



Third Edition

**Life Span
Development**
A Topical
Approach

Robert S. Feldman



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Robert S. Feldman

University of Massachusetts, Amherst

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Preface

Life Span Development: A Topical Approach is the outgrowth of conversations and survey data drawing on the thinking of literally hundreds of instructors. These instructors voiced two main challenges in teaching life span development, reaching a surprising degree of consensus. First, almost every instructor acknowledged that the breadth of life span development is so vast that it is difficult to cover the entire field within the confines of a traditional college term. Consequently, many instructors saw most life span development texts as too long. Their students were concerned about the length of the texts and had trouble completing the entire book.

Second, many instructors expressed the concern that traditional, chronologically based life span development books were arranged in a way that made it difficult for students to understand the scope of development within particular topical areas (such as social or personality development across the entire life span) without skipping from one chapter to another.

Life Span Development: A Topical Approach addresses both of these concerns. This book, which is based on the chronologically organized, highly popular *Development Across the Life Span*, is shorter than traditional life span books, and it is arranged in a way that helps students to see the “big picture” of development across the entire life span within a specific topical area.

Life Span Development: A Topical Approach maintains the student friendliness that has been the hallmark of the original. It is rich in examples and illustrates the applications that can be derived from the research and theory of life span developmentalists. It pays particular attention to the applications that can be drawn from theory and research in the field.

To optimize student learning and to provide instructors with maximum flexibility, the book uses a modular approach. Each chapter is divided into three modules focusing on particular subtopics. Consequently, rather than facing long, potentially daunting chapters, students encounter material that is divided into smaller, more manageable chunks. Of course, presenting material in small chunks represents a structure that research long ago found to be optimum for promoting learning.

The modular approach has another advantage: It allows instructors to customize instruction by assigning only those modules that fit their course. Because the modules are self-contained, instructors can pick and choose which modules best contribute to their course. Because of the flexibility of this structure, instructors who wish to highlight a particular

topic can do so easily and—equally important—have the option of not including specific modules.

Overview of the Third Edition

Life Span Development: A Topical Approach—like its predecessors—provides a broad overview of the field of human development. It covers major topics, such as physical development, cognitive development, and social and personality development. In addition, separate chapters focus on health and wellness, language development, intelligence, development of the self, moral development and aggression, gender and sexuality, relationships, living in a multicultural world, and death and grieving.

The book seeks to accomplish the following four major goals:

- First and foremost, the book is designed to provide a broad, balanced overview of the field of life span development. It introduces readers to the theories, research, and applications that constitute the discipline, examining both the traditional areas of the field and more recent innovations. It pays particular attention to the applications developed by life span development specialists, demonstrating how life span developmentalists use theory, research, and applications to help solve significant social problems.
- The second goal of the text is to explicitly tie development to students’ lives. Findings from the study of life span development have a significant degree of relevance to students, and this text illustrates how these findings can be applied in a meaningful, practical sense. Applications are presented in a contemporaneous framework, including current news items, timely world events, and contemporary uses of life span development that draw readers into the field. Numerous descriptive scenarios and vignettes reflect everyday situations in people’s lives, explaining how they relate to the field.
- The third goal is to highlight both the commonalities and diversity of today’s multicultural society. Consequently, the book incorporates material relevant to diversity in all its forms—racial, ethnic, gender, sexual orientation, religion, and cultural—throughout every chapter. In addition, every chapter has at least one *Developmental Diversity* section. These features explicitly consider how cultural factors relevant to development both unite and diversify our contemporary global society.
- Finally, the fourth goal is one that is implicit in the other three: making the field of life span development engaging, accessible, and interesting to students. Life span

development is a joy both to study and teach because so much of it has direct, immediate meaning for our lives. Because all of us are involved in our own developmental paths, we are tied in very personal ways to the content areas covered by the book. *Life Span Development: A Topical Approach*, then, is meant to engage and nurture this interest, planting a seed that will develop and flourish throughout readers' lifetimes.

In accomplishing these goals, the book strives to be user friendly. Written in a direct, conversational voice, it duplicates as much as possible a dialogue between author and student. The text is meant to be understood and mastered on its own by students of every level of interest and motivation. To that end, it includes a variety of pedagogical features that promote mastery of the material and encourage critical thinking.

In short, the book blends and integrates theory, research, and applications, focusing on the breadth of human development. Furthermore, rather than attempting to provide a detailed historical record of the field, it focuses on the here and now, drawing on the past where appropriate, but with a view toward delineating the field as it now stands and the directions toward which it is evolving. Similarly, while providing descriptions of classic studies, the emphasis is on current research findings and trends.

Life Span Development: A Topical Approach is meant to be a book that readers will want to keep in their own personal libraries, one that they will take off the shelf when considering problems related to that most intriguing of questions: How do people come to be the way they are?

Special Features of the Third Edition

In addition to its modular structure, *Life Span Development: A Topical Approach* includes a set of features designed to engage students and help them learn the material effectively. These include:

Chapter-Opening Prologues

Each chapter begins with a short vignette, describing an individual or situation that is relevant to the basic developmental issues being discussed in the chapter.

Looking Ahead Sections

These opening sections orientate readers to the topics to be covered, bridging the opening prologue with the remainder of the chapter.

Learning Objectives

Each major section includes explicit learning objectives. These numbered learning objectives provide a means for instructors to evaluate student mastery of specific content.

From Research to Practice

Each chapter includes a section that describes current developmental research applied to everyday problems, helping students to see the impact of developmental research throughout society. Each of these is new in this edition.

