by in-depth questions that require students to apply their understanding to address a particular situation or problem.

Learning Objectives and Summaries

Core learning objectives at the beginning of each section provide clear goals for readers. The end-of-chapter summary returns to each Learning Objective, recapping the key concepts presented in the chapter related to that objective. In this third edition, many learning objectives were revised to guide students' reading more closely. In some chapters, learning objectives were added to break material down into more manageable chunks for students as well as to highlight new material.

Careers Related to Developmental Science

To say that my students are interested in careers—what they will do after college—is an understatement. Students often don't know where to begin in considering possible careers. This third edition includes a new applied feature, *Lifespan Development at Work*, which introduces students to over 35 careers that are related to or benefit from an understanding of developmental science. Beginning with a discussion of transferrable skills and fields, this feature appears at the end of each part: Beginnings, Infancy, Early Childhood, Middle Childhood, Adolescence, Early Adulthood, Middle Adulthood, Late Adulthood, and Death.

WHAT'S NEW IN LIFESPAN DEVELOPMENT: LIVES IN CONTEXT, 3E?

I approached writing the third edition of *Lifespan Development: Lives in Context* with three goals:

1. **Increase the coverage of context, examine development through an intersectional lens, and present an integrated view of development.**

   I addressed this multifaceted goal by adding findings and sections covering contextual and intersectional influences, as available, throughout each chapter. A new section of Chapter 1 defines intersectionality and its value for understanding development. I explain that the developmental science literature on intersectionality is in its infancy but rapidly growing. I include information about the interrelations of ethnicity, race, gender, sexuality, socioeconomic status, and more, as available. The *Thinking in Context: Intersectionality* critical thinking items encourage students to examine development through an intersectional lens.

   Also, I have removed thematic boxes from this third edition in the interest of presenting an integrated view of development. Boxed content, set apart from the text, can send the unintended message that it is not as important as the text and can be skipped. When boxed features cover themes such as the role of culture, biology, or intersectionality, it may imply that these concepts are not part of "normal" development. In this third addition, context, culture, biology, intersectionality, and application are all infused throughout the text rather than relegated to boxes. To call students' attention to these critical themes, an expanded set of *Thinking in Context* items focus on biology, context, intersectionality, and application and appear within each chapter, as previously described.

2. **Update the text to include the most current research to date.**

   Our knowledge of human development is rapidly expanding. My goal was to select, highlight, and integrate cutting-edge findings with existing theory and research. Because new research has its foundation in classic work, I integrate the two to present a unified story of what is currently known in developmental science. The third edition includes over 2,000 references published since 2018, including over 700 published since 2020.

3. **Increase coverage while retaining length.**

   My goal for this third edition was to increase coverage of current research and expand several sections in each chapter to better cover relevant developmental issues (such as the opioid epidemic, spirituality, civic development and critical consciousness, and the experience of discrimination). Despite these additions, the overall length of most chapters has remained the same. I worked to streamline discussions by carefully integrating new material with old, selecting the most appropriate examples and details to include, and paring down excess.

Below I list some of the major revisions reflected in this third edition of *Lifespan Development: Lives in Context.* Each chapter contains many other changes that are not documented here. It is my hope that this volume will improve instructors' and students' experiences in and out of class—and that students will be inspired to apply the findings of developmental science to their lives.

Chapter 1

- New learning objective: 1.6 Describe the field of applied developmental science and the role of intersectionality in development.
- New section:
  - Sociohistorical Context
  - Cultural Context
  - Ethical Issues in Studying Lifespan Human Development
  - Applied Developmental Science and Intersectionality
  - Dynamic Systems Theory
- Reorganized/substantive revisions:
  - History Graded Influences
  - Bronfenbrenner's Bioecological Systems Theory
  - Research Ethics

Chapter 2

- New learning objectives:
  - 2.4 Compare and contrast characteristics and outcomes of adoption, transracial adoption, and international adoption.
  - 2.5 Summarize prenatal diagnostic methods and how genetic disorders may be treated prenatally.
  - 2.6 Provide an introduction to the field of behavior genetics, including representative findings.
- New section:
  - Adoption
  - Prenatal Diagnosis
  - Assisted Reproductive Technology and Sex Selection
  - Gene–Environment Interactions
- Reorganized/substantive revision: Epigenetic Framework

Chapter 3

- New learning objectives:
  - 3.3 Compare the influence of maternal and paternal characteristics on prenatal development.
  - 3.4 Identify barriers to prenatal care and intersectional influences on access to prenatal care.

- 3.6 Examine risks for low birthweight, characteristics of low-birthweight infants, and ways of supporting positive outcomes of low-birthweight infants.

- New section:
  - Opioids
  - Contextual Factors and Teratogens
  - Maternal and Paternal Characteristics and Prenatal Development
  - Low-Birthweight Infants: Preterm and Small-for-Date Babies
  - Contextual and Cultural Influences on Prenatal Care
  - Lifespan Development at Work: Introduction to Careers; Genetic Counselor; Nurse Midwife; Doula
- Reorganized/substantive revisions:
  - Maternal Illness
  - Maternal Emotional Well-Being
  - Cultural Influences on Development
- New Apply Your Knowledge case

Chapter 4

- New learning objective: 4.2 Examine threats to infant and toddler health.
- New section:
  - Infant Mortality
  - SIDS
- Reorganized/substantive revisions:
  - Body Growth
  - Growth Faltering
  - Touch
  - Failure to Vaccinate