Developmental Diversity

Every chapter has at least one "Developmental Diversity" section incorporated into the text. These sections highlight issues relevant to today's multicultural society.

Running Glossary

Key terms are defined in the margins of the page on which the term is presented.

Are You an Informed Consumer of Development?

Every chapter includes information on specific uses that can be derived from research conducted by developmental investigators.

Review and Journal Prompt Sections

Interspersed throughout each chapter are three short recaps of the chapter's main points. The text includes Journal Prompts designed to elicit critical thinking about the subject matter through written responses.

End-of-Chapter Material

Each chapter ends with a summary and an Epilogue that refers back to the opening Prologue and that ties the chapter together. The Looking Back summary is keyed to the learning objectives provided at the start of major sections of each chapter.

Career References

Students will encounter frequent questions throughout the text designed to show the applicability of the material to a variety of professions, including education, nursing, social work, and health-care providers.

What's New in the Third Edition?

The revision includes a number of significant changes and additions. Most importantly, the text now includes a comprehensive list of specific, numbered learning objectives. This helps instructors to design tests focused on specific learning objectives, and for students to direct their study most effectively and efficiently.

In addition, every chapter begins with a new opening vignette that introduces students to the real-world implications of the chapter topic. Furthermore, almost all From Research to Practice boxes—which describe a contemporary developmental research topic and its applied implications—are new to this edition.

Finally, the third edition of *Life Span Development: A Topical Approach* incorporates a significant amount of new and updated information. For instance, advances in such areas as behavioral genetics, brain development, evolutionary perspectives, and cross-cultural approaches to development receive expanded and new coverage. Overall, hundreds of new citations have been added, with most of those from articles and books published in the last few years.

New topics were added to every chapter. The following sample of new and revised topics featured in this edition provides a good indication of the currency of the revision:

Chapter 1

- Update on the first person conceived *in vitro*
- Control of children's use of the Internet
- Long-term effects of war

Chapter 2

- Surgery before birth to correct defects
- Updated statistics on rate of twin births
- Safety of amniocentesis
- Risks of unregulated pregnancy screenings
- Update on worldwide hunger and connection to mother's diet
- Role of a doula as a childbirth attendant
- Updated statistics on infant mortality in the United States
- Fetal alcohol spectrum disorder
- Using "Kangaroo Care" in development of preterm infants
- New DSM terminology: Autism spectrum disorder

Chapter 3

- Updated statistics on worldwide increase in elderly population
- New research on the development of the young brain
- Update of age at which toilet training begins
- Childhood onset fluency disorder

Chapter 4

- Hunger map of malnutrition in children worldwide
- Updated statistics on low-income families in the United States
- Possible biological cause for anorexia nervosa

- Updated figure/statistics on marijuana use by high school students
- New statistics on college binge drinking
- New trend of increased e-cigarette use, and effects
- New statistics on life expectancy gains from physical activity
- New figure/statistics on worldwide murder rate
- Prevention of Alzheimer's

Chapter 5

- Clarification of conservation test
- Benefits of reading to young children

Chapter 6

- Focusing on individual processes and skills produces more verifiable results
- Improving cognitive ability through video games

Chapter 7

- Speed at which infants learn language
- Change of style of speech with foreigners
- Adults can benefit from learning a language late in life

Chapter 8

- New definition of specific learning disorders
- Retardation term removed from key terms

New DSM terminology:

- Specific learning disorders

Chapter 9

- Updated rates on autism spectrum disorder
- Feelings one's age and health outcomes
- New figure on feeling younger and living longer
- Middle age in other cultures
- Life satisfaction improving in mid-life

Chapter 10

- Danger of inflated praise
- Updated figure on women's earnings compared to men's earnings

Chapter 11

- School violence
- Updated figure on homicide rates worldwide

Chapter 12

- Later maturation in boys
- New section on transsexualism
- Intersex individuals
- Development of sexual orientation
- Emerging adulthood
- Gay marriage
- Median age of first marriage
- Updated statistics on divorce rate

Chapter 13

- Online social networks
- Texting as form of communication
- New figure on single-parent families
- New section on gay and lesbian parents
- Poverty rates for people 65 and older
- Costs of nursing home care
- Postponing retirement due to finances

Chapter 14

- Grade inflation
- New figure on U.S. math scores
- Summer learning loss
- Updated statistics on who goes to college
- Daily media use of adolescents

Chapter 15

- Cost of funeral update
- Increasing popularity of cremation

Ancillaries

Life Span Development: A Topical Approach is accompanied by a superb set of teaching and learning materials.

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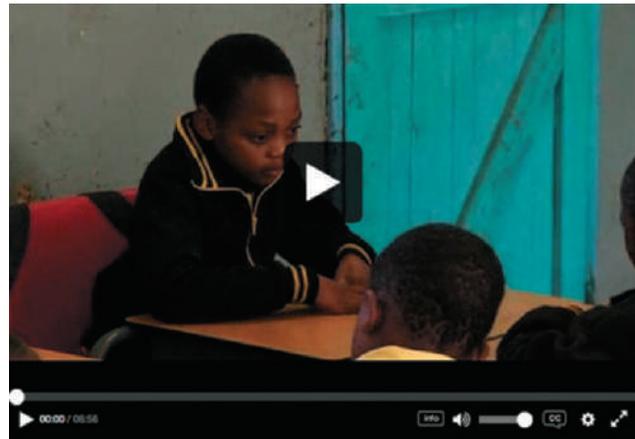
When students are engaged deeply, they learn more effectively and perform better in their courses. This simple fact inspired the creation of REVEL: an immersive learning experience designed for the way today's students read, think, and learn. Built in collaboration with educators and students nationwide, REVEL is the newest, fully digital way to deliver respected Pearson content.

REVEL enlivens course content with media interactives and assessments—integrated directly within the authors' narrative—that provide opportunities for students to read about and practice course material in tandem. This immersive experience boosts student engagement, which leads to better understanding of concepts and improved performance throughout the course.

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The third edition includes integrated videos and media content throughout, allowing students to explore topics more deeply at the point of relevancy.



Revel also offers the ability for students to assess their content mastery by taking multiple-choice quizzes that offer instant feedback and by participating in a variety of writing assignments, such as peer-reviewed questions and auto-graded assignments.

Print and Media Supplements for the Instructor

- **Instructor's Resource Manual** (ISBN: 0134422546). The Instructor's Resource Manual has been thoroughly reviewed and revised for the third edition. It includes learning objectives, key terms and concepts, self-contained lecture suggestions and class activities for each chapter.

The Instructor's Resource Manual will be available for download via the Pearson Instructor's Resource Center (www.pearsonhighered.com) or on the MyPsychLab® platform (www.MyPsychLab.com).

- **Video Enhanced PowerPoint Slides** (ISBN: 0134474570). These slides bring the Feldman design right into the classroom, drawing students into the lecture and providing wonderful interactive activities, visuals, and videos.
- **PowerPoint Lecture Slides** (ISBN: 0134474090). The lecture slides provide an active format for presenting

concepts from each chapter and feature prominent figures and tables from the text. The PowerPoint Lecture Slides are available for download via the Pearson Instructor's Resource Center (www.pearsonhighered.com) or on the MyPsychLab® platform (www.MyPsychLab.com).

- **Test Bank** (ISBN: 0134422511). For the third edition, each question was accuracy checked to ensure that the correct answer was marked and the page reference was accurate. The test bank contains over 3,000 multiple-choice, true/false, and essay questions, each referenced to the relevant page in the textbook and given a rationale explaining the correct answer. An additional feature for the test bank is the identification of each question as factual, conceptual, or applied. This allows professors to customize their tests and to ensure a balance of question types. Each chapter of the test item file begins with the Total Assessment Guide: an easy-to-reference grid that makes creating tests easier by organizing the test questions by text section, question type, and whether it is factual, conceptual, or applied.
- **MyTest** (ISBN: 0134422554). The test bank comes with the Pearson MyTest, a powerful assessment generation program that helps instructors easily create and print quizzes and exams. Questions and tests can be authored online, allowing instructors ultimate flexibility and the ability to efficiently manage assessments anytime, anywhere. For more information, go to www.PearsonMyTest.com.
- **MyPsychLab** (ISBN: 0134303032). Available at www.MyPsychLab.com, MyPsychLab is an online homework, tutorial, and assessment program that truly engages students in learning. It helps students better prepare for class, quizzes, and exams—resulting in better performance in the course. It provides educators a dynamic set of tools for gauging individual and class performance:
 - **Customizable**—MyPsychLab is customizable. Instructors choose what students' course looks like. Homework, applications, and more can easily be turned on and off.
 - **Blackboard Single Sign-on**—MyPsychLab can be used by itself or linked to any course management system. Blackboard single sign-on provides deep linking to all New MyPsychLab resources.
 - **Pearson eText and Chapter Audio**—Like the printed text, students can highlight relevant passages and add notes. The Pearson eText can be accessed through laptops, iPads, and tablets. Download the free Pearson eText app to use on tablets. Students can also listen to their text with the Audio eText.
 - **Assignment Calendar & Gradebook**—A drag and drop assignment calendar makes assigning and

completing work easy. The automatically graded assessment provides instant feedback and flows into the gradebook, which can be used in the MyPsychLab or exported.

- **Personalized Study Plan**—Students' personalized plans promote better critical thinking skills. The study plan organizes students' study needs into sections, such as Remembering, Understanding, Applying, and Analyzing.

Video Resource for Instructors

- **Pearson Teaching Films Life Span Development Video** (ISBN: 0205656021) engages students and brings to life a wide range of topics spanning prenatal through the end of the life span. International videos shot on location allow students to observe similarities and differences in human development across various cultures.

Supplementary Texts

Contact your Pearson representative to package any of these supplementary texts with *Life Span Development: A Topical Approach*.

- **Current Directions in Developmental Psychology** (ISBN: 0205597505). Readings from the American Psychological Society. This exciting reader includes over 20 articles that have been carefully selected for the undergraduate audience, and taken from the very accessible *Current Directions in Psychological Science* journal. These timely, cutting-edge articles allow instructors to bring their students a real-world perspective about today's most current and pressing issues in psychology. Discounted when packaged with this text for college adoptions.
- **Twenty Studies That Revolutionized Child Psychology** by Wallace E. Dixon Jr. (ISBN: 0130415723). The new edition of this brief text presents the seminal research studies that have shaped modern developmental psychology. It provides an overview of the environment that gave rise to each study, its experimental design, its findings, and its impact on current thinking in the discipline.
- **Human Development in Multicultural Contexts: A Book of Readings** (ISBN: 0130195235). Written by Michele A. Paludi, this compilation of readings highlights cultural influences in developmental psychology.
- **The Psychology Major: Career Options and Strategies for Success** (ISBN: 0205684688). Written by Eric Landrum (Idaho State University), Stephen Davis (Emporia State University), and Terri Landrum (Idaho State University), this 160-page paperback provides valuable information

on career options available to psychology majors, tips for improving academic performance, and a guide to the APA style of research reporting.