Chapter 5

- New opening vignette
- New learning objectives:
  - 5.2 Evaluate Piaget's sensorimotor reasoning stage in light of research evidence.
  - 5.6 Compare and contrast influences on language development.
- New section:
  - Evaluating Sensorimotor Reasoning
  - Culture and Cognitive Development
  - Contexts for Learning: Screens and Digital Media
  - Child Care and Cognitive Development
  - Poverty and Cognitive Development
  - Infant Gesture and Sign Language
  - Language Development in Bilingual Infants
  - Language Development in Deaf Infants
  - Cultural Differences in Infant-Directed Speech
- New Apply Your Knowledge case

Chapter 6

- New section:
  - Exposure to Early Life Stress
  - Maternal Depression and Attachment
  - Father–Infant Attachment
  - Lifespan Development at Work: Child Care Director; Social Worker; Pediatric Nurse; Pediatrician
- Reorganized/substantive revisions:
  - Social Interaction and Emotional Development
  - Emotional Socialization
  - Context and Goodness of Fit
  - Cultural Variations in Attachment Classifications

Chapter 7

- New learning objective: 7.2 Examine the influence of nutrition, physical activity, sleep, and screen use on young children's health as well as risks to health.
- New section:
  - Health: Physical Activity; Sleep; Nutrition and Eating Habits
  - Health Threats: Screen Use; Illness and Toxins; Unintended Injuries
  - Language: Bilingual Language Learning; Race, Socioeconomic Status, and Language Development
  - Suggestibility
- Reorganized/substantive revisions:
  - Growth
  - Motor Development
  - Private Speech

Chapter 8

- New section:
  - Transgender Gender Identity
  - Reducing Gender Stereotyping
  - Culture and Play
  - Lifespan Development at Work: Early Childhood Educator; Speech/Language Pathologist; Developmental Psychologist; Toy and Media Research
- Reorganized/substantive revisions:
  - Moral Development (from Chapter 7)
  - Emotional Development
  - Gender Stereotypes, Gender Differences, and Gender Development
  - Play and Peer Relationships in Early Childhood

Chapter 9

- New learning objectives:
  - 9.2 Examine health behaviors and concerns during middle childhood, including physical activity, injury, and obesity.
  - 9.3 Compare common developmental disabilities and discuss the relevance of contextual influences for disability.

- New section:
  - Developmental Disabilities, with subsections on Attention-Deficit/Hyperactivity Disorder, Autism Spectrum Disorder, Specific Learning Disorder, and Context and Disability: Race and Socioeconomic Status
  - Brain Development
  - Adrenarche
  - Physical Activity in Middle Childhood
  - Childhood Injuries and Mortality
  - Context and Cognition
  - Bilingual Language Learning
  - Approaches to Education
  - Access to Digital Technology and Learning
  - Implications of Cognitive Developmental Theory for Education
  - Implications of Information Processing Theory for Education

Chapter 10

- Revised opening vignette
- New learning objective: 10.3 Discuss gender differences, gender stereotypes and beliefs, and gender identity in middle childhood.
- New section:
  - Gender Development
  - Parental Incarceration
  - Parental Deployment
  - Body Image
  - Only Children
  - Lifespan Development at Work: Elementary Education; Special Education; Child Life Specialist; Applied Behavior Analyst; School Psychologist
- Reorganized/substantive revisions:
  - Moral Development (from Chapter 9)
  - Risk and Resilience in Middle Childhood (revised and expanded; was: Common Socioemotional and Developmental Problems in Middle Childhood)

Chapter 11

- Updated opening vignette
- New learning objective: 11.2 Identify influences on health and recommendations to improve adolescents' health.
- New section:
  - Experience and the Adolescent Brain
  - Social Cognition
  - Adolescent Health
  - Adolescent Employment
- Reorganized/substantive revisions:
  - Pubertal Timing and Adolescent Development
  - Biological and Contextual Influences on Pubertal Timing
  - Brain Development and Behavior
- New Apply Your Knowledge case

Chapter 12

- New learning objective: 12.2 Describe the progression of and influences on the development of moral reasoning, civic engagement, and critical consciousness.
- New section:
  - Gender Intensification and Transgender Identity
  - Spirituality and Religiosity
  - Moral and Civic Development in Adolescence
  - Peers, Social Media, and Cyberbullying
  - Binge Eating Disorder
  - Sexuality Education
  - Lifespan Development at Work: Secondary Education; School Counselor; Recreation Worker; Intervention Research; Applied Developmental Psychologist
- Reorganized/substantive revisions:
  - Self-Esteem
  - Ethnic–Racial Identity
  - Parenting
  - Dating

Chapter 13

- New learning objective: 13.2 Discuss common health concerns and the effects of physical activity in early adulthood.
- New section:
  - Students With Developmental Disabilities
  - Intersectionality and the Workplace
- Reorganized/substantive revisions:
  - Theories of Aging: What Causes Aging? (from Chapter 15)
  - Not Attending College (was Forgotten Third)
  - Transition to Work
  - Work–Life Balance (replaces Work and Family)

Chapter 14

- New learning objective: 14.3 Review the nature of sexual activity in early adulthood and the problem of sexual assault.
- New section:
  - Sexuality
  - Attachment
  - Lifespan Development at Work: ESL Teacher; Substance Counselor; Clinical and Counseling Psychologist; Professor; Resident Director
- Reorganized/substantive revisions:
  - Emerging Adulthood (from Chapter 13)
  - Identity Versus Role Confusion, revised to include subsections on Moral Identity, Religious Identity, Political Identity, Gender and Sexual Identity, and Racial-Ethnic Identity
  - Becoming a Parent
  - Nonmarital Childbearing
  - Gay and Lesbian Parents

Chapter 15

- New learning objective: 15.5 Discuss career-related concerns of middle-aged adults, including influences on job satisfaction, experiences with age discrimination, and planning for retirement.
- New section:
  - Mortality
  - Cohort Effects in Intelligence
  - Age Discrimination
- Reorganized/substantive revisions:
  - Stress
  - Planning for Retirement
  - Job Satisfaction