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About the Author



Robert S. Feldman is professor of Psychological and Brain Sciences and Deputy Chancellor of the University of Massachusetts, Amherst. A recipient of the College Distinguished Teacher Award, he teaches psychology classes ranging in size from 15 to nearly 500 students. During the course of three decades as a college instructor, he has taught both undergraduate and graduate courses at Mount Holyoke College, Wesleyan University, and Virginia Commonwealth University in addition to the University of Massachusetts.

Professor Feldman, who initiated the Minority Mentoring Program at the University of Massachusetts, also has served as a Hewlett Teaching Fellow and Senior Online Teaching Fellow. He initiated distance learning courses in psychology at the University of Massachusetts.

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Professor Feldman is president of the Federation of Associations of Behavioral and Brain Sciences Foundation, a consortium of social, behavioral, and brain science societies. In addition, he is on the Board of New England Public Radio.

Professor Feldman loves music, is an enthusiastic pianist, and enjoys cooking and traveling. He has three children, four grandchildren, and he and his wife, a psychologist, live in western Massachusetts in a home overlooking the Holyoke Mountain Range.

Chapter 1

An Orientation to Lifespan Development



Learning Objectives

- LO 1.1** Define the field of lifespan development and describe what it encompasses.
- LO 1.2** Describe the areas that lifespan development specialists cover.
- LO 1.3** Describe some of the basic influences on human development.
- LO 1.4** Summarize four key issues in the field of lifespan development.
- LO 1.5** Describe how the psychodynamic perspective explains lifespan development.
- LO 1.6** Describe how the behavioral perspective explains lifespan development.
- LO 1.7** Describe how the cognitive perspective explains lifespan development.
- LO 1.8** Describe how the humanistic perspective explains lifespan development.
- LO 1.9** Describe how the contextual perspective explains lifespan development.
- LO 1.10** Describe how the evolutionary perspective explains lifespan development.
- LO 1.11** Discuss the value of applying multiple perspectives to lifespan development.
- LO 1.12** Describe the role that theories and hypotheses play in the study of development.

- LO 1.13** Compare the two major categories of lifespan development research.
- LO 1.14** Identify different types of correlational studies and their relationship to cause and effect.
- LO 1.15** Explain the main features of an experiment.
- LO 1.16** Distinguish between theoretical research and applied research.
- LO 1.17** Compare longitudinal research, cross-sectional research, and sequential research.
- LO 1.18** Describe some ethical issues that affect psychological research.

Chapter Overview

Module 1.1 Determining the Nature—and Nurture—of Lifespan Development

- Defining Lifespan Development
- The Scope of the Field of Lifespan Development
- Influences on Lifespan Development
- Key Debates in Lifespan Development

Developmental Diversity and Your Life: How Culture, Ethnicity, and Race Influence Development

Module 1.2 Theoretical Perspectives on Lifespan Development

- The Psychodynamic Perspective: Focusing on the Inner Person
- The Behavioral Perspective: Focusing on Observable Behavior
- The Cognitive Perspective: Examining the Roots of Understanding

Neuroscience and Development: The Essential Principles of Neuroscience

- The Humanistic Perspective: Concentrating on the Unique Qualities of Human Beings

The Contextual Perspective: Taking a Broad Approach to Development

- Evolutionary Perspectives: Our Ancestors' Contributions to Behavior
- Why It Is Wrong to Ask "Which Approach Is Right?"

Module 1.3 Research Methods

- Theories and Hypotheses: Posing Developmental Questions
- Choosing a Research Strategy: Answering Questions
- Correlational Studies
- Experiments: Determining Cause and Effect
- Theoretical and Applied Research: Complementary Approaches
- Measuring Developmental Change

From Research to Practice: Using Developmental Research to Improve Public Policy

- Ethics and Research

Are You an Informed Consumer of Development? Thinking Critically about "Expert" Advice

Prologue: New Conceptions

What if for your entire life, the image that others held of you was colored by the way in which you were conceived?

In some ways, that's what it has been like for Louise Brown, who was the world's first "test tube baby," born by *in vitro fertilization (IVF)*, a procedure in which fertilization of a mother's egg by a father's sperm takes place outside of the mother's body.

Louise was a preschooler when her parents told her how she was conceived, and throughout her childhood she was bombarded with questions. It became routine to explain to her classmates that she in fact was not born in a laboratory.

As a child, Louise sometimes felt completely alone. "I thought it was something peculiar to me," she recalled. But as she grew older, her isolation declined as more and more children were born in the same manner.

In fact, today Louise is hardly isolated. More than 5 million babies have been born using the same procedure, which has become almost routine. And at the age of 28, Louise became a mother herself, giving birth to a baby boy named Cameron—conceived, incidentally, the old-fashioned way (Falco, 2012; ICMRT, 2012). ■

Looking Ahead

Louise Brown's conception may have been novel, but her development since then has followed a predictable pattern. While the specifics of our development vary, the broad strokes set in motion in that test tube 28 years ago are remarkably similar for all of us. LeBron James, Bill Gates, the Queen of England, you, and me—all of us are traversing the territory known as lifespan development.

In vitro fertilization is just one of the brave new worlds of recent days. Issues that affect human development range from cloning to poverty to the prevention of AIDS. Underlying these are even more fundamental issues: How do we develop physically? How does our understanding of the world change throughout our lives? And how do our personalities and social relationships develop as we move through the life span?

These questions and many others are central to lifespan development. The field encompasses a broad span of time and a wide range of topics. Think about the range of interests that different specialists might focus on when considering Louise Brown:

- Lifespan development researchers who investigate behavior at the level of biological processes might determine if Louise's functioning prior to birth was affected by her conception outside the womb.
- Specialists in lifespan development who study genetics might examine how the genetic endowment from Louise's parents affects her later behavior.
- Lifespan development specialists who investigate thinking processes might examine how Louise's understanding of the circumstances of her conception changed as she grew older.
- Other researchers in lifespan development, who focus on physical growth, might consider whether her growth rate differed from that of children conceived more traditionally.
- Lifespan development experts who specialize in the social world and social relationships might look at the ways that Louise interacted with others and the kinds of friendships she developed.

Although their interests take many forms, these specialists in lifespan development share one concern: understanding the growth and change that occur during the course of life. Taking many differing approaches, developmentalists study how both the biological inheritance from our parents and the environment in which we live jointly affect our behavior.

Whether they focus on heredity or environment, all developmental specialists acknowledge that neither one alone can account for the full range of human development. Instead, we must look at the interaction of heredity and environment, attempting to grasp how both underlie human behavior.

In this chapter, we orient ourselves to the field of lifespan development. We begin with a discussion of the scope of the discipline, illustrating the wide array of topics it covers and the full range of ages it examines. We also survey the key issues and controversies of the field and consider the broad perspectives that developmentalists take. Finally, we discuss the ways developmentalists use research to ask and answer questions. Many of the questions that developmentalists ask are, in essence, the scientist's version of the questions that parents ask about their children and themselves: how the genetic legacy of parents plays out in their children; how children learn; why they make the choices they make; whether personality characteristics are inherited and whether they change or are stable over time; how a stimulating environment affects development; and many others. To pursue their answers, of course, developmentalists use the highly structured, formal scientific method, while parents mostly use the informal strategy of waiting, observing, engaging, and loving their kids.



Louise Brown and her son.

MODULE 1.1

DETERMINING THE NATURE—AND NURTURE—OF LIFESPAN DEVELOPMENT

Have you ever wondered how it is possible that an infant tightly grips your finger with tiny, perfectly formed hands? Or marveled at how a preschooler methodically draws a picture? Or at the way an adolescent can make involved decisions about whom to invite

to a party or the ethics of downloading music files? Or the way a middle-aged politician can deliver a long, flawless speech from memory? Or wondered what it is that makes a grandfather at 80 so similar to the father he was when he was 40?

If you've ever wondered about such things, you are asking the kinds of questions that scientists in the field of *lifespan development* pose. In this section, we'll examine how the field of lifespan development is defined, the scope of the field, as well as some basic influences on human development.

Defining Lifespan Development

LO 1.1 Define the field of lifespan development and describe what it encompasses.

lifespan development

the field of study that examines patterns of growth, change, and stability in behavior that occur throughout the entire life span.

Lifespan development is the field of study that examines patterns of growth, change, and stability in behavior that occur throughout the entire life span. In its study of growth, change, and stability, lifespan development takes a *scientific* approach. Like members of other scientific disciplines, researchers in lifespan development test their assumptions about the nature and course of human development by applying scientific methods. They develop theories about development, and they use methodical, scientific techniques to validate the accuracy of their assumptions systematically.

Lifespan development focuses on *human* development. Although there are developmentalists who study the course of development in nonhuman species, the vast majority study people. Some seek to understand universal principles of development, whereas others focus on how cultural, racial, and ethnic differences affect development. Still others aim to understand the traits and characteristics that differentiate one person from another. Regardless of approach, however, all developmentalists view development as a continuing process throughout the life span.

As developmental specialists focus on change during the life span, they also consider stability. They ask in which areas, and in what periods, people show change and growth, and when and how their behavior reveals consistency and continuity with prior behavior.

Finally, developmentalists assume that the process of development persists from the moment of conception and continuing until death, with people changing in some ways right up to the end of their lives and in other ways exhibiting remarkable stability. They believe that no single period governs all development, but instead that people maintain the capacity for substantial growth and change throughout their lives.

The Scope of the Field of Lifespan Development

LO 1.2 Describe the areas that lifespan development specialists cover.

Clearly, the definition of lifespan development is broad and the scope of the field is extensive. Typically, lifespan development specialists cover several quite diverse areas, choosing to specialize in both a topical area and an age range.

TOPICAL AREAS IN LIFESPAN DEVELOPMENT. Some developmentalists focus on **physical development**, examining the ways in which the body's makeup—the brain, nervous system, muscles, and senses, and the need for food, drink, and sleep—helps determine behavior. For example, one specialist in physical development might examine the effects of malnutrition on the pace of growth in children, while another might look at how athletes' physical performance declines during adulthood (Fell & Williams, 2008; Muiños & Ballesteros, 2014).

Other developmental specialists examine **cognitive development**, seeking to understand how growth and change in intellectual capabilities influence a person's behavior. Cognitive developmentalists examine learning, memory, problem-solving skills, and intelligence. For example, specialists in cognitive development might want to see how problem-solving skills change over the course of life, or whether cultural differences exist in the way people explain their academic successes and failures, or how traumatic events early in life would remember them later in life (Alibali, Phillips, & Fischer, 2009; Dumka et al., 2009; Penido et al., 2012).

physical development

development involving the body's physical makeup, including the brain, nervous system, muscles, and senses, and the need for food, drink, and sleep.

cognitive development

development involving the ways that growth and change in intellectual capabilities influence a person's behavior.