Chapter 16

- New learning objectives:
  - 16.3 Analyze patterns of stability and change in personality in middle adulthood.
  - 16.4 Examine friendship and spousal relationships in middle adulthood.
  - 16.5 Contrast adults' relationships and roles as parents to young children, adolescents, and adults; as grandparents; and as parents to adult children.
- New section:
  - Personality
  - Search for Meaning
  - Subjective Age
  - Perceived Control
  - Divorce
  - Lifespan Development at Work: Marriage and Family Therapist; Physical Therapist and Assistant; Occupational Therapist and Assistant; Human Resources; Health Psychologist
- Reorganized/substantive revisions:
  - Is Midlife Characterized by Crisis?
  - Expanded and broke into two sections: Friendship and Romantic Relationships and Intergenerational Relationships
  - Sexuality (from Chapter 15)
  - Expanded and updated Parent–Child Relationships to include subsections on Parenting Infants, Parenting Adolescents, and Parenting Adult Children
  - Grandparents

Chapter 17

- Revised opening vignette
- New section:
  - Race, Ethnicity, and Dementia
  - Ages of Adulthood
- Reorganized/substantive revisions:
  - Exercise
  - Atypical Brain Aging (was Dementia)
  - Updated and expanded The Aging Brain to include Neural Compensation, Promoting Brain Health

Chapter 18

- New section:
  - Friendships
  - Lifespan Development at Work: Audiologist; Geriatric Nurse; Geriatrician; Geropsychologist; User Design and Usability
- Reorganized/substantive revisions:
  - Sexuality
  - Socioemotional Selectivity Theory
  - Aging in Place
  - Retirement: Deciding to Retire; Transition to Retirement and Adjustment

Chapter 19

- New learning objectives:
  - 19.1 Identify the leading causes of death and patterns of mortality and life expectancy.
  - 19.6 Describe patterns of adjustment after bereavement.
- New section:
  - Mortality and Life Expectancy
  - Death and End-of-Life Issues
  - Lifespan Development at Work: Grief Counselor; Hospice Services
- Reorganized/substantive revisions:
  - Cultural Rituals and Views of Death
  - Expanded into a new section: Adjustment After the Loss of a Loved One

ACKNOWLEDGMENTS

This book has benefitted from the input of many bright, enthusiastic, and generous people. I am fortunate to work with a talented team at SAGE, and I am grateful for their support. I thank Lara Para for her steadfast encouragement, Katherine Hepburn for her marketing wizardry, and Reid Hester for bringing me to the SAGE family. Michele Sordi encouraged me to write the first edition of this text, and I am forever grateful for her confidence. Emma Newsom's talent in managing the many moving pieces keeping this project (and me!) on track is beyond par. Thank you! Jessica Miller provided a patient, supportive ear and invaluable guidance in making the many decisions involved in writing this book.

I am especially appreciative of those who have shared their feedback and helped me to improve this third edition. Lauren Schwarz provided invaluable assistance in a variety of capacities, from brainstorming and literature searches to organization, recordkeeping, and a range of creative (and frequently tedious) tasks. I thank Gabrielle Johnson for her meticulous review and update of the glossary and her contributions to the careers feature, including brainstorming, gathering, and organizing the data. Thanks, Gabby, for your creativity and positive vibes.

I thank my students for their engagement in and out of class. Our discussions inform these pages. I am especially appreciative of those who have shared their feedback. Thank you to the many instructors who have reviewed and provided feedback on these chapters.

Finally, I thank my family, especially my parents for their unwavering support. Most of all, I am thankful for the support of my husband, Fred, for his optimism, patience, encouragement, and love. There's no one I'd rather quarantine with.

SAGE thanks the following expert reviewers, who provided detailed recommendations in their areas of expertise, with a focus on multicultural and cross-cultural findings and diversity in development:

Cassendra Bergstrom completed her PhD in Educational Psychology at the University of Northern Colorado (UNC), where she is now an assistant professor. She held a post-doctoral research position working on a National Science Foundation grant through the Math and Science Teaching Institution, also at UNC. Dr. Bergstrom's research focuses on the intersection of motivation and learning environments, with a recent focus on equity. Her publications and presentations stem from research projects on the topics of transformative experience, goal orientation, and problem-based learning (PBL) environments. Dr. Bergstrom currently teaches undergraduate psychology courses, as well as graduate courses in educational psychology.

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SAGE wishes to thank the following reviewers for their valuable contributions to the development of this third edition:

Carla Bluhm, College of Coastal Georgia
Kelly Champion, Northern Illinois University
Naomi Ekas, Texas Christian University
Mike Figuccio, CUNY Queensborough
Janice Gallagher, Ivy Tech Community College
Surinder Gill, California State University, Sacramento
Jessica Grady, Pacific University
David Hanbury, Averett University
Linda Krajewski, University of Redlands
Alan Meca, Old Dominion University
Jennifer Butler Moss, Emporia State University
Michelle Pilati, Rio Hondo College
Carolynn Pravatta, Collin College
Katie Purswell, Texas State University
Nina Slota, Fairmont State University
Catherine Steinbock, Eastern Wyoming College
Elizabeth Tinsley, Marquette University
Katherine Volk, Lesley University

SAGE also expresses special appreciation to reviewers of prior editions whose thoughtful feedback has strengthened and lives on in the current edition:

Marita Andreassen, Inland Norway University of Applied Sciences
Linda Aulgur, Westminster College
Stephen Baker, Saint Francis University
Cassendra Bergstrom, University of Northern Colorado