Table 1.1 Approaches to Lifespan Development

Orientation	Defining Characteristics	Examples of Question Asked*
Physical development	Emphasizes how the brain, nervous system, muscles, sensory capabilities, and needs for food, drink, and sleep affect behavior	<ul style="list-style-type: none"> • What determines the sex of a child? (2) • What are the long-term results of premature birth? (2) • What are the benefits of breast milk? (4) • What are the consequences of early or late sexual maturation? (3) • What leads to obesity in adulthood? (4) • How do adults cope with stress? (4) • What are the outward and internal signs of aging? (3) • What is the relationship between aging and illness? (4)
Cognitive development	Emphasizes intellectual abilities, including learning, memory, problem solving, and intelligence	<ul style="list-style-type: none"> • What are the earliest memories that can be recalled from infancy? (6) • What are the intellectual consequences of watching television? (14) • What is intelligence and how is it measured? (8) • Are there benefits to bilingualism? (7) • What are the fundamental elements of information processing? (6) • Are there ethnic and racial differences in intelligence? (8) • What is cognitive development and how did Piaget revolutionize its study? (5) • How does creativity relate to intelligence? (8)
Personality and social development	Emphasizes enduring characteristics that differentiate one person from another, and how interactions with others and social relationships grow and change over the lifetime	<ul style="list-style-type: none"> • Do newborns respond differently to their mothers than to others? (9) • What is the best procedure for disciplining children? (11) • When does a sense of gender identity develop? (12) • How can we promote cross-race friendships? (13) • What are the emotions involved in confronting death? (15) • How do we choose a romantic partner? (14) • What sorts of relationships are important in late adulthood? (13) • What are typical patterns of marriage and divorce in middle adulthood? (12) • In what ways are people affected by culture and ethnicity? (13)

*Numbers in parentheses indicate in which chapter the question is addressed.

Finally, some developmental specialists focus on personality and social development. **Personality development** is the study of stability and change in the enduring characteristics that differentiate one person from another over the life span. **Social development** is the way in which individuals' interactions and relationships with others grow, change, and remain stable over the course of life. A developmentalist interested in personality development might ask whether there are stable, enduring personality traits throughout the life span, whereas a specialist in social development might examine the effects of racism or poverty or divorce on development (Evans, Boxhill, & Pinkava, 2008; Lansford, 2009; Tine, 2014). These four major topic areas—physical, cognitive, social, and personality development—are summarized in Table 1.1.

AGE RANGES AND INDIVIDUAL DIFFERENCES. In addition to choosing to specialize in a particular topical area, developmentalists also typically look at a particular age range. The life span is usually divided into broad age ranges: the prenatal period (the period from conception to birth); infancy and toddlerhood (birth to age 3); the preschool period (ages 3 to 6); middle childhood (ages 6 to 12); adolescence (ages 12 to 20); young adulthood (ages 20 to 40); middle adulthood (ages 40 to 65); and late adulthood (age 65 to death).

It's important to keep in mind that these broad periods—which are largely accepted by lifespan developmentalists—are social constructions. A *social construction* is a shared notion of reality, one that is widely accepted but is a function of society and culture at a given time. Consequently, the age ranges within a period—and even the periods themselves—are in many ways arbitrary and often culturally derived. For example, later in the book we'll discuss how the concept of childhood as a special period did not even exist during the seventeenth century; at that time, children were seen simply as miniature adults. Furthermore, while some periods have a clear-cut boundary (infancy begins with birth, the preschool period ends with entry into public school, and adolescence starts with sexual maturity), others don't.

For instance, consider the period of young adulthood, which at least in Western cultures is typically assumed to begin at age 20. That age, however, is notable only because it marks the end of the teenage period. In fact, for many people, such as those enrolled

personality development

development involving the ways that the enduring characteristics that differentiate one person from another change over the life span.

social development

the way in which individuals' interactions with others and their social relationships grow, change, and remain stable over the course of life.

in higher education, the age change from 19 to 20 has little special significance, coming as it does in the middle of the college years. For them, more substantial changes may occur when they leave college and enter the workforce, which is more likely to happen around age 22. Furthermore, in some non-Western cultures, adulthood may be considered to start much earlier, when children whose educational opportunities are limited begin full-time work.

In fact, some developmentalists have proposed entirely new developmental periods. For instance, psychologist Jeffrey Arnett argues that adolescence extends into *emerging adulthood*, a period beginning in the late teenage years and continuing into the mid-twenties. During emerging adulthood, people are no longer adolescents, but they haven't fully taken on the responsibilities of adulthood. Instead, they are still trying out different identities and engage in self-focused exploration (Arnett, 2010, 2011; de Dios, 2012; Sumner, Burrow, & Hill, 2015).

In short, there are substantial *individual differences* in the timing of events in people's lives. In part, this is a biological fact of life: People mature at different rates and reach developmental milestones at different points. However, environmental factors also play a significant role in determining the age at which a particular event is likely to occur. For example, the typical age of marriage varies substantially from one culture to another, depending in part on the functions that marriage plays in a given culture.

THE LINKS BETWEEN TOPICS AND AGES. Each of the broad topical areas of lifespan development—physical, cognitive, social, and personality development—plays a role throughout the life span. Consequently, some developmental experts focus on physical development during the prenatal period, and others during adolescence. Some might specialize in social development during the preschool years, while others look at social relationships in late adulthood. And still others might take a broader approach, looking at cognitive development through every period of life.

In this book, we take a comprehensive approach to lifespan development, proceeding topically across the life span through physical, cognitive, and social and personality development. Within each developmental area, we consider various topics related to that area as a way to present an overview of the scope of development through the life span.