Jamie Borchardt, Tarleton State University
Ashley Cosentino, Chicago School of Professional Psychology
Christine Weinkauff Duranso, California State University–San Bernardino
Robert Gall, Grace University
Theresa Garfield, Texas A&M University–San Antonio
Jerry Green, Tarrant County College
Janice Hargrove-Freile, Lonestar State University
Erin Harmeyer, Louisiana State
Crystal Harris, Governors State University
Jerry Haywood, Fort Valley State University
Cynthia Jacox, Alamo College
Benjamin Jeppsen, University of Nevada, Reno
Cristina Joes-Kampfner, Eastern Michigan University
Lakitta Johnson, Jackson State University
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Nancy Lamphere, Caldwell Community College & Technical Institute
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Geraldine Lotze, Virginia Commonwealth University
Merranda Marín, New Mexico State University
Robert Martinez, Alamo College
Robert Martinez, University of the Incarnate Word
Maribeth Palmer-King, SUNY Broome
Melanie Palomares, University of South Carolina
Kathy Phillippi-Immel, University of Wisconsin Colleges
Gary Popoli, Stevenson University
Martha Ravola, Alcorn University
Mary Schindler, Sonoma State University
Brittney Schrick, University of Arkansas Cooperative Extension Service
Staci Simmelink-Johnson, Walla Walla Community College
Patrick Smith, Virginia Community College
Brooke Spangler-Cropenbaker, Miami University
Tara Stoppa, Eastern University
Marcia Tipton, Milwaukee Area Technical College
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1 UNDERSTANDING HUMAN DEVELOPMENT: APPROACHES AND THEORIES

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Think back over your lifetime. How have you grown and changed through the years? Do your parents describe you as a happy baby? Were you fussy? Do you remember your first day of kindergarten? What are some of your most vivid childhood memories? Did you begin puberty early, late, or at about the same time as others your age? Were your adolescent years a stressful time? What types of changes do you expect to undergo in your adult years? Where will you live? Will you have a spouse? Will you have children? What career will you choose? How might these life choices and circumstances influence how you age and your perspective in older adulthood? Will your personality remain the same or change over time? In short, how will you change over the course of your lifespan?

WHAT IS LIFESPAN HUMAN DEVELOPMENT?

LEARNING OBJECTIVE

1.1 Outline five principles of the lifespan developmental perspective.

This is a book about **lifespan human development**—the ways in which people grow, change, and stay the same throughout their lives, from conception to death. When people use the term **development**, they often mean the transformation from infant to adult. However, development does not end with adulthood. We continue to change in predictable ways throughout our lifetime, even into old age. Developmental scientists study human development seeking to understand these lifetime patterns of change.

Table 1.1 illustrates the many phases or stages of life through which we progress from conception to death. The stages may have different labels and different sets of developmental tasks, but all have value and influence each other. The changes that we undergo during infancy, for instance, influence how we

TABLE 1.1 ■ Stages in Human Development

Life Stage	Approximate Age Range	Description
Prenatal	Conception to birth	Shortly after conception, a single-celled organism grows and multiplies. This is the period of the most rapid physical development as basic body structures and organs form, grow, and begin to function.
Infancy and toddlerhood	Birth to 2 years	The newborn is equipped with senses that help it to learn about the world. Physical growth occurs and motor, perceptual, and intellectual skills develop. Children show advances in language comprehension and use, problem- solving, self-awareness, and emotional control. They become more independent and interested in interacting with other children and form bonds with parents and others.
Early childhood	2 to 6 years	Children grow steadily, their muscles strengthen, and they become better at coordinating their bodies. Memory, language, and imagination improve. Children become more independent and better able to regulate their emotions. Family remains children's primary social tie, but other children become more important and new ties to peers are established.
Middle childhood	6 to 11 years	Growth slows, but strength and athletic ability increase dramatically. Children show improvements in their ability to reason, remember, read, and use arithmetic. As children advance cognitively and gain social experience, they understand themselves in more complex ways compared with younger children. As friendships develop, peers and group memberships become more important.
Adolescence	11 to 18 years	Adolescents' bodies grow rapidly. They become physically and sexually mature. Although some immature thinking persists, adolescents can reason in sophisticated and adult-like ways. Adolescents are driven to learn about themselves and begin the process of discovering who they are, apart from their parents. Peer groups increase in importance.
Early adulthood	18 to 40 years	Physical condition peaks and then shows slight declines with time. Lifestyle choices play a large role in influencing health. Most young adults join the workforce, marry or establish a long-term bond with a spouse, and become parents. The timing of these transitions varies. Adolescents in Western industrialized societies often experience an extended transition to adulthood (called **emerging adulthood**), spanning from ages 18 to 25, and as late as age 29.
Middle adulthood	40 to 65 years	In middle adulthood, people notice changes in their vision, hearing, physical stamina, and sexuality. Basic mental abilities, expertise, and practical problem-solving skills peak. Career changes and family transitions require that adults continue to refine their understandings of themselves. Adults help children to become independent, adapt to an empty nest, and assist elderly parents with their own health and personal needs.
Late adulthood	65 years and beyond	Most older adults remain healthy and active. Reaction time slows, and most older adults show a decline in some aspects of memory and intelligence, but an increase in expertise and wisdom compensates for losses. Most older adult friendships are old friendships, and these tend to be very close and a source of support. Adults adjust to retirement, changes in health, and personal losses (such as the death of a loved one), as well as search for meaning in their lives.
Death		Death itself is a process entailing the stopping of heartbeat, circulation, breathing, and brain activity. A person's death causes changes in his or her social context—family members and friends must adjust to and accept the loss.

experience later changes, such as those during adolescence and beyond. Each stage of life is important and accompanied by its own demands and opportunities.

Change is perhaps the most obvious indicator of development. The muscle strength and coordination needed to play sports increases over childhood and adolescence, peaks in early adulthood, and begins to decline thereafter, declining more rapidly from middle to late adulthood (Gabbard, 2018). There also are ways in which we change little over our lifetimes. Some personality traits are highly stable over the lifespan, so that we remain largely the "same person" into old age (Schwaba & Bleidorn, 2018; Wortman et al., 2012).

Lifespan human development can be described by several principles. Development is: (1) multidimensional, (2) multidirectional, (3) plastic, (4) influenced by multiple contexts, and (5) multidisciplinary (Baltes et al., 2006; Overton & Molenaar, 2015).

Development Is Multidimensional

Consider the many changes that mark each period of development and it is apparent that development is *multidimensional*. That is, development includes changes in multiple areas or **domains of development**. **Physical development** refers to body maturation and growth, such as body size, proportion, appearance, health, and perceptual abilities. **Cognitive development** refers to the maturation of thought processes and the tools that we use to obtain knowledge, become aware of the world around us, and solve problems. **Socioemotional development** includes changes in personality, emotions, views of oneself, social skills, and interpersonal relationships with family and friends. These areas of development overlap and interact. The onset of walking precedes advances in language development in infants in the United States and China (He et al., 2015; Lüke et al., 2019). Brain maturation, a physical development, underlies advances in cognitive development, which might enable adolescents to become better at understanding their best friend's point of view and show more prosocial helpful behavior (Tamnes et al., 2018). In turn, adolescents might become more empathetic and sensitive to their friends' needs and develop a more mature friendship, influencing socioemotional development (Tamnes et al., 2018). Figure 1.1 illustrates how the three areas of development interact.

Development Is Multidirectional

Development is commonly described as a series of improvements in performance and functioning, but in fact development is *multidirectional*, meaning that it consists of both gains and losses, growth and decline, throughout the lifespan (Baltes et al., 2006; Overton & Molenaar, 2015). For example, infants are born with a stepping reflex, an innate involuntary response in which they make step-like movements when held upright over a horizontal surface (for more on infant reflexes, see Chapter 4). The stepping reflex disappears by about 2 months but reemerges as a voluntary action at 8 to 12 months of age as infants begin walking with support (Adolph & Franchak, 2017). Throughout life, there is a shifting balance between gains, improvements in performance (common early in life), and

FIGURE 1.1 ■ Domains of Development

Advances in physical, cognitive, and socioemotional development interact, permitting children to lay sports, learn more efficiently, and develop close friendships.

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We are born with a stepping reflex, an innate involuntary response. When this infant is held under the arms in a standing position on a flat surface, his legs move in a stepping motion.

Phanie/Alamy Stock Photo

Some plasticity is retained throughout life. Practicing athletic activities can help older adults rebuild muscle and improve balance.

Reuters/Mariana Bazo

declines in performance (common late in life) (Baltes et al., 2006; Zacher et al., 2019). At all ages individuals can compensate for losses by improving existing skills and developing new ones (Boker, 2013). The speed at which people think tends to slow in late adulthood, but increases in knowledge and experience enable older adults to compensate for the loss of speed when completing everyday tasks (Krampe & Charness, 2018; Margrett et al., 2010).

Development Is Plastic

Development is characterized by **plasticity**: It is malleable, or changeable. Frequently the brain and body can compensate for illness and injury. In children who are injured and experience brain damage, for instance, other parts of the brain may take on new functions (Petranovich et al., 2020). The plastic nature of human development allows people to modify their traits, capacities, and behavior throughout life (Baltes et al., 2006; Overton & Molenaar, 2015). Older adults who have experienced a decline in balance and muscle strength can regain and improve these capabilities through exercise (McAuley et al., 2013; Sañudo et al., 2019). Plasticity tends to decline as we age, but it does not disappear entirely. Short instruction, for instance, can enhance the memory capacities of very old adults, but less so in younger adults (Brehmer et al., 2012; Willis & Belleville, 2016). Plasticity makes it possible for individuals to adjust to change and to demonstrate **resilience**, the capacity to adapt effectively to adverse contexts and circumstances (Luthar et al., 2015; Masten, 2016). The brain naturally adapts to a lifetime of sensory experiences in order to portray the world around us efficiently and accurately as we age into older adulthood (Moran et al., 2014; Zanto & Gazzaley, 2019).

Development Is Influenced by Multiple Contexts

Context refers to where and when a person develops. Context encompasses many aspects of the physical and social environment, including family, neighborhood, country, and historical time period. It includes intangible factors, characteristics that are not visible to the naked eye, such as values, customs, ideals, and culture. To understand individuals' development, we must look at their context, including the subtle, less easily viewed factors.

Were you encouraged to be assertive and actively question the adults around you, or were you expected to be quiet and avoid confrontation? How large a part was spirituality or religion in your family's life? How did religious values shape your parents' childrearing practices and your own values? How did your family's economic status affect your development? These questions examine a critical context for our development: home and family. However, we are embedded in many more contexts that influence us, and that we influence, such as peer group, school, neighborhood or community, and culture. Our development plays out within the contexts in which we live, a theme that we will return to throughout this book.

Sociohistorical Context

The multitude of contextual factors that interact over the life course can be organized into three categories: age-graded influences, history-graded influences, and non-normative influences (Elder & George, 2016; Elder et al., 2016).

Age-Graded Influences. *Age-graded influences* are closely tied to chronological age and are largely predictable. Most individuals walk at about a year of age and reach puberty in early adolescence. Similarly, most women reach menopause in the late 40s or early 50s. Age-graded influences tend to be most influential early and late in life. Although these influences are often tied to biology, social milestones can also form age-graded influences. Most people in the United States enter school at about 5 years of age, graduate high school and enter college at about age 18, and retire during their 60s. Some age-graded influences are context dependent. Adolescents in suburban and rural contexts commonly get driver's licenses at age 16, but this may not be true of adolescents in urban settings where driving may be less common.