One of the first observations that we make is that no one develops alone, without interacting with others who share the same society and the same time period. This universal truth leads not to unity, but to the great diversity that we find in cultures and societies across the world and—on a smaller scale—within a larger culture as we discuss in the next section.

Influences on Lifespan Development

LO 1.3 Describe some of the basic influences on human development.

Bob, born in 1947, is a baby boomer; he was born soon after the end of World War II, when returning soldiers caused an enormous bulge in the birth rate. He was an adolescent at the height of the Civil Rights movement and the beginning of protests against the Vietnam War. His mother, Leah, was born in 1922; her generation passed its childhood and teenage years in the shadow of the Depression. Bob's son, Jon, was born in 1975. Now building a career and starting his own family, he is a member of what has been called Generation X. Jon's younger sister, Sarah, who was born in 1982, is part of the next generation, which sociologists have called the Millennial Generation.

These people are in part products of the social times in which they live. Each belongs to a particular **cohort**, a group of people born at around the same time in the same place. Such major social events as wars, economic upturns and depressions, famines, and epidemics (like the one due to the AIDS virus) work similar influences on members of a particular cohort (Mitchell, 2002; Dittmann, 2005; Twenge, Gentile, & Campbell, 2015).

Cohort effects provide an example of *history-graded influences*, which are biological and environmental influences associated with a particular historical moment. For instance, people who lived in New York City during the 9/11 terrorist attack on the

cohort

a group of people born at around the same time in the same place.

World Trade Center experienced shared biological and environmental challenges due to the attack (Bonanno et al., 2006; Laugharne, Janca, & Widiger, 2007; Park, Riley, & Snyder, 2012).

In contrast, *age-graded influences* are biological and environmental influences that are similar for individuals in a particular age group, regardless of when or where they are raised. For example, biological events such as puberty and menopause are universal events that occur at relatively the same time throughout all societies. Similarly, a sociocultural event such as entry into formal education can be considered an age-graded influence because it occurs in most cultures around age six.

From an educator's perspective

How would a student's cohort membership affect his or her readiness for school? For example, what would be the benefits and drawbacks of coming from a cohort in which Internet use was routine, compared with earlier cohorts prior to the appearance of the Internet?

Development is also affected by *sociocultural-graded influences*, the social and cultural factors present at a particular time for a particular individual, depending on such variables as ethnicity, social class, and subcultural membership. For example, sociocultural-graded influences will be considerably different for children who are white and affluent than for children who are members of a minority group and living in poverty (Rose et al., 2003).

Finally, *non-normative life events* are specific, atypical events that occur in a person's life at a time when such events do not happen to most people. For example, a child whose parents die in an automobile accident when she is six years old has experienced a significant non-normative life event.

Key Debates in Lifespan Development

LO 1.4 Summarize four key issues in the field of lifespan development.

Lifespan development is a decades-long journey. Though there are some shared markers along the way—such as learning to speak, going to school, and finding a job—there are, as we have just seen, many individual routes with twists and turns along the way that also influence this journey.

For developmentalists working in the field, the range and variation in lifespan development raises a number of issues and questions. What are the best ways to think about the enormous changes that a person undergoes from before birth to death? How important is chronological age? Is there a clear timetable for development? How can one begin to find common threads and patterns?

These questions have been debated since lifespan development first became established as a separate field in the late nineteenth and early twentieth centuries, though a fascination with the nature and course of human development can be traced back to the ancient Egyptians and Greeks. We will look at some of these issues next.

CONTINUOUS CHANGE VERSUS DISCONTINUOUS CHANGE. One of the primary issues challenging developmentalists is whether development proceeds in a continuous or discontinuous fashion. In **continuous change**, development is gradual, with achievements at one level building on those of previous levels. Continuous change is quantitative in nature; the basic underlying developmental processes that drive change remain the same over the course of the life span. Continuous change, then, produces changes that are a matter of degree, not of kind. Changes in height prior to adulthood, for example, are continuous. Similarly, as we'll see later in the chapter, some theorists suggest that changes in people's thinking capabilities are also continuous, showing gradual quantitative improvements rather than developing entirely new cognitive processing capabilities.

In contrast, one can view development as being made up of primarily **discontinuous change**, occurring in distinct stages. Each stage or change brings about behavior that is assumed to be qualitatively different from behavior at earlier stages. Consider the example of cognitive development again. We'll see later in the chapter that some

continuous change

gradual development in which achievements at one level build on those of previous levels.

discontinuous change

development that occurs in distinct steps or stages, with each stage bringing about behavior that is assumed to be qualitatively different from behavior at earlier stages.

Developmental Diversity and Your Life

How Culture, Ethnicity, and Race Influence Development

Mayan mothers in Central America are certain that almost constant contact between themselves and their infant children is necessary for good parenting, and they are physically upset if contact is not possible. They are shocked when they see a North American mother lay her infant down, and they attribute the baby's crying to the poor parenting of the North American. (Morelli et al., 1992)

What are we to make of the two views of parenting expressed in this passage? Is one right and the other wrong? Probably not, if we take into consideration the cultural context in which the mothers are operating. Different cultures and subcultures have their own views of appropriate and inappropriate child-rearing, just as they have different developmental goals for children (Huijbregts et al., 2009; Chen & Tianying Zheng, 2012; Eeckhaut et al., 2014).



Culture, ethnicity, and race have significant effects on development.

It has become clear that in order to understand development, developmentalists must take into consideration broad cultural factors, such as an orientation toward individualism or collectivism. They must also consider finer ethnic, racial, socioeconomic, and gender differences if they are to achieve an understanding of how people change and grow throughout the life span. If developmentalists succeed in doing so, not only can they achieve a better understanding of human development, but they may be able to derive more precise applications for improving the human social condition.

Efforts to understand how diversity affects development have been hindered by difficulties in finding an

appropriate vocabulary. For example, members of the research community—as well as society at large—have sometimes used terms such as *race* and *ethnic group* in inappropriate ways. *Race* is a biological concept, which should be employed to refer to classifications based on physical and structural characteristics of species. In contrast, *ethnic group* and *ethnicity* are broader terms, referring to cultural background, nationality, religion, and language.

The concept of race has proven especially problematic. Although it formally refers to biological factors, race has taken on substantially more meanings—many of them inappropriate—that range from skin color to religion to culture. Moreover, the concept of race is exceedingly imprecise; depending on how it is defined, there are between 3 and 300 races, and no race is genetically distinct. The fact that 99.9 percent of humans' genetic makeup is identical in all humans makes the question of race seem comparatively insignificant (Bamshad & Olson, 2003; Helms, Jernigan, & Mascher, 2005; Smedley & Smedley, 2005).

In addition, there is little agreement about which names best reflect different races and ethnic groups. Should the term *African American*—which has geographical and cultural implications—be preferred over *black*, which focuses primarily on skin color? Is *Native American* preferable to *Indian*? Is *Hispanic* more appropriate than *Latino*? And how can researchers accurately categorize people with multiethnic backgrounds? The choice of category has important implications for the validity and usefulness of research. The choice even has political implications. For example, the decision to permit people to identify themselves as “multiracial” on U.S. government forms and in the U.S. Census initially was highly controversial (Perlmann & Waters, 2002).

In order to fully understand development, then, we need to take the complex issues associated with human diversity into account. It is only by looking for similarities and differences among various ethnic, cultural, and racial groups that developmental researchers can distinguish principles of development that are universal from principles that are culturally determined. In the years ahead, then, it is likely that lifespan development will move from a discipline that focuses primarily on North American and European development to one that encompasses development around the globe (Fowers & Davidov, 2006; Matsumoto & Yoo, 2006; Kloep et al., 2009).

cognitive developmentalists suggest that as we develop, our thinking changes in fundamental ways, and that such development is not just a matter of quantitative change but of qualitative change.

Most developmentalists agree that taking an either/or position on the continuous-discontinuous issue is inappropriate. While many types of developmental change are continuous, others are clearly discontinuous.

CRITICAL AND SENSITIVE PERIODS: GAUGING THE IMPACT OF ENVIRONMENTAL EVENTS. If a woman comes down with a case of rubella (German measles) in the first twenty weeks of pregnancy, the consequences for the child she is carrying are likely to be devastating: They include the potential for blindness, deafness, and heart defects. However, if she comes down with the exact same strain of rubella in the thirtieth week of pregnancy, damage to the child is unlikely.

The differing outcomes of the disease in the two periods demonstrate the concept of critical periods. A **critical period** is a specific time during development when a particular event has its greatest consequences. Critical periods occur when the presence of certain kinds of environmental stimuli is necessary for development to proceed normally (Uylings, 2006).

Although early specialists in lifespan development placed great emphasis on the importance of critical periods, more recent thinking suggests that in many realms, individuals are more malleable than was first thought, particularly in the domain of personality and social development. For instance, rather than suffering permanent damage from a lack of certain kinds of early social experiences, there is increasing evidence that people can use later experiences to their benefit, to help them overcome earlier deficits.

Consequently, developmentalists are now more likely to speak of sensitive periods rather than critical periods. In a **sensitive period**, organisms are particularly susceptible to certain kinds of stimuli in their environment. A sensitive period represents the optimal period for particular capacities to emerge, and children are particularly sensitive to environmental influences.

It is important to understand the difference between the concepts of critical periods and sensitive periods. In critical periods, it is assumed that the absence of certain kinds of environmental influences is likely to produce permanent, irreversible consequences for the developing individual. In contrast, although the absence of particular environmental influences during a sensitive period may hinder development, it is possible for later experiences to overcome the earlier deficits. In other words, the concept of sensitive period recognizes the plasticity of developing humans (Armstrong, et al., 2006; Hooks & Chen, 2008; Hartley & Lee, 2015).

LIFESPAN APPROACHES VERSUS A FOCUS ON PARTICULAR PERIODS. On which part of the life span should developmentalists focus their attention? For early developmentalists, the answers tended to be infancy and adolescence. Most attention was clearly concentrated on those two periods, largely to the exclusion of other parts of the life span.

Today, the story is different. Developmentalists now believe that the entire life span is important, for several reasons. One is the discovery that developmental growth and change continue during every part of life—as we’ll discuss throughout this book.

Furthermore, an important part of every person’s environment is the presence of other people around him or her, the person’s social environment. To fully understand the social influences on people of a given age, we need to understand the people who are in large measure providing those influences. For instance, to understand development in infants, we need to unravel the effects of their parents’ ages on their social environments. A 15-year-old first-time mother will provide parental influences of a very different sort from those provided by an experienced 37-year-old mother. Consequently, infant development is in part an outgrowth consequence of adult development.

In addition, as lifespan developmentalist Paul Baltes points out, development across the life span involves both gains and losses. With age, certain capabilities become more refined and sophisticated, while others involve loss of skill and capacity. For example,

critical period

a specific time during development when a particular event has its greatest consequences and the presence of certain kinds of environmental stimuli is necessary for development to proceed normally.

sensitive period

a point in development when organisms are particularly susceptible to certain kinds of stimuli in their environments, but the absence of those stimuli does not always produce irreversible consequences.