History-Graded Influences. *History-graded influences* refer to how the time period in which we live and the unique historical circumstances of that time period affect our development. History-graded influences include wars, epidemics, advances in science and technology, and economic shifts such as periods of depression or prosperity (Baltes, 1987). The COVID-19 pandemic of 2020 may shape individuals' health behaviors, such as by wearing face coverings, standing further away from others, and refraining from particular social behaviors, such as handshakes and hugs. School closures during the pandemic posed risks to children's and adolescents' academic and social development as well as their mental health (Golberstein et al., 2020; Lee, 2020). Even temporary changes, such as these, are contextual influences that shape our world and our development. The effect of historical events on development depends in part on when they occur in a person's life (Elder et al., 2015). Older adults may experience the COVID-19 pandemic differently than younger people, given their lifelong experiences as well as their heightened risk for infection (Pfefferbaum & North, 2020). For many older adults, the pandemic is a period of great loneliness.

Contextual influences tied to specific historical eras explain why a generation of people born at the same time, called a **cohort**, is similar in ways that people born at other times are different. Adults who came of age during the Great Depression and World War II are similar in some ways that make them different from later cohorts; they tend to have particularly strong views on the importance of the family, civic mindedness, and social connection (Rogler, 2002). Yet the same historical event may be experienced differently by successive cohorts relatively close in age, reflecting the fact that they are in different life stages, with different social roles, levels of maturity, and life experiences. Researchers examined the influence of the Great Depression (1929–1941) and World War II (1939–1945) on two cohorts of California-born Americans born just 8 years apart in Oakland and Berkeley, and who were followed from childhood to older adulthood, over a 70-year period (Elder & George, 2016).

Boys in the older Oakland cohort (born in 1920–1921) were children during the affluent 1920s, a time of economic growth in California, and they experienced a prosperous and relatively stress-free childhood. They entered adolescence during the Great Depression, a period of severe economic stress in which unemployment skyrocketed and people's savings were depleted. As adolescents during the Great Depression, the Oakland boys tended to behave responsibly and assist their families in coping, such as by working jobs outside the home, which enhanced their independence

The COVID-19 pandemic is an example of a sociohistorical influence that contributes to cohort, or generational, differences in development.

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and sense of **responsibility** and reduced their exposure to family stress. The Oakland cohort completed high school just prior to the onset of World War II and over time nearly all the young men entered the armed forces.

Unlike the Oakland cohort, boys in the Berkeley Guidance Study (born in 1928–1929) experienced the Great Depression in early childhood, at a time when they were vulnerable and very dependent on family. The Berkeley cohort entered adolescence during World War II, a period of additional economic and emotional stress resulting from empty households (as both parents worked to support the war effort) and the military service and war trauma of older brothers. As adolescents, the Berkeley boys' outlook was bleaker than the boys in the Oakland cohort. Berkeley boys experienced emotional difficulties, poor attitudes toward school, and less hope, self-direction, and confidence about their future.

However, the Berkeley boys were not doomed. Their outlook improved in adulthood, largely because of their experiences in military service. Three-quarters of the Berkeley sample served in the military between 1945 and the end of the Korean War in the early 1950s. The most disadvantaged young men tended to join the military early, and early entry into the military predicted personal growth because of opportunities, such as structure, travel, and to take advantage of the GI Bill of Rights, which enabled them to expand their education and acquire new skills after the war.

These two cohorts of young people offer striking examples of how sociohistorical context influences development. Although boys in both cohorts tended to develop into mature productive adults, they took different paths. Context always plays a role in development—not only in times of social upheaval but every day and for every generation.

Take a moment to think about what role larger historical events have played in your development. Consider the Black Lives Matter movement, begun in 2013; the legalization of same-sex marriage in 2015; the school shooting in Newtown, Connecticut, in 2012; the election of the first African American president of the United States in 2008; and the terrorist attacks of September 11, 2001. How have historical events influenced you and those around you? Can you identify ways in which, because of historical events, your cohort may differ from your parents' cohort? Your grandparents' cohort?

Non-Normative Influences. Whereas age-graded and history-graded influences are common to all people, or all members of a cohort, individuals also have experiences that are unique to them. *Non-normative influences* are experiences or events that happen to a person or a few people. Examples of non-normative influences include experiencing the death of a parent in childhood, widowhood in early adulthood, winning the lottery, or illness. Non-normative events are not predictable and are not easily studied, as they are not experienced by most people—and the nature of non-normative events varies widely. With age, non-normative influences become more powerful determinants of development.

Cultural Context

Like sociohistorical context, the cultural context is a broad influence on the development of all people at all ages in life. **Culture** refers to a set of customs, knowledge, attitudes, and values that are shared by members of a group and are learned early in life through interactions with group members (Markus & Kitayama, 1991). We are immersed in culture, which influences all of our contexts and includes the processes used by people as they make meaning or think through interactions with group members (Mistry et al., 2016; Yoshikawa et al., 2016).

Early studies of culture and human development took the form of *cross-cultural research*, comparing individuals and groups from different cultures to examine how these universal processes worked in different contexts (Mistry & Dutta, 2015). Yet research that defines normative development based on Western samples leads to narrow views of human development that do not consider the variety of contexts in which people live. At the extreme, differences in human development within other cultural groups might be viewed as abnormal and harmful (Cole & Packer, 2015).

Most classic theories and research on human development are based on Western samples because researchers once believed that the processes of human development were universal. More recent observations suggest that development varies dramatically with cultural context (Keller, 2017). Consider milestones, such as the average age that infants begin to walk. In Uganda, infants begin to walk at about 10 months of age, in France at about 15 months, and in the United States at about 12 months. These differences are influenced by parenting practices that vary by culture. African parents tend to handle infants in ways that stimulate walking, by playing games that allow infants to practice jumping and walking skills (Hopkins & Westra, 1989; Super, 1981). The cultural context in which individuals live influences the timing and expression of many aspects of development, even physical developments, such as walking, long thought to be a matter of biological maturation (Mistry, 2013). Applying principles of development derived from Western samples to children of other cultures may yield misleading conclusions about children's capacities (Keller, 2017).

There is a growing trend favoring *cultural research*, which examines how culture itself influences development, over cross-cultural research, which simply examines differences across cultures (Cole & Packer, 2015). Cultural research examines development and culture as fused entities that mutually interact, with culture inherent in all domains of development and a contributor to the context in which we are embedded, transmitting values, attitudes, and beliefs that shape our thoughts, beliefs, and behaviors (Miller et al., 2020; Mistry & Dutta, 2015). The shift toward cultural research permits the examination of the multiple subcultures that exist within a society (Oyserman, 2016, 2017). North American culture is not homogeneous; many subcultures exist, defined by factors such as ethnicity (e.g., African American, Asian American), religion (e.g., Christian, Muslim), geography (e.g., southern, midwestern), and others, as well as combinations of these factors. Current trends in cultural research document diversity and emphasize understanding how the historical, cultural, and subcultural contexts in which we live influence development throughout our lives.

Developmental Science Is Multidisciplinary

Psychologists, sociologists, anthropologists, biologists, neuroscientists, and medical researchers all conduct research that is relevant to understanding aspects of human development. Consider cognitive development. Children's performance on cognitive measures, such as problem-solving, are influenced by their physical health and nutrition (Anjos et al., 2013; Biddle et al., 2019), interactions with peers (Holmes et al., 2016), and neurological development (Stiles et al., 2015), findings from the fields of medicine, psychology, and neuroscience, respectively. To understand how people develop at all periods in life, developmental scientists must combine insights from all of these disciplines.

Thinking in Context: Lifespan Development

1. Describe your own development. Provide personal examples that illustrate the multidimensional nature of your own development. In what ways has your development illustrated multidirectionality? Plasticity?
2. Consider the societal and cultural events that your parents may have experienced in their youth. What technology was available? What historical events did they experience? What were the popular fads of their youth? What influence do you think these sociohistorical factors may have had on your parents' development? Compare their sociohistorical context with the one in which you were raised. What historical and societal events may have influenced you? What events have shaped your generation?
3. Consider your own experiences with culture. With which culture or subculture do you identify? How much of a role do you think your cultural membership has had in your own development? Why might some people say that the United States has no culture? What do you think?

BASIC ISSUES IN LIFESPAN HUMAN DEVELOPMENT

LEARNING OBJECTIVE

1.2 Explain three basic issues in developmental science.

Developmental scientists agree that people change throughout life and show increases in some capacities and decreases in others, from conception to death. Yet they sometimes disagree about how development proceeds and what causes developmental changes. Developmental scientists' explanations of how people grow and change over their lives are influenced by their perspectives on three basic issues, or fundamental questions, about human development:

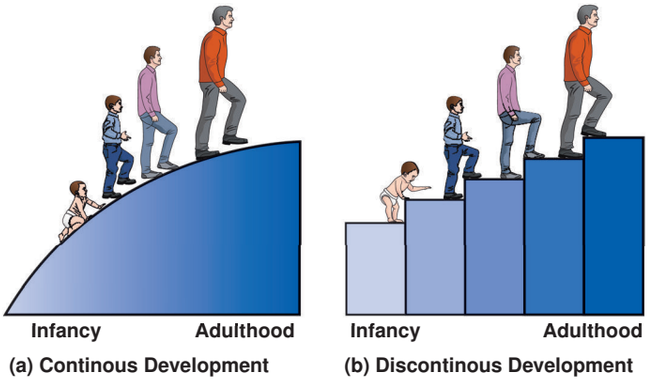
1. Do people change gradually, often imperceptibly, over time, or is developmental change sudden and dramatic?
2. What role do people play in their own development—how much are they influenced by their surroundings, and how much do they influence their surroundings?
3. To what extent is development a function of inborn genetic characteristics, and to what extent is it affected by the environment in which individuals live?

The following sections examine each of these questions.

Development Is Characterized by Continuous and Discontinuous Change

Do children slowly grow into adults, steadily gaining more knowledge and experience and becoming better at reasoning? Or do they grow in spurts, showing sudden, large gains in knowledge and reasoning capacities? Some aspects of development unfold slowly and gradually over time, demonstrating **continuous change**. Children slowly gain experience and learn strategies to become quicker at problem-solving (Siegler, 2016). Similarly, middle-aged adults experience gradual losses of muscle and strength (Keller & Engelhardt, 2013). Other aspects of development are best described as **discontinuous change**, characterized by abrupt change with individuals of various ages dramatically different from one another. Puberty transforms children's bodies into more adult-like adolescent bodies (Wolf & Long, 2016), infants' understanding and capacity for language is qualitatively different from that of school-aged children (Rudman & Titjen, 2018), and children make leaps in their reasoning abilities over the course of childhood, such as from believing that robotic dogs and other inanimate

FIGURE 1.2 ■ Continuous and Discontinuous Development



Source: Adapted from End of the Game (2014). "Child Development 101 – History and Theory," https://endofthegame.net/2014/04/15/child-development-101-history-and-theory/3/.

objects are alive to understanding that life is a biological process (Beran et al., 2011; Zaitchik et al., 2014). As shown in Figure 1.2, a discontinuous view of development emphasizes sudden transformation, whereas a continuous view emphasizes gradual and steady changes.

It was once believed that development was either continuous or discontinuous—but not both. Today, developmental scientists agree that development includes both continuity and discontinuity (Lerner et al., 2014). Whether a particular developmental change appears continuous or discontinuous depends in part on our point of view. Consider physical growth. We often think of increases in height as involving a slow and steady process; each month, an infant is taller than the prior month, illustrating continuous change. However, as shown in Figure 1.3, when researchers measured infants' height every day, they discovered that infants have growth days and nongrowth days, days in which they show rapid change in height interspersed with days in which there is no change in height, illustrating discontinuous change (Lampl et al., 2001). In this example, monthly measurements of infant height suggest gradual increases, but daily measurements show spurts of growth, each lasting 24 hours or less. Thus, whether a given phenomenon, such as height, is described as continuous or discontinuous can vary depending on perspective. Most developmental scientists agree that some aspects of development are best described as continuous and others as discontinuous (Miller, 2016).

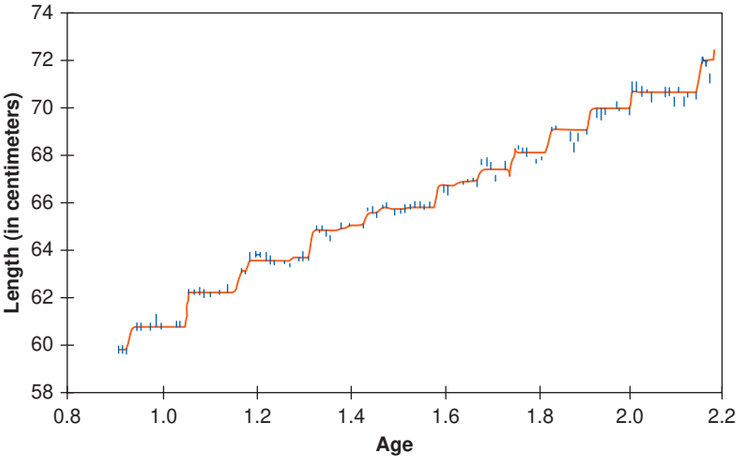
Individuals Are Active in Development

Do people have a role in influencing how they change over their lifetimes? That is, are people active in influencing their own development? Taking an active role means that they interact with and influence the world around them, create experiences that lead to developmental change, and thereby influence how they themselves change over the lifespan. Alternatively, if individuals take a passive role in their development, they are shaped by, but do not influence, the world around them.

The prevailing view among developmental scientists is that people are active contributors to their own development (Lerner et al., 2014; Overton, 2015). People are influenced by the physical and social contexts in which they live, but they also play a role in influencing their development by interacting with, and changing, those contexts (Elder et al., 2016). Even infants influence the world around them and construct their own development through their interactions. Baby Joey smiles at each adult he passes by as his mother pushes his stroller in the park. Adults often respond with smiles, use "baby talk," and make faces. Baby Joey's actions, even simple smiles, influence adults, bringing them into

FIGURE 1.3 ■ Infant Growth: A Continuous or Discontinuous Process

Infants' growth occurs in a random series of roughly 1-centimeter spurts in height that occur over 24 hours or less. The overall pattern of growth entails increases in height, but whether the growth appears to be continuous or discontinuous depends on our point of view.



Source: Lampl et al. (1992).

It's easy to see how this baby can influence the world around her and construct her own development through her interactions. By smiling at each adult she sees, she influences her world because adults are likely to smile, use "baby talk," and play with her in response.

iStock/monkeybusinessimages

close contact, making one-on-one interactions, and creating opportunities for learning. By engaging the world around them, thinking, being curious, and interacting with people, objects, and their environment, infants and children are "manufacturers of their own development" (Flavell, 1992, p. 998). That is, they play an active role in influencing their own development.

Nature and Nurture Influence Development

Perhaps the oldest question about development concerns its origin. Referred to as the **nature–nurture debate**, researchers once asked whether development is caused by nature (genetics) or nurture (environment). Explanations that rely on nature point to inborn genetic traits and maturational processes as causes of developmental change. Most infants take their first steps at roughly the same age, suggesting a maturational trend that supports the role of nature in development (Payne & Isaacs, 2020). An alternative explanation for developmental change emphasizes nurture, the environment. From this perspective, although most begin to walk at about the same age, environmental conditions can speed up or slow down the process. Infants who experience malnutrition may walk later than well-nourished infants, and those who are given practice making stepping or jumping movements may walk earlier (Siekerman et al., 2015; Worobey, 2014). Individuals are molded by the physical and social environment in which they are raised. Many infants may walk at about the same age because they experience similar environmental circumstances and parenting practices.

Today, developmental scientists generally agree that the nature–nurture debate is, in fact, not a debate. Instead, most now agree that *both* nature and nurture are important contributors to development and the question has changed to how do genetics and environment work together to influence child development (Rutter, 2014; Sasaki & Kim, 2017). Thus, walking is heavily influenced by maturation (nature), but experiences and environmental conditions can speed up or slow down the process (nurture). Today, developmental scientists attempt to determine *how* nature and nurture interact and work together to influence how people grow and change throughout life (Bjorklund, 2018a; Lickliter & Witherington, 2017).

Thinking in Context: Lifespan Development

1. Identify ways in which you have changed very gradually over the years. Are there times in which you showed abrupt change, such as in physical growth, strength and coordination, thinking abilities, or social skills? In other words, in what ways is your development characterized by continuity? Discontinuity?
2. What role did your physical and social environment play in your growth?
3. Identify examples of how a child might play an active role in his or her development. How do children influence the world around them?

Thinking in Context: Biological Influences

1. How are nature and nurture reflected in your own development? What traits, abilities, or behaviors do you believe are influenced by inborn factors? What role did the physical and social environment play in your development?
2. Consider similarities and differences among family members. How might they reflect the interaction of nature and nurture?